UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Urban South African consumers' ability to discursively reflect on the sustainability of their households' fresh produce consumption and waste practices amidst global concerns about climate change

Marx-Pienaar, J.M.M.

Thesis prepared as part of the requirements for the Degree PhD Consumer Science

2014 | November

© University of Pretoria

Urban South African consumers' ability to discursively reflect on the sustainability of their households' fresh produce consumption and waste practices amidst global concerns about climate change

Marx-Pienaar, J.M.M.

Supervisor: Professor A.C. Erasmus

Research Focus: Consumer behaviour and consumption

Thesis prepared as part of the requirements for the Degree PhD Consumer Science

in the

Department of Consumer Science

Faculty of Natural and Agricultural Sciences

University of Pretoria

SUBMITTED DECEMBER 2013

RE-SUBMITTED SEPTEMBER 2014

© University of Pretoria

Dedication

The author dedicates this research to the following persons…

To my parents, husband and children

Dad, your love for nature and commitment to teach us the principle of 'Waste not – Want not' is much appreciated and therefore not in vain; **Mom,** your compassion for your fellow citizens is a true inspiration; Thank you for always caring about our future.

Luka and Myra, you are the future, learn from the past, cherish the moment, share the legacy!

X

Louis, for supporting me, motivating me but most of all loving me, unconditionally, through thick and thin, better or worse…

'ALWAYS'.

I'm in debt and filled with gratitude.

xox

© University of Pretoria

Declaration

I, Nadéne Marx - Pienaar, hereby declare that this thesis for the PhD in Consumer Science at the University of Pretoria, hereby submitted by me, is my own work and has not previously been submitted for a degree at this or any other university or tertiary institution. Where secondary material is used, this has been carefully acknowledged and referenced in accordance with the university requirements. I am aware of university policy and implications regarding plagiarism.

Nadéne Marx-Pienaar

December 2013

© University of Pretoria

Acknowledgements

The author would like to not only acknowledge but also thank the following people and institutions for their assistance and valuable contribution in the preparation of this document…

Professor Alet Erasmus, for all your support and guidance, your meticulous care and patience – Thank You. Your extensive knowledge and passion is evident in the high quality of this report and assisted the author in delivering a piece of research that has significant meaning and contributes to industry as well as academia. You are a true custodian of sound research practices and work ethos, an asset that the University of Pretoria can be proud of. Every minute of your invaluable time and effort dedicated to this study is much appreciated.

Mrs Joyce Jordaan, your knowledge and assistance with the data preparation and statistical analysis is much apprecaited.

Dr Joan Fairhurst, your time and effort reviewing and editing the chapters in this document is much appreciated.

Business Print, for sponsoring the recycled paper that embodied the initial proposal, questionnaires and final manuscript.

A big thank you to **Pick n Pay, Shoprite-Checkers, Spar and Woolworths** for contributing to this study but also valuing the potential of sustainable retailing.

In addition, thank you to all the members of the postgraduate committee and a special thanks to all my colleagues at the **Department of Consumer Science** for your continued support and valuable inputs.

To my family and dearest friends, thank you for all your prayers, love, words of wisdom and motivation!

© University of Pretoria

Abstract

It is well documented that unsustainable consumption patterns of modern societies have serious consequences for the future. There is general consensus that climate change is real and that it is predominantly caused by human activities that include consumers' irresponsible consumption practices. Consumer lifestyles have changed considerably over the past decade. Urbanisation and industrialisation have opened access to an array of new goods and experiences for many who have not had the exposure before. At the same time these changes are permeating the core of society - the family and extending interdependencies. Modern day consumers, especially in affluent societies at present largely embrace the principles of an individualistic consumer culture, 'choosing the self' over attending to others. Modern day consumers have become accustomed to a wide array of products and understandably then, many go out of their way to select, purchase and consume the best quality produce that they can afford or get hold of, because consumption practices is a strong indication of social success and achievement. Unfortunately this type of behaviour instigates excessive consumption that contributes to waste creation that has detrimental consequences for society and the sustainability of the natural environment.

Despite the extensive discussion of the issue in media, retailers and consumers seldom fully grasp the problem and lack the knowledge and understanding to mitigate unsustainable behaviour. To make matters worse the upward mobility and growing wealth of previously disadvantaged and less affluent consumer groups in BRICS countries such as South Africa since 1994, has contributed to increased consumer spending and conspicuous consumption to erase an asset deficit and to reflect their newly acclaimed social status. Although many South African consumers realise that climate change is a problem, not many demonstrate willingness to take ownership of the problem. One area of everyday life that most retailers and consumers can become involved in and thus contribute towards positive change is through the sustainable consumption of fresh produce in households.

The aim of this study was twofold; firstly it investigated both retailers' and consumers' consciousness of climate change and subsequent fresh produce retailing and consumption practices especially in terms of unnecessary wastage. Secondly, to identify possible characteristics i.e. personal values and demographic characteristics that could aid in an understanding of consumers' purchasing and consumption behaviour to facilitate efforts to mitigate unsustainable consumption practices.

© University of Pretoria

The research design consisted of three phases and a mixed method approach was implemented to investigate the problem. Data collection among consumers took place through a survey implementing a comprehensive structured questionnaire, which was supported by focus group discussions. Tshwane retailers and experts from industry contributed by consenting to in-depth interviews and store visits.

Results revealed that consumers' knowledge about climate change is above average. However, very few thought that consumers could contribute positively to mitigate the problem. Evidence shows that consumers' fresh produce purchasing and consumption practices for their households show little concern for the environment. One of the main concerns is that consumers, in particular the young and population groups other than Whites, tend to embrace materialistic lifestyles characterised by excessive consumption. Because of retailers' competitive nature, it is only logical that they would capitalise on these consumer characteristics rather than to encourage modest consumption practices. Findings indicate that fresh produce in retailers is often rejected by consumers and subsequently discarded by discerning retailers due to slight imperfections while products are still fit for human consumption. Consumers' product expectations are therefore high and even illogical. Those retailers and consumers who were willing to act more sustainably indicated that they struggled to do so due to lack of support from their customers. In addition, retailers do not necessarily have the knowledge, resources and mitigating skills to promote sustainable consumption practices. On the positive, however, certain demographic characteristics of consumers, namely age, income and population group seem to significantly mediate consumers' knowledge of climate change, their fresh produce consumption practices, their awareness of issues relating to climate change (explicit knowledge) as well as possible avenues (tacit knowledge) that could be pursued to mitigate unsustainable consumption practices. Middle- to higher income groups and respondents other than Whites were the least informed, which is worrisome as these consumers make up a large portion of South Africa's current and more importantly future consumer market.

Fortunately, consumers seem willing to adapt their current fresh produce consumption practices. Retailers will however have to take the initiative in the process to encourage consumers to revise their product expectations, buying and consumption behaviour in this every day product category. Future research could for example investigate viable strategies to inform consumers about highly theoretical issues relating to climate change, as well as practically implementable avenues to encourage sustainable retailing practices that focus on waste reduction, as well as consumers' buying and consumption practices that would demonstrate willingness to make sacrifices to combat climate change.

This study contributes towards literature in terms of an explanation of consumers' knowledge in terms of the dimensions (explicit and tacit) of knowledge and as an indication of shortcomings that could be addressed to empower consumers. Results from this study differ from previous studies and existing theories that exclusively associate explicit knowledge as part of consumers' discursive consciousness and

© University of Pretoria

tacit knowledge as part of their practical consciousness, which is crucial to comprehend and change behaviour. Previous theories also theorized that one would only need to improve explicit knowledge to mitigate unsustainable consumption practices. This study, however, reveals that consumers can experience a deficit in terms of tacit and/or explicit knowledge and that both these dimensions should be viewed as interdependent units that are part of an individuals' practical and discursive consciousness. This study, therefore, argues that both these knowledge dimensions should be acknowledged to influence consumers' practical consciousness as well as their discursive consciousness to enable comprehension of the phenomenon and continual assessment through reflexive monitoring of one's behaviour.

Keywords

Sustainable consumption; Climate change; Fresh produce retailing; Materialism; South African consumers; Knowledge; Practical consciousness; Discursive consciousness.

© University of Pretoria

Notification

Because of the sensitive nature of this research, the identities of the retailers that participated in this research project namely, Fruit and Veg City-Food Lovers Market, Pick n Pay, Shoprite-Checkers, Spar and Woolworths are protected by codes throughout chapters 6 to 8. The intention of this study is to draw attention to households' consumption of a basic commodity namely fresh produce in a market that is influenced by multiple factors that not necessarily conducive to sustainable consumption practices. The results are not meant to discriminate against, or to favour any of the particpating retailers. The author appreciates the contribution of all the retailers and stake holders who participated as experts in the interviews and wishes to convey her sincerest appreciation for their willingness to cooperate and to share sensitive information for the sake of a very important cause.

© University of Pretoria

Table of Contents

Dedication iii

Declaration iv

Acknowledgements v

Abstract vi

Notification ix

List of acronyms xx

Chapter 1: THE STUDY IN PERSPECTIVE 1

1.1 THE CONTEXT OF THE RESEARCH 1

1.2 RESEARCH PROBLEM 12

1.3 CONTRIBUTION OF THIS STUDY 15

1.4 THEORETICAL PERSPECTIVES 18

1.4.1 The Structuration Theory 19

1.4.1.1 Agents versus structure 19

1.4.1.2 Human agency 20

1.4.1.3 Duality of structure 20

1.4.1.4 Structuration and reflexive monitoring 21

1.4.1.5 Practical versus discursive consciousness 21

1.5 RESEARCH AIMS AND OBJECTIVES 22

1.5.1 Research aims 22

1.5.2 Research objectives 23

1.5.2.1 Objectives: Phase 1 24

1.5.2.2 Objectives: Phase 2 24

1.5.2.3 Objectives: Phase 3 25

1.6 RESEARCH DESIGN 26

1.7 METHODOLOGY 27

© University of Pretoria

1.7.1 Phase 1: Interviews with expert groups 27

1.7.2 Phase 2: Interviewing representatives of prominent South African retailers 28

1.7.3 Phase 3A: Consumer survey 28

1.7.3.1 The measuring instrument 29

1.7.3.2 Unit of analysis 30

1.7.3.3 Sampling method 30

1.7.3.4 Sample size 31

1.7.4 Phase 3B Focus group discussions 31

1.8 DATA ANALYSIS 33

1.9 QUALITY OF THE DATA 34

1.9.1 Conceptualisation – Theoretical validity 34

1.9.2 Measurement validity 34

1.9.2.1 Content validity 34

1.9.2.2 Face validity 35

1.9.2.3 Criterion validity 35

1.9.2.4 Construct validity 35

1.9.3 Sampling – Representativeness 36

1.9.4 Data Collection – Reliability 36

1.9.5 Data analysis – Inferential validity 37

1.10 ETHICS 37

1.11 SUMMARY OF RELEVANT LITERATURE 38

1.11.1 Basic concerns about climate change 38

1.11.2 South African consumers' contribution to global concerns about excessive waste 38

1.11.3 The consequences of unsustainable retailing practices 39

1.11.4 Consumers' knowledge and consciousness about environmental issues 39

1.11.5 The role of consumer socialisation in creating consciousness about climate change 40

1.12 PRESENTATION AND STRUCTURE OF THE THESIS 41

© University of Pretoria

Chapter 2: SUPPORTING LITERATURE AND CONCEPTUALISATION 43

2.1 INTRODUCTION 43

2.2 CONSUMPTION AND GLOBAL ENVIRONMENTAL CHANGE 44

2.3 CONSUMERS' CONTRIBUTION TO THE ECOLOGICAL FOOTPRINT 46

2.3.1 The 'in'convenient/'in'considerate consumer 47

2.3.2 Consumerism - the 'proverbial elephant in the room' 48

2.3.3 Sustainable consumption practices 52

2.3.4 The ecological footprint 54

2.3.5 Greenhouse gases and waste management 55

2.3.6 Mankind's influence on the environment 56

2.4 SOUTH AFRICA AND GLOBAL ENVIRONMENTAL CHANGE 56

2.4.1 Concerns about the ecological impact of waste 57

2.4.2 South African consumers' contribution to global concerns about excessive waste 60

2.4.3 Consumers' ignorance about the origin of food and consequences for sustainable retailing in South Africa 62

2.5 CONSUMERS' KNOWLEDGE AND CONSCIOUSNESS ABOUT ENVIRONMENTAL ISSUES 66

2.5.1 Knowledge explained 66

2.5.2 Consumers' consciousness about environmental issues 67

2.5.3 The role of consumer socialisation in terms of consciousness about climate change 69

2.5.4 Reaching and teaching citizens 72

Chapter 3: A HISTORICAL REVIEW OF CONSUMER BEHAVIOUR 1900 - 2013 74

3.1 THE INTERDEPENDENCE OF POLITICS, ECONOMICS, MODERN MARKETING AND CONSUMER BEHAVIOUR IN TERMS OF CLIMATE CHANGE 74

3.2 THE TRANSITION OF CITIZEN TO CONSUMER - A HISTORICAL OVERVIEW 75

3.2.1 The 1920s 76

3.2.2 The 1930s 77

3.2.3 The 1940s 78

3.2.4 The 1950s 78

© University of Pretoria

3.2.5 The 1960s 80
3.2.6 The 1970s 81
3.2.7 The 1980s 82
3.2.8 The 1990s 82
3.2.9 Beyond 2000 84
3.2 CONCLUSIVE REMARKS 86

Chapter 4: RELEVANT THEORETICAL PERSPECTIVES 88
4.1 INTRODUCTION 88
4.1.1 Unsustainable fresh produce consumption: just another bad habit? 89
4.1.2 Rational choice and mitigating unsustainable fresh produce consumption practices 91
4.2 RELEVANT THEORETICAL PERSPECTIVES 93
4.2.1 The attitude-behaviour paradigm 94
4.2.2 Ecological modernisation perspective 95
4.2.3 Structuration Theory 96
4.2.3.1 Agents versus structure 98
4.2.3.2 Human agency 98
4.2.3.3 Duality of structure 99
4.2.3.4 Structuration and reflexive monitoring 99
4.2.3.5 Practical versus discursive consciousness 100
4.2.4 The social practices model 101
4.3 CONCEPTUAL FRAMEWORK 103

Chapter 5: RESEARCH DESIGN AND METHODOLOGY 108
5.1 INTRODUCTION 108
5.1.1 Problem statement 108
5.1.2 RESEARCH AIMS AND OBJECTIVES 109
5.1.2.1 Research aims 109

© University of Pretoria

5.1.2.2 Research objectives 109

Objectives: Phase 1 110

Objectives: Phase 2 111

Objectives: Phase 3 111

5.2 RESEARCH DESIGN 113

5.3 METHODOLOGY 116

5.3.1 Phase 1: Involvement of expert groups 116

5.3.2 Phase 2: Involvement of prominent South African retailers 117

5.3.3 Phase 3 A: Consumers' involvement 117

5.3.3.1 Unit of analysis for the consumer survey 120

5.3.3.2 Sampling method 121

5.3.3.3 Sample size for the survey 122

5.3.4 Phase 3B: Focus group discussions 122

5.4 DATA ANALYSIS 124

5.4.1 Factor analysis 125

5.5 QUALITY OF THE DATA 126

5.5.1 Conceptualisation: Theoretical validity 126

5.5.2 Measurement validity 127

5.5.2.1 Content validity 127

5.5.2.2 Face validity 127

5.5.2.3 Criterion validity 127

5.5.2.4 Construct validity 128

5.5.3 Sampling: Representativeness 128

5.5.4 Data Collection: Reliability 128

5.5.5 Data analysis: Inferential validity 129

5.6 ETHICS 129

© University of Pretoria

Chapter 6: RESULTS AND DISCUSSIONS PART 1: QUANTITATIVE INVESTIGATION 131

6.1 DEMOGRAPHIC PROFILE OF THE SAMPLE 131

6.1.1 Gender distribution of the sample 131

6.1.2 Age distribution of the sample 132

6.1.3 Marital status and average household size of the sample 132

6.1.4 Level of education of the sample 133

6.1.5 Home language 134

6.1.6 Average household income of the sample 135

6.1.7 Population representation in the sample 136

6.1.8 Area of residence 136

6.2 RESULTS 138

6.2.1 Consumers' purchasing behaviour concerning fresh produce (Objective 3.1.1) 138

6.2.1.1 Person responsible for food- and grocery shopping 138

6.2.1.2 Food purchasing behaviour 138

6.2.1.3 Consumers' patronage of South African retailers 139

6.2.1.4 Consumers' preference of packaging formats for fresh produce 141

6.2.2 Drivers of consumers' fresh produce purchasing behaviour (Objective 3.1.2) 142

6.2.2.1 Fresh produce status consumption of different gender and age groups 145

6.2.2.2 Fresh produce status consumption of different level of education groups 146

6.2.2.3 Fresh produce status consumption of different household income groups 146

6.2.2.4 Fresh produce status consumption of different population groups 147

6.2.2.5 Summary of consumers status consciousness when purchasing fresh produce 147

6.2.3 Waste created as a result of consumers' fresh produce consumption practices (Objective 3.1.3) 148

6.2.3.1 Consumers' fresh produce consumption practices and waste management 148

6.2.3.2 The relevance of product attributes in consumers' quality expectations and eventual fresh produce wastage 150

6.2.3.3 Summary of consumers' quality expectation and eventual fresh produce wastage 155

6.2.4 Consumers' knowledge of climate change and possible mitigating actions that could curb unsustainable consumption practices 156

© University of Pretoria

6.2.4.1 Consumers' explicit knowledge of issues pertaining to climate change as reflected by their purchasing and consumption of fresh produce (Objective 3.2.1) 156

6.2.4.2 Consumers' tacit knowledge of issues pertaining to climate change in relation to sustainable purchasing and consumption of fresh produce (Objective 3.2.2) 163

Factor 1: Sustainable buying behaviour 167

Factor 2: Sustainable household behaviour 168

Factor 3: Sustainable consumer demands 170

Factor 4: Awareness of unsustainable retailing 171

Factor 5: Awareness of sustainable waste management 173

6.2.5 The influence of underlying personal and social values on consumers' potential to abide to the principles of sustainable consumption (Objective 3.3) 174

6.2.5.1 The relevance of consumers' materialistic and status consciousness in terms of rational and sustainable decision making (Objectives, 3.3.1 and 3.3.2) 175

Factor 1: Compulsivity 179

Factor 2: Status consciousness 181

Factor 3: Materialism 184

6.2.5.2 Conclusive remarks regarding the rationality of consumers' consumption behaviour 185

6.2.6 Consumers' sense of social responsibility and implications for sustainable fresh produce consumption practices (Objectives 3.3.3 and 3.3.4) 187

6.2.6.1 Consumers' sense of social responsibility 188

Factor 1: Centrality 193

Factor 2: Competitiveness 194

Factor 3: Altruism 194

Factor 4: Detachment 195

6.2.6.2 Conclusive remarks about consumers' sense of citizenship and social responsibility 196

6.2.6.3 Consumers' willingness to accept and adopt sustainable consumption practices 197

Factor 1: Activism 202

Factor 2: Personal effort 204

Factor 3: Personal sacrifice 204

Factor 4: Financial investment 204

© University of Pretoria

Factor 5: Apathy **205**

6.2.6.4 Conclusive remarks about consumers' willingness to commit to sustainable consumption **208**

6.2.6.5 Consumers' suggestions to mitigate unsustainable consumption behaviour **209**

6.2.6.6 Conclusive remarks about consumers' suggestions to mitigate unsustainable consumption behaviour **212**

Chapter 7: RESULTS AND DISCUSSIONS PART 2: QUALITATIVE INVESTIGATION **213**

7.1 INTRODUCTION **213**

7.2 PHASE ONE **214**

7.2.1 Climate change as an issue in South Africa and subsequent areas of concern (Objective 1.1) 214

7.2.1.1 Poverty **214**

7.2.1.2 The invisibility of climate change and resulting scepticism **215**

7.2.1.3 Education and poor awareness **216**

7.2.1.4 Government support **217**

7.2.1.5 Financial greed, economic welfare and a wasteful consumer culture **217**

7.2.2 Mitigating unsustainable fresh produce consumption – Key role players and possible modus operandi (Objective 1.2 and 1.3) 219

7.2.2.1 Taking responsibility towards sustainable consumption and the importance of knowledge **219**

7.2.3 Conclusion 221

7.3 PHASE 2 ..... **222**

7.3.1 Fresh produce retailing amidst times of climate change (Objective 2.1) 222

7.3.1.1 Retailers' current awareness of climate change **223**

7.3.1.2 Retailers' current practices and the application of the principles of sustainability **224**

Social community engagement **225**

Economic thrift **225**

Environmental - natural resource management **226**

Current consumer demand which is often idealistic and ignorant **226**

A highly competitive retail environment that is driven by capitalistic ideals. **226**

© University of Pretoria

7.3.2 Addressing fresh produce waste in retail: possible suggestion to promote sustainable consumption (Objective 2.2) 227

7.3.2.1 Reasons for fresh produce waste: current practices and areas of concern 227

Product 228

Price 229

Place 230

Promotion 230

People 230

Waste management 231

7.3.2.2 Suggestions to limit fresh produce waste 231

7.4 CONCLUSIVE REMARKS 233

Chapter 8: CONCLUSION 234

8.1 INTRODUCTION 234

8.2 CONCLUSIONS REACHED FOLLOWING THE QUALITATIVE INVESTIGATION THAT INVOLVED THE OPINIONS OF EXPERTS IN SOUTH AFRICAN INDUSTRIES 236

8.2.1 Experts' concern about climate change (Objective 1) 236

8.2.2 Fresh produce retailing amidst times of climate change (Objective 2) 238

8.3 THE QUANTITATIVE INVESTIGATION: THE SOUTH AFRICAN FRESH PRODUCE CONSUMER 241

8.3.1 Consumers' existing fresh produce consumption practices as an indication of their practical consciousness (Objective 3.1) 241

8.3.2 Consumers' knowledge and sustainable fresh produce purchasing and consumption practices (Objective 3.2) 244

8.3.3 The influence of underlying social norms and values on consumers' consumption behaviour (Objectives 3.3.1 and 3.3.2) 246

8.3.4 Consumers' sense of social responsibility and willingness to adopt sustainable consumption practices (Objectives 3.3.3 and 3.3.4) 247

8.3.4.1 The socially responsible consumer (Objective 3.3.3) 248

8.3.4.2 Consumers' willingness to adopt more sustainable consumption practices (Objective 3.3.4) 249

© University of Pretoria

8.3.4.3 Motivating sustainable fresh produce consumption: consumers' ideas and commitment (Objective 3.4) 252

8.4 SETTING THE SCENE FOR SUSTAINABLE FRESH PRODUCE CONSUMPTION AND WASTE MANAGEMENT AMIDST CONCERNS OVER CLIMATE CHANGE: EXPLORING POSSIBILITIES AND GUARDING AGAINST PITFALLS 253

8.4.1 Reflecting on consumers' habits (practical consciousness): the benefits and cost in terms of future prospects 256

8.4.2 Assigning responsibility: Identifying prominent agents of change and critical relationships (Agents versus Systems of provision) 259

8.4.3 Educating South African consumers in terms of managing a sustainable lifestyle: Customising information in terms of the demographic profile of consumers 261

8.4.4 Creating opportunities for action: setting realistic goals 263

8.4.5 Fostering a culture of support and care: Emphasising the role of the consumption junction 264

8.5 THE RESEARCH IN RETROSPECT 265

8.6 LIMITATIONS OF THE STUDY 267

8.7 RECOMMENDATIONS DEDUCED FROM FINDINGS FROM THIS STUDY 269

8.7.1 Recommendations for future research 269

8.7.2 Cross-cutting recommendations for industry and policy formulation based on 8.4 270

8.8 THEORETICAL CONTRIBUTION TO INTERNATIONAL LITERATURE 272

8.9 CONCLUDING REMARKS 272

Glossary 336

© University of Pretoria

List of acronyms

ARSCP - African Roundtable on Sustainable Consumption and Production, involved in sustainable development of African countries with an effective contribution to the reduction of poverty, improvement of well being as well as the protection and conservation of the natural environment.

BRICS – BRICS is the acronym for an association of five major emerging national economies: Brazil, Russia, China, South Africa

CSIR – Council for Scientific and Industrial Research is South Africa's central and premier scientific research and development organisation. It was established by an act of parliament in 1945 and is situated on its own campus in the city of Pretoria.

DEA or DEAT – Department of Environmental Affairs and Tourism of South Africa involved in the listing of policies and projects, and state of the environment reports.

DEFRA -The Department for Environment, Food and Rural Affairs is the government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities in the United Kingdom

FAO – Food and Agricultural Organisation of the United Nations develops methods and standards for food and agriculture statistics, provides technical assistance services and disseminates data for global monitoring.

FWRA – Food Waste Reduction Alliance is a collaborative initiative (based in the USA) of the three leading food industry trade associations: The Food Marketing Institute, The Grocery Manufacturers Association, and The National Restaurant Association. The FWRA has three major goals, which is to reduce food loss, recover safe and nutritious food from wastage, recycle unavoidable food waste by diverting it away from landfills.

ICSU – The International Council for Science is an international non-governmental organization devoted to international cooperation in the advancement of science. Its members are national scientific bodies and international scientific unions.

IISD – International Institute for Sustainable Development is an independent, non-profit and non-governmental research organization founded in Canada in 1990

IPCC - The Intergovernmental Panel on Climate Change is a scientific intergovernmental body under the auspices of the United Nations, set up at the request of member governments.

ITC – ITC Limited is an Indian conglomerate head quartered in Kolkata, West Bengal. Its diversified business includes five segments: Fast Moving Consumer Goods, Hotels, Paperboards & Packaging, Agri Business & Information Technology.

ITCSD - International Centre for Trade and Sustainable Development (ICTSD) is an independent non-profit organisation based in Geneva

© University of Pretoria

IUCN – The International Union for Conservation of Nature is an international organization dedicated to finding "pragmatic solutions to our most pressing environment and development challenges".

UN – The United Nations is an intergovernmental organization established on 24 October 1945 to promote international co-operation.

UNEP - The United Nations Environment Programme is an agency of the United Nations that coordinates its environmental activities, assisting developing countries in implementing environmentally sound policies and practices.

WRAP - The Waste & Resources Action Programme works with businesses; individuals and communities to achieve a circular economy through helping them reduce waste

WWF – The World Wide Fund for Nature is an international non-governmental organization working on issues regarding the conservation, research and restoration of the environment, formerly named the World Wildlife Fund, which remains its official name in Canada and the United States

© University of Pretoria

List of Addenda

Addendum A 318

Expert Groups – Email Survey 318

Addendum B 320

Retailer Interview 320

Addendum C 322

Consumer Survey 322

Addendum D 332

Consumer Focus Group Discussion 332

Addendum E 333

Map of Tshwane 333

Detailed Map of Tshwane Suburbs 334

© University of Pretoria

List of Figures

FIGURE 1.1: THE THREE PHASES OF THE RESEARCH PROCESS 24
FIGURE 4.1: THE SOCIAL PRACTICES MODEL OF SPAARGAREN AND VAN VLIET (2000) 102
FIGURE 4.2: CONCEPTUAL FRAMEWORK 104
FIGURE 5.1: THE THREE PHASES OF THE RESEARCH PROCESS 110
FIGURE 5.2: RESEARCH DESIGN 113
FIGURE 5.3: LAYOUT FOR A CONVERGENT PARALLEL MIX METHOD DESIGN 115
FIGURE 6.1: HOUSEHOLD SIZE (N = 560) 133
FIGURE 6.2: SOURCES CONSULTED BY REPONDENTS FOR INFORMATION PERTAINING TO ENVIRONMENTAL ISSUES 135
FIGURE 6.3: RESPONDENTS' SUGGESTIONS OF ROLE PLAYERS THAT ARE RESPONSIBLE FOR THE MITIGATION OF UNSUSTAINABLE CONSUMER PRACTICES (N = 560) 135
FIGURE 6.4: FOOD PURCHASES IN HOUSEHOLDS (N = 560) 139
FIGURE 6.5: CONSUMERS' PATRONAGE OF FOOD AND GROCERY RETAILERS FOR THE PURPOSE OF BUYING GROCERIES 140
FIGURE 6.6: CONSUMERS' PATRONAGE OF FOOD AND GROCERY RETAILERS FOR THE PURPOSE OF BUYING FRESH PRODUCE 140
FIGURE 6.7: CONSUMERS' PERCEPTION OF RETAILERS' FRESH PRODUCE AND ENVIRONMENTALLY FRIENDLINESS 141
FIGURE 6.8: CONSUMERS' FRESH PRODUCE PURCHASING PRACTICES 149
FIGURE 6.9: CONSUMERS' FRESH PRODUCE WASTE DISPOSAL PRACTICES 149
FIGURE 6.10: FACTOR MEANS FOR THE DIMENSIONS OF CONSUMERS' TACIT KNOWLEDGE 166
FIGURE 6.11: FACTOR MEANS RESPRESENTING THE DIMENSIONS OF THE RATIONALITY OF CONSUMERS' DECISION PRACTICES 176
FIGURE 6.12: FACTORS MEANS DELINEATING THE DIMENSIONS OF SOCIALLY RESPONSIBLE BEHAVIOUR 191
FIGURE 6.13: FACTORS MEANS DELINEATING THE DIMENSIONS OF SUSTAINABLE CONSUMPTION 200
FIGURE 8.1: RETAILER USAGE OF DIGITAL SIGNAGE AS A MEANS TO REPORT AND CONVEY ISSUES REGARDING ENERGY CONSUMPTION IN THEIR STORES 239
FIGURE 8.2: CONCEPTUAL FRAMEWORK 256

© University of Pretoria

List of Tables

TABLE 1.1: OUTLINE OF PHASES 1 TO 3 33

TABLE 5.1: STRUCTURE OF THE QUESTIONNAIRE 120

TABLE 6.1: AGE GROUP DISTRIBUTION OF THE SAMPLE (N = 560) 132

TABLE 6.2: LEVEL OF EDUCATION OF THE SAMPLE (N = 560) 133

TABLE 6.3: INCOME DISTRIBUTION OF THE SAMPLE (N = 560) 136

TABLE 6.4: AREA OF RESIDENCE OF THE SAMPLE (N = 560) 137

TABLE 6.5: RESPONDENTS' PREFERENCE OF THE FORMAT OF FRESH PRODUCE PACKAGING (N = 560) 141

TABLE 6.6: FRESH PRODUCE CONSUMPTION REFLECTING STATUS CONSCIOUSNESS (ADAPTED FROM KILSHEIMER, 1993 AND RICHINS & DAWSON, 1992) 143

TABLE 6.7: FRESH PRODUCE CONSUMPTION IN TERMS OF STATUS CONSCIOUSNESS PER DEMOGRAPHIC CATEGORY (N = 560) 145

TABLE 6.8: FRESH PRODUCE STATUS CONSUMPTION IN TERMS OF EDUCATION 146

TABLE 6.9: FRESH PRODUCE STATUS CONSUMPTION IN TERMS OF INCOME 147

TABLE 6.10: FRESH PRODUCE STATUS CONSUMPTION IN TERMS OF POPULATION GROUP 147

TABLE 6.11: CONSUMERS' QUALITY EXPECTATIONS AND EVENTUAL FRESH PRODUCE WASTAGE EXPRESSED IN PERCENTAGE (N = 560) 152

TABLE 6.12: CONSUMERS' EXPLICIT KNOWLEDGE OF CLIMATE CHANGE 158

TABLE 6.13: CONSUMERS' EXPLICIT KNOWLEDGE OF CLIMATE CHANGE ACROSS DEMOGRAPHIC CATEGORIES ... 160

TABLE 6.14: CONSUMERS' EXPLICIT KNOWLEDGE OF CLIMATE CHANGE IN TERMS OF INCOME 161

TABLE 6.15: EXPLICIT KNOWLEDGE OF CLIMATE CHANGE IN TERMS OF POPULATION GROUP 162

TABLE 6.16: FACTORS REPRESENTING THE DIMENSIONS OF CONSUMERS' TACIT KNOWLEDGE 165

TABLE 6.17: CONSUMERS' TACIT KNOWLEDGE ACROSS THE VARIOUS DEMOGRAPHIC CATEGORIES 167

TABLE 6.18: SUSTAINABLE BUYING BEHAVIOUR PER GENDER GROUP 168

TABLE 6.19: SUSTAINABLE HOUSEHOLD BEHAVIOUR PER GENDER GROUP 168

TABLE 6.20: SUSTAINABLE HOUSEHOLD BEHAVIOUR PER EDUCATION LEVEL CATEGORY 169

TABLE 6.21: SUSTAINABLE HOUSEHOLD BEHAVIOUR PER POPULATION GROUP 170

TABLE 6.22: SUSTAINABLE CONSUMER DEMANDS PER GENDER GROUP 170

TABLE 6.23: AWARENESS OF UNSUSTAINABLE RETAILING PRACTICES PER AGE GROUP 172

© University of Pretoria

TABLE 6.24: AWARENESS OF UNSUSTAINABLE RETAILING PRACTICES PER INCOME CATEGORY 172

TABLE 6.25: THE RATIONALITY OF CONSUMERS' DECISION PRACTICES 177

TABLE 6.26: A COMPARISON OF THE MEANS FOR THE THREE FACTORS PER DEMOGRAPHIC CATEGORY 179

TABLE 6.27: COMPULSIVITY PER AGE CATEGORY 180

TABLE 6.28: COMPULSIVITY IN TERMS OF INCOME 180

TABLE 6.29: STATUS CONSIOUSNESS IN TERMS OF GENDER 181

TABLE 6.30: STATUS CONSCIOUSNESSIN TERMS OF AGE 181

TABLE 6.31: STATUS CONSCIOUSNESS IN TERMS OF EDUCATION LEVEL 182

TABLE 6.32: STATUS CONSCIOUSNESS IN TERMS OF INCOME LEVEL 183

TABLE 6.33: STATUS CONSCIOUSNESS IN TERMS OF POPULATION GROUP 183

TABLE 6.34: MATERIALISM IN TERMS OF AGE 184

TABLE 6.35: MATERIALISM IN TERMS OF EDUCATION 185

TABLE 6.36: CONSUMERS' SENSE OF SOCIAL RESPONSIBILITY 190

TABLE 6.37: CONSUMERS' SENSE OF SOCIAL RESPONSIBILITY PER DEMOGRAPHIC CATEGORY 192

TABLE 6.38: COMPETITIVENESS IN TERMS OF GENDER 194

TABLE 6.39: ALTRUISM IN TERMS OF GENDER 194

TABLE 6.40: DETACHMENT IN TERMS OF POPULATION GROUP 196

TABLE 6.41: CONSUMERS' WILLINGNESS TO ADOPT SUSTAINABLE CONSUMPTION PRACTICES 199

TABLE 6.42: CONSUMERS' WILLINGNESS TO ADOPT SUSTAINABLE CONSUMPTION PRACTICES 201

TABLE 6.43: ACTIVISM PER GENDER GROUP 203

TABLE 6.44: ACTIVISM PER EDUCATION LEVEL CATEGORY 203

TABLE 6.45: FINANCIAL INVESTMENT PER INCOME CATEGORY 205

TABLE 6.46: APATHY PER EDUCATION LEVEL CATEGORY 206

TABLE 6.47: APATHY PER INCOME CATEGORY 207

TABLE 6.48: APATHY IN TERMS OF POPULATION GROUP 208

TABLE 6.49: CONSUMERS'ATTEMPTS TO PURCHASE AND CONSUMESUSTAINABLY (N=231) 210

TABLE 6.50: CONSUMERS' IDEAS RELATING TO SUSTAINABLE FRESH PRODUCE CONSUMPTION 211

© University of Pretoria

© University of Pretoria

Chapter 1

THE STUDY IN PERSPECTIVE

This chapter provides the background for the research, introduces the research problem, the justification, research design and methodology and highlights important constructs that are relevant throughout the study. It also includes a brief summary of the extensive literature review.

1.1 THE CONTEXT OF THE RESEARCH

"Is this the future we want? A world of out-of-control climate change? The answer is clear, even if the exact path is not."

Ban Ki-Moon, UN Secretary General (2011 COP17)

One of the most researched and debated topics in various political, business and academic spheres in recent years is the depletion of the world's resources that includes concerns about the impact of greenhouse gas emissions and overall climate change (Walker & King, 2008:24; Kemp, Insch, Holdsworth & Knight, 2010). Greenhouse gas is defined as any gaseous compound in the atmosphere that is capable of absorbing infrared radiation, thereby trapping and holding heat in the atmosphere. By increasing the heat in the atmosphere, greenhouse gases are responsible for the greenhouse effect, which is associated with climate change (Lallanilla, 2013). Evidence confirms that current problems related to climate change are worsened by consumers' indiscriminate consumption behaviour (Burgess, 2003; Barr, 2007; Kotler, 2011; Alexander & Ussher, 2012; Vázques-Rowe, Villanueva-Rey, Moreira & Feijoo, 2013; UNEP, 2013) and inappropriate waste management on the part of individuals, households, societies and industries (Stuart, 2009; Nahman & de Lange, 2013; Notten, Bole-Rentel & Rambaran - WWF, 2014; FWRA, 2014). The topic of climate change can, therefore, be associated with elevated consumption of consumer goods (Stern, 2006; Alexander & Ussher, 2012; WWF, 2012), which inevitably, contributes to consumers' indiscriminate and excessive consumption of the world's resources (Darley & Johnson, 1993; McGregor, 2000; Cahill, 2001; Shove & Warde, 2002; Wilk, 2002; McGregor, 2006; Nahman, de Lange, Oelofse & Godfrey, 2012; WWF-Report, 2012; Oelofse, Nahman & de Lange, 2013). Many authors emphasise the inseparability of factors that cause environmental harm and consumers' conspicuous consumption (Shove & Warde, 2002; Wilk, 2002; Boykoff & Goodman, 2009; Hamilton, 2010; Hume, 2010; Morales, 2010; Oelofse, Nahman & de Lange, 2013). Globally it seems to be one of the most important issues that currently face society. An outcry for consumers to revisit their buying and consumption behaviour and to embrace voluntary simplicity is formulated in the assumptions of the so-called global perspective

© University of Pretoria

(McGregor, 1998), which propagates a critical review of the consumer as individual in favour of the consumer as citizen. The idea is to enhance people/consumers' concern about the world and its resources and the future of the planet and to encourage voluntary simplicity because indiscriminate consumption is increasingly causing irreversible damage to global resources.

Compared to the USA, South Africa, has to date contributed little towards climate change but indications are that the country could eventually become a victim that is disproportionately affected by the consequences of climate change (Pretorius, Hart, Mampye & Madadzwe, 2009; Roy & Pal, 2009; Madzwamuse & Benjamin, 2010). The South African Climate Action Network is concerned that South Africa may suffer severe losses of some of its natural resources due to climate change (Madzwamuse, 2014). It is explained that, over the last ten years in South Africa, the rainfall patterns have changed remarkably with a significant drop in rainfall received, which has resulted in lower and failed agricultural crop production (World Bank, 2013; Madzwamuse, 2014). In 2007, Dennis Laidler, (Deputy Director of Climate Change, Western Cape Environmental Affairs Department) stated that climate change may eventually shrink and destroy the Western Cape's wine regions and that farming in general- especially fresh produce production- will become more challenging in the future. A major concern is that food will become scarcer and more expensive as the already sparse water resources dry up (Notten, Bole-Rentel & Rambaran, WWF, 2014). Throughout the continent a bleak picture of severe shortfalls in food supply and drinkable water in the following decades is predicted (IPCC, 2007), and it is said that in South Africa the poor will suffer the most, as extreme weather conditions will threaten their subsistence livelihoods (Amigun, Musango & Stafford, 2011; World Bank, 2013). 'Africa is more vulnerable in the sense that there are more people on the continent depending on agriculture for their livelihood, while more people already live in poverty' (Le Roux, 2007).

The truth is that during 2010, South Africa with its emerging economy has shown emission and consumption levels equal to that of developed countries such as the United Kingdom (DEAT, 2010a; WWF, 2012, 2014). This supports the notion of economic historians that the demand for consumer goods is not necessarily a direct consequence or result of higher income levels or economic growth but rather the cause of it (Wilk, 2002; Deese, 2003; Alexander & Ussher, 2012). Although the increased demand for consumer goods in emerging economies contributes to the problem of excessive consumption, it does not imply that, when scientists decry climate change, emerging economies should interpret it as them having 'to stay poor to save the planet' (Camacho, 1995 in Wilk 2002). Instead, McGregor (2005) proposes a conscious deliberation of consumers' consumption practices across all socio-economic levels.

© University of Pretoria

Previously, the world's growing population was blamed for climate change (World Resources Institute, 2000). Latest figures, however, indicate that in the last decade population growth has actually declined with current growth rate of 1% per year (UN Populations Division, 2009, WWF-Report, 2012). Although population growth is still considered one of the main concerns with regard to climate change, more emphasis is now placed on what and how much products consumers consume (Alexander & Ussher, 2012; Sonnenberg, 2014). Unfortunately recent literature indicates that current global consumer spending/consumption habits greatly outpace the earths' regenerative capacity (Alexander & Ussher, 2012; WWF, 2012; Sonnenberg, 2014). In the latest Living Planet Report (WWF, 2012) rising consumption among consumers within emerging economies was identified as a particular area of concern. This is worrisome because South Africa with its emerging economy includes a growing 'Black Diamond' consumer segment that is consuming at an alarming pace due to their high aspiration levels (Bolaane & Ali, 2004; Van der Bergh in Germaner, 2013). The draft South Africa Environmental Outlook also ascribes the country's recent consumption and waste-generation growth, which is estimated at 62% during the past decade to a 'prolonged period of economic growth' (DEA, 2012). In 1965 it was projected that in 2000, the average American would only have to commit to a maximum of 20 hours of labour per week, based on productivity gains and the fact that consumption should stay the same (Graaf, Naylor & Wann, 2001:95). Instead, most individuals world-wide now work an average of 8.5 hours per day, in order to sustain their current consumption rates (Alexander & Ussher, 2012; WWF-Report, 2012). For the sake of the environment it is thus essential that a solution be found through which material standards of living can be maintained and even raised (in the case of poor communities, who surely have the right to develop their economic capacities) while at the same time reducing mankinds' ecological footprint (Alexander & Ussher, 2012).

It is well-documented that unsustainable consumption patterns of present-day societies have serious social and environmental consequences for the future. There is general consensus that climate change is real and that it is predominantly caused by human activities more specifically consumer consumption, especially irrational and conspicuous consumption (Frijters & Leigh, 2008; Wills, 2008; Rucker & Galinsky, 2009). Before criticising irrational consumer behaviour it is perhaps appropriate to understand what is understood by rational behaviour. The theory regarding consumer behaviour prior to World War II was based on the economic perspective of the 'rational man' also referred to as 'economic man'. The central idea of this perspective was that consumers make decisions by weighing costs and benefits in a rational manner that makes economic sense (Zaichkowsky, 1991; Schiffman & Kanuk, 2010:560). Thererfore, theoretically, consumers will select a set of product quantities that maximise utility satisfaction, which in this context, means the ability of a product to meet functional needs in relation to money spent. This notion is well-supported by early economic theorists and experts in the field like Adam Smith, Jeremy

© University of Pretoria

Bentham, Alfred Marshall, who postulated that consumers' desire for goods and services is directly linked to their ability to pay (Waldfogel, 2005; Bush, 2008).

For consumers to weigh their income versus their product needs, essential cognitive processes need to take place to enable consumers to demonstrate rational behaviour. Rational behaviour, implies that consumers are aware of and informed about all product alternatives and that they are able to rank the product alternatives in terms of pro's and con's in order to conclude a purchase decision that will maximise utility (Schiffman & Kanuk, 2010:560). It is argued that, because rational choice behaviour is fuelled by consumers need to maximise utility, consumers will consider all the risks involved prior to purchasing (Jacoby, 2000). To do so, consumers have to consciously consider all related factors i.e. objective evaluation criteria or a stable set of preferences (Jacoby, 2000; Schiffman & Kanuk, 2010:560). Rational behaviour is also viewed to be explainable processes of consumer behaviour because it is supported by cognitive functioning and higher order reasoning (Zaichkowsky, 1991).

Contrary to rational behaviour, a 'passive view' refers to decision-making that includes 'irrational behaviour', suggesting that consumers are impulsive decision makers, which also reflect thoughtless consumption (Zaichkowsky, 1991; Griffin, 2004). This type of behaviour stems from the fact that consumers may be self-centred and are vulnerable to external powerful marketing influences (Zaichkowsky, 1991; Abela, 2006; Bush, 2008; Lertwannawit & Mandhachitara, 2012). Admittedly at one time or another, all consumers will make irrational purchase and consumption decisions, simply for the sake of enjoyment or giving in to the spirit of the moment (Jacoby, 2000; Sivanathan & Petit, 2010). Irrational behaviour is, however, often linked to compulsive, irresponsible consumption practices, which is problematic because this kind of behaviour is inherently unpredictable and very difficult to influence (Shugan, 2006). Currently irrational consumption of products and natural resources exerts so much strain on the environment that the long-term consequences for future generations seem irreversible (Firsing, 2007:17; Van der Zee, 2007:11; Stuart, 2009:58). McGregor (2006) states that consumers' current consumption practices are risky because of the profound harm they hold for other individuals who are not directly involved in the consumption act, especially future generations. Unfortunately consumers seldom fully understand the consequences of their needs, buyer and disposal behaviour, and are perhaps then incapable to deliberate all the pro's and con's which are required for rational decision making (Wilk, 2002; Curtis, 2009).

Fresh produce is a good example of how consumers' consumption behaviour affects our ecosystem (Racine, Mumford, & Laditka, 2013). On the one hand, retailers proudly present imported out-of-season

© University of Pretoria

and exotic fresh produce in their stores to impress and retain their customers. On the other hand such kind of behaviour fuels consumer demand and willingness-to-pay (Wei, Singgih, Woods & Adar, 2003; Oliver, Volschenk & Smit, 2011). This coincides with basic economic principles of supply and demand (Jackson, 2005a; Alexander & Ussher, 2012), and neither necessarily acknowledges the carbon footprint that is left through consumers' ignorant and/or exorbitant consumption behaviour, nor do they reflect the production and distribution that are needed to uphold these habits.

Nowadays millions of carbon kilometres are 'travelled' through various modes of transport to distribute fresh produce and out-of-season produce to sophisticated consumer markets all over the world (Wills, 2008; Kemp et al., 2010). Latest figures indicate that South Africa is theoretically able to self-sustain fresh produce needs. Instead it imports 342 698 tons of fresh produce annually, which is valued at 325.7 million US Dollars (ITC-Report 2011). This excessive consumption is aggravated when products are damaged due to improper handling and poor planning of retailers as waste is subsequently created without those concerned not necessarily contemplating the consequences (Casimir & Dutilh, 2003; Marshak, 2012; News24, 2013). Consumers unfortunately also portray negative consumption patterns through poor planning, ill-considered choices and non-selective products for consumption. This contributes to further waste. Retailers in fact encourage wastage as they meet consumer demand for top quality produce in order to gain customer loyalty and a competitive advantage in the market-place (Marshak, 2012). By offering top quality fresh produce, retailers encourage consumers to settle for nothing less than the best. Based on this it can be said that retailers are not yet aware of their role in educating consumers about sustainable consumption.

Consumer demand for out-of-season, imported produce implies not only higher access costs but also unnecessary carbon dioxide (CO_2) emission as goods have to be transported by air, road, water or rail over hundreds, and even thousands of kilometres (Kemp et al., 2010). Fresh produce is perishable and, therefore, needs to be refrigerated while being transported, requiring even further use of natural resources (Wills, 2008). Through an insatiable demand for quality and convenience, consumers also indirectly encourage excessive use of pesticides during the production process and the discard of lower quality produce before the produce even gets to consumers. This leads to unnecessary waste. Waste is also created in the form of produce off-cuts that is inevitable during the production and processing of convenience products, particularly pre-cut vegetables that have become high-demand commodities in modern households (Stuart, 2009:367). In recent years the plastic packaging used for convenience products also contributes to pollution and climate change (Wills, 2008:20).

© University of Pretoria

Some postulate that the threat of climate change to humanity, which is fuelled by consumers' indulgence, is comparable to war. United Nations' Secretary General Ban Ki-moon stated that consumers' current buying and waste behaviour is setting the stage for an 'unconscionable legacy' for future generations, and is also placing a heavy burden on the future (Welsh, 2007). The damage that has been done to our ecosystem to date, will take decades, and even centuries, to reverse if all start taking matters seriously (Roy & Pal, 2009). Based on the extensive interest in, and emphasis on environmental issues and concerns about the future of the planet's resources, mitigation and change of consumer behaviour seems inevitable. South African consumers unfortunately seem very ignorant with regard to the issue of climate change and the role consumers play (Hammett, 2010; WWF-Report, 2012). In the words of Mark Twain: 'it ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so' (Gore, 2006:20).

Societies with materialistic value systems often pursue lifestyles of sophistication and convenience and even believe that they deserve it (Schiffman & Kanuk, 2009:358; O'Cass & McEwen, 2006; Frijters & Leigh, 2008, Sivanathan & Petit, 2010). Already during the 19th century Karl Marx noted 'the devaluation of the human world increases in direct relation to the increase in the value of the world of things'. This is supported by Veblen's (1898) classic argument that conspicuous consumption, which is often equated with materialism, is the most prevalent manner in which individuals portray or signal their self-worth (Wilk, 2002; Røpke, 2005; Busch, 2008; Frijters & Leigh, 2008; Sivinathan & Petit, 2010; Lertwannawit & Mandhachitara, 2012). To make matters worse, the upward mobility and growing wealth of the previously disadvantaged and less affluent consumer groups in South Africa since 1994, has contributed to the scenario through increased consumer spending and conspicuous consumption to erase an asset deficit to reflect their newly acclaimed social status (Dodson, 2000; Casimir & Dutilh, 2003; Nieftagodien & van der Berg 2007; UNPDA, 2009; Couth, Trois & Vaughan-Jones, 2011). This is a noteworthy concern, for if the entire world wants to emulate the lifestyle and consumption patterns of an average American, we will need the resources of more than three planets (Griffin, Babin & Christensen, 2004; Simms, in Wills 2008).

The lifestyle and so-called American Dream has become a dominant theme in consumer culture worldwide (Hanson & Zogby, 2010). The American Dream is a national ethos within the United States of America in which freedom includes an ideal of prosperity and success. By definition the American Dream proposed by James Truslow Adams as early as 1931 proposes that the American social, economic and political system makes success possible for every individual, promising a life of personal happiness and material comfort where 'life should be better, richer and fuller for everyone, with opportunity for each according to ability or achievement, regardless of social class or circumstances of birth' (De Santis,

© University of Pretoria

1998; Choo & Tan, 2007; Kamp, 2009). In short, the American Dream represents a set of goals that aims at material success and spiritual fulfilment (Hanson & Zogby, 2010). The American Dream has over time become the slogan for 'making it big' or 'striking it rich' achieving social status, fame and fortune (Kamp, 2009).

The biggest problem with the American Dream is that simple moral beliefs have been destroyed in the name of greater returns and profit (Greider, 2009). This is frustrating because the intangible dimensions of life have been displaced or are simply pushed aside in many ways by the economic system's relentless demands to maximise yields of profit and wealth (Lee, Pant & Ali, 2009). The link between the American Dream, good citizenship and the so-called 'good consumer' is prominently promoted by the media, schools and even politicians (Bernays, 1930:113; Graaf et al., 2001:95; Busch, 2008). It is documented that the average child in the USA can view up to 200 commercials during an average day's television consumption, and that these commercials are carefully planned and placed to inspire or evoke new desires that might result in elevated sales and consumption (Graaf et al., 2001:99; Wilk, 2002). Research done by Rima and Coleman (2009) noted that school subjects such as Home Economics, which once taught the skills needed for sustainable home production, now focus on teaching students how to consume mass-produced products. During his speech (that followed the USA 911 tragedy), President George, W. Bush reminded the American population of their important role to continue participating in the economy and 'that no terrorist attack should deny Americans from the simple right of shopping' (Busch, 2008; Curtis, 2009).

The intentions and roots of current marketing strategies that focus on how to engage individuals' rational and conscious minds, as well as facilitating the needs of society as a whole is questioned in terms of the sustainability of the world's resources (Curtis, 2009). Marketing often employs tactics of psychoanalysis that appeal to irrational, primitive impulses; which have little apparent bearing on issues outside of the narrow self-interest of the consumer population or society in general. Although current marketing strategies are supposed to be 'relationship orientated' (Jobber, 2010) rather than 'sales orientated' the objective of advertisements are seldom noble. It is argued that marketing initiatives promotes virtues of spending and boost materialism (Griffin et al., 2004). Early quotes like 'We must shift America from a needs- to a desires-culture; People must be trained to desire, to want new things, even before the old have been entirely consumed. Man's desires must overshadow his needs' demonstrate the extent of the problem (Paul Mazur, 1933). In 1939 this type of marketing was referred to as encouraging planned and perceived obsolescence. Planned obsolescence focuses on the designing of goods and products in such a manner that it will ensure frequent replacement that too would lead to a concern regarding the creation waste, which is a much bigger problem. Perceived obsolescence is often initialised through planned

© University of Pretoria

obsolescence in that it arouses desire for the new and improved versions of products even though current products are still in good working order (Busch, 2008; Bloch, Courvisanos & Mangano, 2009). Critics such as Vance Packard claim that this process wastes resources and exploits customers (Slade, 2006; Bloch et al., 2009; Curtis, 2009). Bernays's (1930) theory of 'engineering of consent' argues that the general public's opinion and thoughts can be influenced through mass media and that this type of marketing is essential for the efficient functioning of modern society that is driven by the capitalistic ideals of prosperity and progress. According to Bernays the 'engineering of consent' is the very essence of the democratic process. The freedom to persuade and suggest, as eloquently set out in the Bill of Rights under the Freedom of Speech Act, should be harnessed to manage the general public's minds, attitudes and ultimate actions (Bernays, 1930:113). The phrase quite simply suggests an engineered approach, which is based on thorough knowledge of the situation and on the application of scientific principles as well as tried practices proven to encourage individuals to support ideas and programs. Bernays, (1930:114), however, indicates that this 'enormous amplifying system' is only of concern to those who are interested in socially constructive actions.

Many consumers are apparently still following the post-World War II American culture that equates the good citizen with a good consumer who is devoted to the acquisition of 'more, newer, and better' (Busch, 2008). Consumption is glamorised and lavish lifestyles are often projected to aspiring societies as the ultimate way of life (Roy & Pal, 2009). Although this is favoured by retailers who inevitably reap the benefits of excessive consumption through increased sales and profits, lavish consumption and excessive waste have disastrous consequences for the world's natural resources (O'Cass & McEwen, 2006). The lust for economic well-being that largely depends on the use of fossil fuels is largely to blame for the difficulties encountered when attempting to mitigate climate change (Wilson & Law, 2007:74). In the late 1960s, Hardin (in Wilson & Law, 2007:74) referred to human beings' irrational higher order needs, and cautioned that a person is responsible for his own detriment through pursuit of his own best interest, together with society's unfortunate belief 'in the freedom of the commons'. More recently, Van der Zee (2007:11) cautioned that freedom per se is misunderstood because no one is truly free and that this will only happen once all individuals start taking responsibility for their own actions, needs and wants.

In terms of consumers' everyday consumption practices, responsibility for fresh produce waste can easily be transferred. While consumers exercise their right to superior quality and expect nothing but the best, retailers attempt to supply this demand and are obliged to discard whatever products do not meet consumers' expectations (ITC-Report, 2011; Yu & Nagurney, 2013). Meanwhile the ecosystem is being destroyed by consumers' and retailers' ignorance and negligent behaviour (Schlegelmilch, Bohlen &

© University of Pretoria

Diamantopoulous, 1996; McGregor, 2000; Monaghan & Lloyd, 2007; Wilson & Law, 2007:viii). The situation can be compared to a tug-of-war with demanding consumers and opportunistic retailers in opposing corners; both focused on personal gain. There seems to be an imbalance in the power relationship between consumers and retailers, with the latter having the upper hand in the relationship and, therefore, being the driving force of consumer demands (McGregor, 2000; Marshak, 2012). Based on consumers' unsustainable consumption of fresh produce one might, however, argue that consumers are as guilty. Consumers demand superior quality and expect fresh produce to be perfect (ITC-Report, 2011). Consumers have even caught onto the practice of FIFO (first in first out) and are often seen delving into the back of fridges, lugs and crates for fresher, newer produce even though they intend to use the produce that same day or plan to chop those perfect tomatoes up for a soup or a sauce. It is also a concern that, due to poor household planning, unopened produce is often wasted (Nahman et al., 2012:2147). Shove and Warde (2003) are of the opinion that creating environmentally knowledgeable citizen-consumers will result in more sustainable domestic practices, consumption and lifestyles. This is supported by findings of a recent South African study (Godfrey, Scott, Difford & Trois, 2012:2154).

Demanding consumers are, however, not the only culprits in terms of waste creation and degradation of the environment. In the majority of South African retail stores issues relating to climate change take a back seat and marketing strategies are often employed to attract attention and ultimately entice consumers to purchase (D'Haese & Huylenbroeck, 2005, ITC-Report 2011, Marshak, 2012). Fresh produce departments are often positioned near the entrances of stores to attract consumers' attention. Produce specials and health educators' advocacy strategies that follow the Five-a-Day principle unfortunately breed passive consumers who indulge irrationally without realising the consequences of their wastage and over-consumption. The moment fresh produce is harvested, a chain of processes is initiated, which contribute to the ripening and spoilage of the fresh produce (Yu & Nagurney, 2013). Because the sales of produce depend on the quality presented at the point of sale, the design, organisation and interrelationships between supply chain role players (industry-consumer/farm-fork) needs to be managed properly (Sarkis, Zhu & Lai 2010, Yu & Nagurney, 2013). The consequences of poor management and waste creation in fresh produce supply chains have been a topic of concern for many years, and are well-documented (Arthey, 1975:14; Ryall & Lipton, 1979; Scriven & Harrison, 1988; Yu & Nagurney, 2013). Early research of Duckham, Jones and Robberts (1976:154) highlighted the need to gather data about households' fresh produce waste. Most of this research, however, aimed to encourage and improve consumption, and not to improve sustainable supply chain management for the sake of conservation of natural resources (Snels & Westra, 2010).

© University of Pretoria

Estimates on post-harvest wastage of fresh produce (fruit and vegetables at retail level in South Africa) are set between five and eleven per cent. This only represents the ultimate wastage (i.e. 'waste destroy' and does not include the wastage of internal departments such as delicatessens, and/or bakeries that often include fresh produce in their preparation of products to sell. Problems faced by South African retailers in terms of wastage are not unique. In Oman, estimates of average total fresh produce wastage in retail range between three to nineteen per cent (Opara, 2007:31). Moreover, problems in the retail industry involve different sectors of the supply chain. Distribution centres (DC) and head offices often allocate produce to stores in order to zero wastage at the DC itself, thereby generalising the needs of different consumer groups. In many cases stores are obliged to receive produce due to abundance at DC level even if they have neither value nor demand for the particular produce item. Most of this produce is then eventually discarded because that store has no need for it and it does not meet its consumers' needs (Ben-Tzur & Ward, 2009; Nahman et al., 2012).

A South African report indicates that landfills have increased significantly in recent years as a direct consequence of an increase of waste (Nahman et al., 2012). Part of this waste is generated because products are often discarded unnecessarily for example because fresh produce is bruised. In addition, retailers do their best to impress consumers by predominantly displaying top quality produce and also throw away produce, which is still fit for human consumption (Clarke, 1999; Themelis & Ulloa, 2006; Yue, 2007; Stuart, 2009:214, Marshak, 2012). Produce that do not meet consumers' and retailers' quality standards, is often simply thrown away without thinking about the consequences (Stuart, 2009:xvi; Nahman et al., 2012) and turns into waste merely because of slight imperfections (Schoorl & Holt 1982; Wei et al., 2003; Stuart, 2009:6). Stuart (2009:xvi) affirms that an overwhelming 50% of food produced in and around the United States is discarded annually. In Japan the amount of food waste that is created equates to 11 Trillion Yen per annum. Recent figures for South Africa indicate that households throw-away an average of 31% of the food purchased (Nahman et al., 2012) of which fresh produce often constitute more than 50%.

People do not necessarily realise that when fresh produce waste is taken to landfills, the decomposing produce generates greenhouse gas, especially methane (Themelis & Ulloa, 2006:1243; Stuart, 2009:6; Nahman et al., 2012). Although the contribution of methane gas to the overall greenhouse gas (GHG) emission is much smaller than that of CO_2 (that is more prevalent and deservingly so receives more attention), methane actually encapsulates more sunrays per molecule than CO_2 does (Themelis & Ulloa, 2006; Koerner, 2007; Stuart, 2009:9). This contributes to the warming of the earth through the current greenhouse effect that is responsible for many negative effects such as the melting of the ice caps in the

© University of Pretoria

poles, outbreak of fatal diseases worldwide and irregular weather patterns. Consumers often tend to rationalise the wasting of fresh produce by establishing compost heaps. Poorly managed compost heaps, however, ultimately also contributes heat and methane, which repeats the negative cycle. It is, therefore, crucial that consumers are educated and that ways are found to curb this cycle to reduce possible disastrous consequences of climate change (De Lange, 1981; McGregor, 2002; McGregor, 2009). Some of the attempts to curb the problem involve the tapping of methane from landfills as a source of energy like gas for cooking. Although this is a noble idea it is not putting an end to the cycle of excessive consumption that encourages waste (Stuart, 2009:55).

Growing awareness and concern for the environment features in political campaigns and more frequently in the media (Schlegelmilch et al., 1996; Rousseau & Venter, 2001; Kahn, 2010:15; DEAT, 2010b; WWF-Report, 2012). Unfortunately to date, misconceptions about the urgency of the matter, that is, whether climate change is real, whether consumers are indeed responsible for the harm being done and whether the consequences warrant immediate action, have prevented successful intervention. There has nevertheless been some progress over the years. The 1960s may be described as a time of 'awakening' for consumers; the 1970s reflect the 'take action' period; the 1980s represent the time of 'accountability'; while the 1990s indicate an era of 'power in the market place' (Kalafatis, Pollard, East & Tsogas, 1999).

Throughout the past three decades Asian and European consumers have shown an increased consciousness of environmental issues. On these continents, environmental matters have moved from a fringe to a mainstream issue (Kalafatis et al., 1999; Chan & Lau, 2000; Monaghan & Lloyd, 2007). At present, there is a general outcry for corrective action through greater involvement and behavioural change. Many researchers believe that social responsibility by means of sustainable consumption needs to become the norm (McGregor, 2000; Wann, 2001; Smith, 2003) and that consumers need to 'get closer to the earth', be better informed, enlightened and more concerned with the environment in order to embrace their families' futures (O'Loughlin, 2007). It is suggested that industry and retail adjust their product assortments to comply with recommendations for sustainable consumption, as well as to encourage sustainability of the globe's resources in order to increase consumers' awareness and understanding of the relationship between their consumption behaviour and the health of the planet (Alexander & Ussher, 2012; UNEP, 2013). In 2002 Datschefski indicated that only one in every 10 000 products are designed, displayed and/or sold with the environment in mind. Every effort is thus required to involve science in terms of the invention of creative solutions and for society to accept social responsibility with regard to their consumption practices in the light of the sustainability of resources and consequential global environmental changes.

© University of Pretoria

It is imperative that both consumers and retailers become well-informed regarding each other's objectives and understands the full impact of their actions on the environment (McGregor, 2000). Open communication is therefore essential. Successful communication between consumers, the food industry and the environment are demonstrated by the Hilton Hotel group where produce waste has been successfully curbed while still satisfying customer needs (Bundgaard, area chef – Hilton Hotels: 2007). Major companies such as Coca Cola, Mobil and McDonald's have committed themselves to cut down on practices or products that contribute to pollution; Procter and Gamble and Colgate Palmolive are producing refill packs to decrease wastage, while Kimberley Clark are using recycled paper for many of their products in an effort to appeal to the environmentally sensitive market (Kong, Salzmann, Steger, & Ionescu-Somers, 2002). In order to promote non-tolerance of misuse of resources and irresponsible waste, the importance of our natural resources should become a priority for industry, retail and consumers over the broad socio-economic spectrum in the hope that it will ignite sensitivity towards consumers' choices, their purchasing behaviour and usage and discard of produce. Collaboration on micro-, meso- and macro-levels may seem idealistic, but in the light of our diminishing resources drastic times might call for drastic measures.

The South African government acknowledges climate change as one of the greatest threats to sustainable development, and that urgent action is needed to rectify this issue (DEAT, 2011a). Although the responsibility for climate change is generally inflicted on more affluent countries, emerging economies like South Africa are therefore also compelled to regard sustainable consumption seriously and as a matter of priority in order to protect and preserve the world's resources for future generations (Ger & Belk, 1995; Suzuki, 1999; WWF-Report, 2012). South Africa in particular, is already experiencing the early effects of global warming and climate variability, with irregular rainfall patterns, floods and on-going droughts. It is projected that these changes are already having significantly negative impacts on various sectors of the economy, especially agriculture, tourism and general human health. In its National Climate Change Response Green Paper (CCRP 2011) the government of South Africa highlighted that the country is both a contributor and potential victim based on its energy intensive, fossil-fuel powered economy (DEAT, 2010c). It is unfortunate that producers, retailers and the consumer population are not yet in tune with the environment as one would hope.

1.2 RESEARCH PROBLEM

Much has been said, in recent years, about the sustainability of the world's resources. Along with these debates concepts such as pollution, waste, greenhouse gases, climate change and food security have

© University of Pretoria

come to the fore. Food security is defined as the physical and economic access to basic food-stuff (FAO, 2013). Although this topic and these concepts are discussed and used abundantly in media as well as in scholarly research, it is not clear whether consumers and retailers in South Africa fully grasp the problem, and whether they are aware of why and how they could contribute to address the problem. One of the scenarios very close to home that involves every consumer in every household and which can contribute towards positive change on a very basic level, is the way in which households purchase and consume fresh produce. Unfortunately current management and consumption practices of fresh produce globally, as well as in a South African context, portray little concern or consciousness regarding the state and future of the environment (Alexander & Ussher, 2012; Nahman & De Lange, 2013). It is argued that retailers operate in a very competitive retailing environment and are subsequently driven to prioritise the needs of consumers (even when indiscriminate) to ensure customer satisfaction and loyalty, which is essential to survive when the economy is though (Pricewaterhouse Coopers (PWC) & Economist Intelligence Unit, 2012). Retailers strive to offer superior or even near-perfect produce, which not necessarily reflects concern for the environment. Consumers on the other hand, persistently demand fresh produce of exceptional quality and tend to waste a great deal of their produce purchases which may be attributed to lack of knowledge and poor understanding of the consequences of their consumption behaviour. Unfortunately many consumers do not have access to information that would encourage them to adapt their purchasing and consumption behaviour.

Lack of consciousness about environmental issues and climate change may induce unsustainable behaviour and consumption practices. Consciousness relates to knowledge. It is therefore crucial not to underestimate the importance and influence of consumers' knowledge regarding climate change and its potential impact on their consumption practices (Schlegelmilch et al., 1996; Bancroft, 1998:33; Glynn & Bristow, 2006). Research done by Sundblad (2008) indicates that the more informed consumers are about climate change, the more willing they are to take remedial action to correct their consumption practices.

Previous research has confirmed the importance of consumer knowledge and awareness, more specifically how consumers' awareness with regard to the consequences of their current consumption behaviour might influence subsequent behaviour (Jackson, 2005a). Until recently, the concepts of tacit and explicit knowledge as dimensions of the consumer knowledge base have received little attention (Roux, Roger, Biggs, Ashton & Sergeant, 2006; Nikols, 2010). However, lately a new-found interest has been emerging because of the role that tacit knowledge particularly plays, not only in terms of achieving and managing competitive advantage, but also for economic growth (Jackson, 2005b; Nikols, 2010). Explicit knowledge refers to factual information, that is, consumers' knowledge regarding environmental

© University of Pretoria

aspects, such as the general condition of the ecology or fresh produce wastage figures. Tacit knowledge, in opposition to explicit knowledge, refers to underlying know-how and skills, for example, how to mitigate unsustainable behaviour. It is said that tacit knowledge is often more difficult to explain or verbalise (Tshoukas, 2002; Jones & Leonard, 2009).

The predominant message in media during the last century has been that consumers 'must hurry up and consume' in order to assist in economic growth and social welfare of their countries, which directly disregards the impact of their actions on the natural environment (Sari & Soytas, 2009; Busch, 2009; Wann, 2003, Odhiambo, 2011). Due to poor advocacy and education about climate change, retailers continue to operate within an economic perspective with a focus on supply and demand and an emphasis on profit, while consumers have become accustomed to expressing their increased sophistication and need for convenience in terms of highly materialistic needs. These trends tend to exert pressure on retail to conform. Such actions are, however, depleting the world's resources and are often ambivalent towards the negative impact on the environment and the ultimate future. In materialistic societies consumer needs have become more selfish and self-centred and this explains consumers' focus on sophistication and convenience (Cahill, 2001; Curtis, 2009; Stuart, 2009; Sivanathan & Pettit, 2010; Lerthwannawit & Mandhachitara, 2012). In addition, consumers' consumption behaviour and buying decisions tend to be driven by prospects of wealth and convenience and this is unfortunately supported by human nature that is inclined to achieve pre-set goals no matter what (Cahill, 2001; McGregor, 2003; Vermeir & Verbeke, 2006; Busch, 2008).

Scientists and researchers now agree that 'haste makes waste' and that consumer decisions should become more thoughtful (Van Ryan, 2010; Gustavsson, Cederberg, Sonesson, Otterdijk & Meybeck, 2011; Nahman & de Lange, 2013). Research that suggests that solving the problem of climate change and the depletion of the world's natural resources can be achieved by economical abatement strategies, have received much criticism in several economic and political spheres (Hackl & Pruckner, 2002; Sari & Soytas, 2009; Alexander and Ussher, 2012). Unfortunately the reduction of consumer consumption behaviour is a complex and sensitive issue as the whole plea about 'Saving the planet' reflects a higher order need (Blackwell, Miniard & Engel, 2006:222). Furthermore, when consumers (such as the majority of South Africans) still have unfulfilled basic needs, it is difficult to convince them to change their buying and consumption behaviour if they have to compromise the already little they have. The majority of less affluent communities wish to maximise their spending power and any suggestion to the contrary (e.g. to avoid cheaper imported alternatives) would be difficult to encourage or to apply (Cahill, 2001; Sivanathan & Pettit, 2010, Alexander & Ussher, 2012).

© University of Pretoria

This dilemma is acknowledged in the Kyoto Protocol and United Nations Framework Convention on Climate Change (UNFCCC) (UN Document, 1997), which suggests specific emission targets and compliance projection for the so-called developed countries. Developing countries were, however, not assigned emission reduction targets because established industrialised countries are held responsible for current atmospheric levels of greenhouse gases, while developing countries are ultimately primarily concerned to protect their right to develop their living standards towards parity with the West (Christoff, 2006). Although such socio-economic imbalances cause concern, the real problem remains that current consumer buyer-consumption-disposal behaviour reflects little interest regarding the state of the environment. Consumers tend to be unaware or have a general lack of knowledge regarding the consequences of their decisions as buyers and consumers. For example, very few people realise that for every product that is consumed, an average of twenty times its weight in raw materials is required to produce it (Jedlicka, 2009:77; WWF, 2012). This is notwithstanding the toll of packaging, advertising, distribution and even merchandising of products in terms of environmental resources (Jedlicka, 2009:77). Over-consumption has thus become the world's most serious environmental threat (Clark, Frijters & Shields, 2008, Cohen &Van den Bergh, 2008).

Therefore unsustainable consumer behaviour can be attributed to consumers either not having the facts regarding general environmental degradation, or having little access to knowledge regarding action strategies. Support systems too seem to be lacking. The latter is often the case when those who eagerly want to make an effort to gain explicit knowledge of the problem fail, due to either poor know-how or little support from the industry, the retail industry or government (Vermeir & Verbeke, 2006; Monaghan & Lloyd, 2007; Semenza, Hall, Wilson, Bontempo, Sailor & George, 2008). The problem gets worse if consumers feel powerless as this could lead to ignorance, and ultimately to feelings of contempt, reverting blame and placing responsibility at the feet of governmental bodies and the industry. As many others have already concluded: "We are all simultaneously bystanders, perpetrators and victims. The South blames the North, cyclists blame drivers, activists blame oil companies, and almost everyone blames George Bush' or a political leader" (Lynas & Marshall in Monaghan & Lloyd, 2007:13).

1.3 CONTRIBUTION OF THIS STUDY

Until very recently, little has been done to investigate the on-going problem of waste in retail while recent research also indicates a notable lack of information regarding waste management and sustainable consumption in households (Nahman, 2012). The closest related study in South Africa was by Abratt,

© University of Pretoria

Bendixen and Drop (1999) who focused on the general ethical beliefs and social responsibility of South African retailers. Other primary sources and related topics were by Clarke (1999) who tested the effectiveness of supermarket–based environmental shopping campaigns in changing consumer behaviour in New York City. Most research regarding environmental concern was done in Asia (Chan & Lau, 1998; Lyong Ha, 1998; Chung & Pysarchik, 2000; Yu & Wu, 2007) and although there seems to be much interest in this topic, many researchers still feel that the academic literature does not yet truly reflect the intricacy of the phenomenon (Zimmer, Stafford & Stafford, 1994). Despite popular press coverage and articles in the media serving the retail trade and reporting the influence of the Green Movement on manufacturers, retailers and consumers, little academic research in consumer behaviour or marketing have to date addressed this dilemma within a South African context. According to Zimmer, Stafford and Stafford (1994) social issues and concerns are again rising to the top of the agendas in most companies' boardrooms and of late, environmental issues are leading the way.

The proliferation of a fresh produce supply chain that includes all role players ("farm to fork") is much needed in South Africa to mitigate mismanagement and wasteful fresh produce consumption that contributes to climate change. A supply chain that is consciously grounded in knowledge about environmental issues will not only be a future investment but will have the potential to ameliorate and improve South Africa's contribution to the mitigation of climate change. To achieve this, empirical evidence of negligent practices in retail organisations with regard to control over fresh produce (i.e. orders, storage, marketing and its principles, waste and its management) as well as evidence of consumers' ignorance with regard to their choice and consumption of fresh produce is crucial. An understanding of the relationship between the retail industry and consumers' knowledge of environmental issues, as well as their current practices has scientific and academic relevance. Moreover, it could positively contribute to put into practice mitigation strategies to combat fresh produce waste and ultimate climate change on social-, economic -and environmental levels.

On the *social level* an understanding of consumers behaviour would enable extensive educational initiatives, to promote active citizens who practise and understand sustainability and who monitor and mitigate fresh produce waste in their households. Educating consumers about the effect of fresh produce wastage will not only combat the wastage of fresh produce at consumer level but due to more responsible consumption practices, will also encourage industry and retailers to invest in more accurate projections and research concerning consumer needs. This will reduce wastage and, in turn, increase profits thus contributing on the *economic level.* The ripple effect derived from both consumers' and retailers' more sustainable behaviour will culminate at the *environmental level* because a reduction in the

© University of Pretoria

wastage of fresh produce will lead to saving precious natural resources. Effort is required through investment in educational and awareness programmes in South Africa in both rural and urban areas to strengthen the public's general understanding of the impact of unsustainable consumption practices that foster the depletion of natural resources. Ultimately consumers should be encouraged to review and amend their current fresh produce consumption behaviour and lean towards more sustainable practices in their shopping, their eating habits and household management. In the United Kingdom the '*Waste and Resources Action Programme'* (WRAP) and '*Love Food Hate Waste'* campaign were introduced. Through government and retailer support they managed to curb food waste by 155 000 tonnes in 2010 (Maxwell, 2010), which is inspiring.

In South Africa's latest governmental Climate Change Response-Green Paper (2010) and National Environmental Management: Waste Act (DEA, 2012), it was emphasised that both consumers' and retailers' awareness about climate change and waste management need to become a priority with the aim to foster a culture that reduces, reuses and recycles waste. It is envisaged by the South African government that ideas, designs, development and implementation of a climate change awareness campaign should become a priority in the short-term future and that these projects aim to raise awareness and increase the knowledge of all citizens in order to challenge and mitigate climate change (DEAT, 2011a). Priorities of the South African government are to focus on measuring and addressing the waste contribution from the supply side (industry) in order to comply with the National Waste Management Strategy that was proposed in November 2011.

South African municipalities will have to find alternative modes of disposing of organic waste, since disposal of organic waste at landfills are frowned upon (DEAT, 2011b). This often results in industry and retailers compacting and incinerating organic and all food waste that is not necessarily more environmentally friendly. Unfortunately little has been done to date to address the contribution of consumers to the waste problem. Policies that are in place are often only directed to the provision of basic information, which is often insufficient when the aim is to change consumers' behaviour, especially when supportive infrastructure is lacking (Sanne, 2002).

Solutions to general waste management that are based on aligning the elements of the general supply chain processes should first be identified by industry at large including the retail sector. Viewing responsible management of waste as a requirement to sustain and restore natural resources is essential to minimise retailers' environmental footprints. Although the regulation or mitigation of waste has financial implications, retailers will still be able to trade competitively if strategies are planned and

© University of Pretoria

implemented correctly (DEAT, 2011a). It was further stipulated during the National Waste Summit (held in Polokwane South Africa, 2001) that legislation regarding the reduction of organic waste by 50% should be in place by the end of 2014 (DEAT, 2011a; DEA 2012). Currently all local authorities are required to develop integrated waste management plans (IWMP's) as stipulated in the latest National Environmental Management: Waste Act (DEA, 2012). It is envisaged that, if retailers could get access to the findings of this study, they would better understand, and be able to serve their customers through revised marketing and communication strategies that would simultaneously educate and assist consumers to responsibly procure fresh produce as a way of life.

Within the *professional and academic field*, more research ought to be done to expand the existing literature regarding the role and importance of consumers' and retailers' knowledge about sustainable waste management practices because these issues directly relate to other problems of which food security is a good example. Research done in South Africa during the last decade indicates that climate change is having a profound affect on food security in South Africa (Ziervogel & Frayne, 2011; Nahman & de Lange, 2013). With many South Africans living below the breadline (Hertel, Burke & Lobel, 2010), it is now more important than ever for South Africa to take action and become a leader in Africa by finding ways to optimise food resources. Issues that arise from previous research include climate change's impact on food availability, accessibility and utilisation (Nahman et al., 2012). In short, the current fluctuating temperatures not only reduces crop yields but also shortens the shelf-life of perishable products, especially fresh produce which, in turn, leads to waste. It is believed that the findings from this research study could be used to assist not only to curb unnecessary food wastage, but also to encourage both consumers and retailers to understand the importance of their contribution to issues related to food security. According to the South African Governmental Report on Environmental Sustainability Indicators (DEAT, 2011a) and Climate change response-Green Paper (2010), research has to be encouraged to focus on the factors that influence or determine the public's resilience regarding their commitment to more sustainable practices.

1.4 THEORETICAL PERSPECTIVES

The focus of this study necessitated the inclusion of the ideals and assumptions of both Anthony Giddens' structuration theory (1984) as well as Spaargaren's social practices model (1997; 2000). Structuration theory was instrumental because it offered the opportunity to study both retailer and consumer behaviour independently, as well as recognising their interdependence. It is argued that the structuration theory provides a practical alternative to previous socio-psychological models because it makes a

© University of Pretoria

sociological-contextual approach possible in which consumer and industry have equal standing and responsibility (Jackson, 2005a). The social practices model aided in the exploration and explanation of consumers' and retailers' interaction, and the subsequent inter-relationship of their behaviour in terms of sustainable consumption practices in the final construction of the conceptual framework. Because the structuration theory is viewed as the foundation on which the social practices model was developed, it reflects the same basic assumptions; hence the following discussion will only introduce the assumptions of the structuration theory. An in-depth discussion of the relevant theoretical perspectives and the conceptual framework for this study are presented in Chapter 4.

1.4.1 The Structuration Theory

Although the structuration theory was chosen to assist in the understanding of consumer consciousness and environmental behaviour, it does not imply that this theory proposes a 'ready-to-use' recipe for studying consumer's environmental behaviour since it is a general, sociological action theory that does not even refer to environmental behaviour. Structuration theory is best explained in terms of a series of 'sensitizing concepts' (Giddens, 1984). As a result much of Anthony Giddens's structuration theory consists of a series of definitions of concepts that are presumably meant to denote important processes in the social world (Jackson, 2005). The concepts relevant to structuration theory are dealt with in the following section and the relationship between them is illustrated.

1.4.1.1 Agents versus structure

In comparison to previous theories like ecological modernisation where the importance and influence of the agent is often overlooked, structuration theory emphasises agents as important role players because they are equipped with free will and knowledge. Giddens states that it is essential to understand that the agent is knowledgeable (Kaspersen, 2000:22), 'A conception of action... has to place at the centre the everyday fact that social actors are knowledgeable about the conditions of social reproduction in which their day-to-day activities are enmeshed' (Giddens, 1982:29). According to structuration theory, consumers draw on 'stocks of knowledge' to make sense of, and to apply knowledge in their daily activities. Giddens suggests that agents rely on knowledge and routinely 'reflexively monitor' not only their own daily behaviour but also the contexts and settings surrounding them. This routine maintenance is viewed as an important aspect because it tends to illustrate and deepen the agent's 'theoretical understanding of the grounds of their activity'; moreover it enables them to explain and elaborate discursively why they act in the manner that they do (Shields & Dervin, 1996). In contrast to agents, structure refers to the 'rules and resources' or recurrent patterned arrangements that influence or limit the choices and opportunities that individuals possess. Giddens (1984) regards structure not merely as constraining, but also as an enabling human agency, i.e. general behaviour.

© University of Pretoria

1.4.1.2 Human agency

Human agency, in Giddens' (1984) formulation, is the capacity to make a difference, which is also known as the structuration process or transformation capacity (Rose & Scheepers, 2001). According to Giddens, agency is intimately connected with power, which is the result of knowledge. This is viewed as one of the defining characteristics of structuration theory, since the loss of transformational capacity equals powerlessness (Rose & Scheepers, 2001). Power may involve the exploitation of resources, which is categorised as either authoritative or allocative in nature. Authoritative resources involve the coordination of the activity of human agents, whereas allocative resources stem from the control of material products or aspects of the natural world. Resources are defined as an integral part of structure due to immense control that is exerted by structure over resources (Giddens, 1984).

Applied to the context of this study, structure (as defined in structuration theory) refers to the greater society and the rules and regulations within which consumers function. Therefore it could be said that consumers are confined by social norms and values of the time. At present these seem too largely driven by status and materialistic thinking that fail to support the principles of sustainable consumption. Consumers' current practical consciousness often reflects habitual behaviour, which is, unfortunately, directed by the fulfilment of unrealistic aspirations. One could assume that it is not easy for consumers to conform to the principles of sustainable consumption because they are confined in a societal structure that does not visibly support a sustainable lifestyle, even though they might have some knowledge of climate change as a problem and are aware of its causes.

1.4.1.3 Duality of structure

It is important to note that agency and structure are intertwined and interdependent of one another. Giddens' (1984) structuration theory argues for the 'duality of structure' where social structure is both the medium and the outcome of social action. Dualism relates to the fact that the two independent sets of phenomena of structure and agency are interdependent and rely on one another for progression (Rose & Scheepers, 2001).

Applied to the context of this study, it is noted that socialisation over the years has taught consumers to become more dependent on existing social structures, abiding by their rules. This often alienates them from their personal responsibilities as consumers. Doing this results in a decrease of the 'stock of knowledge' and leaves a feeling of powerlessness that limits consumers' reflexive monitoring of their current behaviour.

© University of Pretoria

Current social structures have shown very little change due to consumers' docile relationship with them, thus reflecting signs of incapacity and a sense of powerlessness. To mitigate climate change, consumers need to be socialised in such a manner that they will re-evaluate the current social structure and encourage change wherever it is needed. The idea is not to identify or reveal the restrictions consumers encounter, but to rather emphasise the important role and contribution consumers as agents make in the creation of social structures (Spaargaren, 1997; Rose & Scheepers, 2001), i.e. giving meaning to their actions and instil a sense of moral, normative values. This means that social structures are the vehicle of human activities as well as the result of them. Social structures not only restrict behaviour but they can also create possibilities for human behaviour. Duality of structure is therefore essential for the mitigation of unsustainable consumer behaviour in that the fight against climate change will not result from change in attitudes of only certain individuals, but will be the consequence of the input and contribution of all core role players (e.g. consumers, retailers and government) within the total society at large.

1.4.1.4 Structuration and reflexive monitoring

Structuration is defined as the process whereby the duality of structure evolves and is reproduced over time and space. At the heart of structuration lies not only interaction between agents and structure but also reflexive monitoring action. Reflexive monitoring refers to an agent's conscious effort or ability to alter social structure. Giddens (1984:191) states that all structural properties of social systems are the medium and outcome of the accomplished activities of actors in a specific context or particular situation. The reflexive monitoring of action in situations of co-presence is the main anchoring feature of social interaction.

In the context of this study, one can speculate that consumers who are breaking away from the traditional consumerist society to then engage in pro-environmental behaviour by demanding industry to incorporate and trade in a more sustainable manner, are, in fact, allowing for social reflexivity. Research and the ultimate goal of educating consumers as active 'agents' are therefore important because the knowledge gained is potentially emancipatory and conducive to mitigating unsustainable consumption practices.

1.4.1.5 Practical versus discursive consciousness

Reflexive monitoring occurs at two levels of consciousness, namely discursive and practical consciousness. Discursive consciousness denotes the capacity to give reasons for actions and rationalise conduct. Practical consciousness refers to the agents' everyday knowledge that depends on having a wealth of commonly accepted knowledge of general everyday life skills. Giddens also acknowledges that human agency has an unconscious dimension. This is an important aspect in terms of action because it is directly

© University of Pretoria

linked to the agents' need for ontological security. Ontological security refers to the trust that actions have some sort of predictability. Giddens argues that an agent's lack of ontological security results in acute anxiety. Ontological security can be achieved through continued reflexive monitoring and also through routine behaviour. This requires the continual production and reproduction of social practices, highlighting the predictability and stability of actions and regionalisation, which refers to how social practices are ordered in space and time (Turner, 1987).

In the context of this study it should be noted that, although all three levels of consciousness are relevant in the manner in which consumers function, practical consciousness appears to be the most critical in understanding consumers' behaviour, their habits and daily life. In terms of mitigating unsustainable behaviour, the attention, however, shifts towards the importance of discursive consciousness (Kaspersen, 2000:8-33). Evidence shows that consumers' current practical consciousness reflects unsustainable consumption behaviour that is largely shaped through societal rules and regulations. Consumers have grown accustomed to purchasing and wasting fresh produce because society has never questioned it before. Furthermore, it could be said that consumers are locked in by this structure because there seems to be no visible alternative that represents sustainable practices. On the positive side, the boundary between the discursive and practical consciousness is permeable and therefore allows for the interchange of information. This highlights the importance of reflection and reflective monitoring (Giddens, 1984). Reflection entails consumers and the structure conversing and sharing relevant information to enhance consumers' practical knowledge to thus guide them in their daily lives (Spaargaren 2006). When consumers reflexively monitor their own behaviour, they actually access their discursive consciousness. This allows not only for the rationalisation of current behaviour but, more importantly, also the communication and transfer of both tacit and explicit knowledge. Communication, which is the exchange of knowledge, between agents and structure, could assist in mitigating unsustainable behaviour (Spaargaren & Van Vliet, 2000).

1.5 RESEARCH AIMS AND OBJECTIVES

1.5.1 Research aims

This research is done in Tshwane, a major urban area in South Africa, and is instigated by global concerns about prevailing threats to the sustainability of the earth's resources, which have dire consequences for the well-being of future generations. This study specifically investigates and integrates reasons for the excessive consumption and waste of a basic household commodity, namely fresh produce that consumers can easily identify with and which in several ways through the supply and consumption chain contribute

© University of Pretoria

to global warming that is regarded as a pre-cursor of climate change. The aim is to integrate insights from the point of view of retail, which is driven by marketing strategies that are meant to address consumers', need in a highly competitive market place, with underlying reasons for households' questionable purchasing and consumption practices. This includes an investigation of underlying personal reasons for consumers' purchase decisions as well as consumers' consciousness of environmental issues and their knowledge of sustainable consumption practices. This study uses established theoretical frameworks to identify and highlight areas of concern related to unsustainable practices associated with a fairly ordinary product category. This is done from the perspective of retailers, consumers and experts associated with this product category in order to recommend avenues whereby sustainable consumption practices could be promoted for the future.

1.5.2 Research objectives

The mitigation of unsustainable practices requires the cooperation of various role players. With this in mind objectives were formulated for the three phases that were introduced in the research process as presented in Figure 1.1, each focusing on each one of the prominent role players in the South African fresh produce industry, namely so-called experts, retailers as well as the consumers (Figure 1.1).

© University of Pretoria

FIGURE 1.1: THE THREE PHASES OF THE RESEARCH PROCESS

1.5.2.1 Objectives: Phase 1

The following objectives were formulated for the explorative, descriptive investigation during phase 1 that involved South African experts on sustainability issues and the fresh produce industry (representatives of government, private organisations and industry). The aim was to delve into and document their views, concerns and awareness of South Africa's contribution to climate change specifically relating to the fresh produce category. The researcher sought:

1.1 To identify and describe prominent areas of concern in the fresh produce industry and to explain how these issues could be addressed to curb their effect on climate change.

1.2 To identify key role players in the fresh produce consumption chain that could be held accountable for unsustainable consumption practices and to explain how their actions and modus operandi contribute to problems associated with climate change.

1.3 To encourage and discuss measures that could be implemented to mitigate unsustainable fresh produce retailing and consumption practices.

Experts shared information by agreeing to a short interview. Alternatively they could share their insights and comments through completion of an electronic survey.

1.5.2.2 Objectives: Phase 2

Objectives for the explorative, descriptive second phase focused on the South African retailing industry and were formulated to present an overview of retailers' environmental consciousness (practical- and discursive-), and willingness to abide by the sentiments of sustainable consumption through mitigation of disputed practices in fresh produce management. The investigation aimed to provide an overview of prominent South African fresh produce retailers' concerns and consciousness regarding their fresh produce management amidst pressing environmental concerns. The researcher sought:

2.1 To determine and describe to what extent retailers' existing fresh produce management practices are indicative of formal company policies that acknowledge concerns about climate change in order to identify critical areas of neglect due to improper mismanagement of fresh produce and ultimate waste. (When considering waste, retailers distinguish between waste that is still fit for consumption, which is often sold at a lower price or donated, and ultimate waste, which is considered as harmful and is labelled as 'waste – destroyed').

2.2 To deduce possible suggestions to curb fresh produce waste in retailing to promote sustainable consumption.

© University of Pretoria

The investigation was done by means of a scrutiny of managerial reports on daily fresh produce management produced by retailers as well as the marketing strategies of retailers, supplemented by observation of actual wastage at retail outlets.

1.5.2.3 Objectives: Phase 3

Phase 3 involved South African fresh produce consumers and aimed to integrate empirical evidence of households' (the primary decision makers) fresh produce purchase decisions and waste with evidence of their general environmental consciousness (practical- and discursive-) and their willingness to abide by the sentiments of sustainable consumption through mitigation of unsustainable fresh produce consumption practices. Findings of this phase of the investigation are presented in terms of specific demographic characteristics of the respondents, namely, gender, age, population group and household income to allow the identification of segments of the population that may deserve more attention when promoting sustainable consumption practices for the future. The researcher sought:

3.1 To investigate and describe consumers' existing fresh produce purchasing and consumption practices as an indication of their current practical consciousness (habits) amidst times of climate change, and to present the findings in terms of the demographic characteristics of the sample.

3.1.1 To investigate and describe consumers' general fresh produce purchasing behaviour.

3.1.2 To investigate and discuss the implications of the rationality/ sustainability of consumers' fresh produce purchasing practices in terms of sustainability considerations.

3.1.3 To investigate and explain how consumers' current fresh produce purchases and consumption practices contribute towards unnecessary wastage.

3.2 To investigate and describe consumers' knowledge about sustainable fresh produce purchasing and consumption behaviour as an indication of shortcomings that need to be addressed in order to encourage change.

3.2.1 To investigate and interpret consumers' *explicit knowledge* of climate change and how that relates to the sustainable purchasing and consumption of fresh produce

3.2.2 To investigate and discuss consumers' *tacit knowledge* of climate change in particular and how it relates to the sustainable purchasing and consumption of fresh produce.

3.3 To explore the potential influence of underlying personal (specifically materialistic values) and social values (specifically status consciousness) on consumers' potential to adopt and adhere to the principles of sustainable consumption.

3.3.1 To investigate and discuss the relevance of consumers' materialistic orientation in a scenario where a more modest, rational approach is required to encourage sustainable consumption practices.

© University of Pretoria

3.3.2 To investigate and discuss the relevance of consumers' status consciousness in a scenario where a more modest, rational approach is required to encourage sustainable consumption practices.

3.3.3 To investigate consumers' sense of social responsibility and to discuss the subsequent implications in terms of efforts to encourage and facilitate sustainable fresh produce purchasing and consumption practices in their households.

3.3.4 To investigate and discuss consumers' willingness to consciously implement sustainable purchasing and consumption practices when dealing with fresh produce for their households.

3.4 To integrate empirical evidence of consumers' current purchasing and consumption practices (Objective 3.1), their knowledge of climate change amidst a quest for sustainable consumption (Objective 3.2), the influence of personal and social values on the existing dilemma of households' over-consumption and waste of fresh produce (Objective 3.3) and to set an evidence-based scene for practical and policy related recommendations to enhance consumers' sustainable consumption of fresh produce.

1.6 RESEARCH DESIGN

This study addresses South African consumers' consumption of fresh produce and its relevance in terms of the creation of unnecessary waste, which is a precursor of climate change. The study is empirical in nature, addressing a problem in "world one", i.e. the real world we live in (Babbie & Mouton, 2002: 27, 75; Moody, 2002). Empirical research is necessary when studying a previously unexplored field, in this case, sustainable consumption of fresh produce among South African consumers, a field that to date has received limited attention (Nahman et al., 2012). The research includes both exploratory and descriptive investigations (phases 1 and 2). Phase 3 required an initial explorative approach followed by correlation measures. Using exploratory research is inevitable when little information is available about a phenomenon or a situation (Fouché & De Vos, 2005:106). Exploratory research enables researchers to gain sufficient insight to address the phenomenon at hand. In this study the purpose is to gain insight into consumers current fresh produce consumption and ultimate waste behaviour as a concern related to climate change. The purpose of employing descriptive research is to not only understand, but to also describe specific details and underlying relationships within a social setting. Descriptive research aims at observing the situation and then explaining the observations made. In this study descriptive research enabled the researcher to describe consumers' and retailers' awareness of fresh produce wastage and climate change within specific theoretic perspectives. It also assisted in the description and interpretation of the influential role that the retail industry has in terms of consumers' willingness to address unsustainable fresh produce consumption.

© University of Pretoria

Data collection and analysis relied on a mixed methods design. A mixed method is often used to increase the researcher's understanding and corroboration of the research problem (Fischler, 2012). Key characteristics of mixed method designs include priority and sequence. Priority pertains to the weight carried by qualitative versus quantitative data. In this study the quantitative data gathered in phase 3 carried more weight and the qualitative data was mostly included to expand and support the quantitative findings. The sequence of events in a research procedure is determined by the relevance of the findings in terms of subsequent stages of data collection. In this study the priority and sequence resembles a convergent parallel design, i.e. two sets of data were collected concurrently. Data was then analysed separately but was merged during the presentation and interpretation of the results. The purpose of a convergent design is to obtain a more complete understanding from two different databases. The researcher took care to ensure that both types of data were equally relevant in terms of the research problem. The convergent design enabled the researcher to gain a comprehensive view of consumers' existing fresh produce purchasing and consumption practices, and how their consciousness of climate change affected their willingness to adapt and uphold more sustainable behaviour in the future. Combining qualitative and quantitative data collection techniques helped to overcome shortcomings in a particular method (Bulsara, 2010:3), i.e. it was particularly useful to corroborate the quantitative data from the consumer survey (Addendum C) with the qualitative data collected in phases 1, 2 and 3B. The mixed method design involved three phases (Figure 1.1), namely phase 1: interviews with expert groups (Addendum A); phase 2: personal interviews with representatives of prominent South African retailers (Addendum B); phase 3: consumer survey supported by consumer focus group discussions (Addendum D).

1.7 METHODOLOGY

The research methodology is discussed according to the specified three phases.

1.7.1 Phase 1: Interviews with expert groups

During the first phase, so-called expert groups were contacted to complete a self-administered questionnaire or to participate in telephonic interviews. The following organisations were contacted: Indalo Yethu, Enviropeadia, CSIR, Soil Souls, Promofresh, South African Consumer Goods Council, Produce Marketing Association, CSIR and Simply Green. The selection of these specific organisations was done purposively due to the specific information that was needed, and because they are viewed as experts in the field of sustainable consumption also referred to as/ green consumption and either the marketing or distribution of fresh produce in South Africa.

© University of Pretoria

Key persons at these organisations were contacted directly or via e-mail, due to time and travelling constraints. Participants were asked to share the current environmental issues with which the organisation was concerned. It was not the aim to restrict responses from these organisations by means of a structured questionnaire but rather to prompt them into spontaneous discussion, e.g.:

- What are your organisation's main concerns about climate change?
- Is climate change a current challenge and concern for your organisation?
- Briefly state your organisation's stance regarding climate change.

Telephonically all the organisations agreed to assist. The purpose of this phase was to gain some insight into the organisations' viewpoint and activities regarding climate change and to confirm the importance of the problem to justify the merit of the proposed study.

1.7.2 Phase 2: Interviewing representatives of prominent South African retailers

Individual interviews were scheduled with senior regional managers of the four main South African retailing chains, Woolworths, Pick n Pay, Shoprite-Checkers and Spar. These four retailers were chosen in particular because of their strong presence and accessibility across not only Tshwane but also the entire South Africa. It was also important that the chosen retailers stock a wide range of fresh produce, which all of them did. It was deemed appropriate in that these managers would be familiar with the organisations' specific goals and viewpoints concerning the greater Tshwane area. Most of the retailing chains agreed to a personal interview and were eager to share information. However, one retailer did agree to only a brief meeting but referred the researcher to the retailer's website for further information. The purpose of these meetings was to gain insight into the retailers' awareness and acknowledgement of climate change and to observe their current stance and activities pertaining to the employment of sustainable practices. Other topics that were explored during this phase included information regarding the retailers' existing fresh produce control, waste management practices and general marketing related behaviour. Participants gave permission for the interviews to be recorded. The recordings were transcribed for contextual analysis.

1.7.3 Phase 3A: Consumer survey

The consumer survey provided quantitative data pertaining to consumers' existing fresh produce purchasing and consumption behaviour, their knowledge and awareness of climate change and their understanding of how their consumption behaviour could contribute to the degradation of the environment. To assess the consumer's potential and willingness to conform to the assumptions of

© University of Pretoria

sustainable consumption, their purchasing and consumption behaviour of fresh produce was also measured to reflect socially driven or materialistic values.

1.7.3.1 The measuring instrument

The survey was implemented by means of a structured questionnaire that was designed in terms of the objectives for the study, incorporating self-developed as well as established scales that were slightly adapted to suit the context of the study. Except for the last two questions, the questionnaire comprised closed, structured questions that were formulated in simple laymen's terms and presented in English. It took respondents up to 20 minutes to complete the questionnaire; subsequently there was a drop-out rate of 28.6%. The reason for the lengthy questionnaire was to expose consumers to all possible variables that might constitute the characteristics of both sustainable and unsustainable consumer behaviour. It was envisaged that this would lead to providing a detailed explanation of the behaviour of South African consumers through their habits, their practical everyday life and their discursive consciousness that would allow for a willingness to amend unsustainable consumption practices.

The questionnaire consisted of seven sections:

Section 1: Demographic information

Section 2: An investigation of consumers' general consumer behaviour

Section 3: An investigation of consumers' general fresh produce consumption behaviour, reflecting on consumers' practical consciousness (habits - existing behaviour with a focus on consumers' tacit knowledge)

Section 4: An investigation of consumers' general thoughts and beliefs about the issue of climate change (explicit knowledge)

Section 5: An investigation of consumers' materialistic inclination and status consumption

Section 6: An investigation of consumers' views of their individual role and responsibilities concerning climate change

Section 7: An investigation of consumers' social responsibility and willingness to change and adhere to the basic sentiments of sustainable consumption as an indication of their discursive consciousness

The questionnaire was pre-tested with 30 individuals who met the criteria for inclusion in the study (see 1.7.3.2) to ensure clarity and ease of completion. Although some of the respondents indicated that the questionnaire took them some time to complete, they did not see that as a major problem. During the

© University of Pretoria

actual data collection procedure however, the time required to complete the questionnaire could have contributed to the substantial drop-out rate.

1.7.3.2 Unit of analysis

Respondents who potentially had the financial ability to adapt their fresh produce buying and consumption practices were targeted. The main decision makers in households (regarding consumption of fresh produce and purchasing of the bulk of the groceries during the month) were recruited in Tshwane, a major urban area in Gauteng, South Africa's most populous province. Respondents had to be within the age range of 21 to 65 years. Both male and female respondents were targeted to accommodate recent trends in terms of role switching in households that are tending to be accompanied by more involvement of males in grocery and food purchasing for households.

1.7.3.3 Sampling method

Specific regions in Tshwane were purposively targeted. Data was gathered from non-probability "convenient" sample of consumers who fit the pre-requisites for the study and who were willing and able to participate in the study. Although similar researchers have done so with success (Bitner, 1994; Leong, Hoon Ang, Lin Low, 1997; Areni, 2003), Neuman (1997:204) cautions that this procedure puts at risk the representativeness of the sample. Extra care was, therefore, taken to recruit respondents in a planned and structured manner in order to gain insight from a diversified sample across the municipal area, it is important to note that it was never the intention of this study to present the findings as representative in terms of the entire South African population. Because the population in South Africa is very cosmopolitan and complex, a study of this kind would have required a much larger sample, which was financially and logistically not viable. Executing the study in a major urban area where retailers are within close proximity and where opportunity exists to access information with limited restrictions, nevertheless probably provided opportunity to compile a scenario that is worth using to benchmark remedial strategies in the future. The following measures / steps were followed in recruiting participants for the study, this in turn also ensured reliability of the data:

1. Thirty-five Consumer Science students were recruited as fieldworkers. Each received 20 questionnaires to distribute in their respective demographic areas assigned to them. Fieldworkers did not receive any monetary compensation for their assistance but completion of an assignment pertaining to the exercise earned them extra credits in a prescribed module that counted towards their semester mark.
2. Fieldworkers were assigned to all major areas of Tshwane (North West, North East, Central West, South and East. Refer to Addendum E for a detailed map). In total 119 suburbs were targeted to lower the risk

© University of Pretoria

of misrepresentation of the population. Fieldworkers only recruited in their designated areas. The researcher consistently kept record of the how many completed questionnaires were retrieved from each region to ensure adequate representation of the population.

3. Fieldworkers were trained and thoroughly briefed to administer questionnaires properly and ethically and to answer any questions adeptly (Calif, 2001) during a scheduled lecture at the University of Pretoria. The primary researcher was responsible for the training and personally ensured that each fieldworker understood the importance of distributing the questionnaires in a professional fashion. Emphasis was placed on their understanding and application of the ethical procedure during data collection. Fieldworkers were also carefully introduced to all sections in the questionnaire and relevant instructions for proper completion.
4. Individuals who reflected the parameters of the population in Tshwane (CoT, 2011) from which the elements were selected (Babbie & Mouton, 2002:175), thus different age, gender and population groups were approached. The same procedure was applied to recruit participants for the focus group discussions. Fieldworkers were also instructed to request respondents to indicate their willingness to partake in a following focus group discussion by providing a contact number on a tear off slip.
5. To ensure the validity and reliability of responses, a pre-condition for participation was that individuals had to be responsible for food purchases in their households and had to have had personal buying experience of fresh produce purchases for their households within the month prior to their completion of the questionnaire (Thang & Tan, 2003).

1.7.3.4 Sample size

As suggested by McDaniel and Gates (2004:296), a minimum of 500 respondents was envisaged. A total of 700 questionnaires were distributed of which 560 were retrieved for final analysis.

1.7.4 Phase 3B Focus group discussions

Focus group discussions were conducted to provide more depth and detail concerning consumers' consciousness regarding climate change. It also reflected reasons behind current irresponsible consumer behaviour. While a thorough literature review was used to provide a theoretical framework for the study, the focus group discussions allowed for the inclusion of additional information that might not have been taken into consideration in the previous phases. It also gave an indication of those elements and constructs that are accounted for in theory but that were not included in the questionnaire simply because the questionnaire was already lengthy and extensive.

The focus group discussions followed a phenomenological approach. Attention was given to the inclusion of brief, warm-up sessions where informal interaction was stimulated to encourage active participation.

© University of Pretoria

Differences in social status were neutralised through the inclusion of individuals who were socially and intellectually compatible as recommended by Fern (1983). Only eight to ten participants were included per focus group discussion because, as Babbie and Mouton (2002:291) observe, time pressure makes it difficult to provide enough 'air time' for each participant to express their views without stretching out the length of the session. Further advice (Babbie & Mouton, 2002:292; Cook, 1982:62) followed was not to allow the simultaneous participation of friends, spouses or family in order to prevent or inhibit participation and conflict.

Focus group discussions were held at the University of Pretoria in the Consumer Science building to ensure a neutral area for discussion as suggested by Keim et al., (1999). The restaurant area in the Consumer Science building was used because it provided a relatively informal but structured atmosphere which is conducive to group interaction. A comfortable seating arrangement was made to ensure proper eye contact and unrestrained interaction. The importance of this consideration (Lautman, 1982) would be acknowledged by many other group facilitators.

Willing participants (selected from the sample used in Phase 3A) gathered at the venue as per prior arrangement. After a brief warm-up session, the researcher facilitated the discussion by introducing certain discussion themes that would guide but not restrict the focus that should lean towards the research objectives. This is similar to the procedure followed by other researchers (Lombard, Weyers & Schoeman, 1991:182; Neuman, 1997:253; Plug et al, 1997:108). The participants were informed that the study was about the environmental concern associated specifically with consumer behaviour regarding fresh produce, and how it can impact on the environment negatively. No mention was made of specific questions or characteristics. Garrison et al. (1999) advise that the sequence of questions should develop from general to specific and that open-ended questions are to be used to encourage discussion on specific personal experiences. Before closure, participants were encouraged to contribute additional comments as they saw fit. Discussions were tape-recorded, with the consent of the participants, to ensure accuracy when transcribing, a procedure documented by Babbie and Mouton (2002:277). Refreshments and a small gift were provided afterwards in appreciation of participants giving their time to attend the session.

© University of Pretoria

TABLE 1.1: OUTLINE OF PHASES 1 TO 3

Phase	Unit of analysis	Sample	Sample size	Reason
1 **Expert survey**	Experts from various fields relating to climate change, public awareness, education and waste management	Indalo Yethu Institute for South African Waste (CSIR) Management Promofresh SoilSouls	Five major organisations that were willing to participate and met the basic requirements in terms of expertise regarding climate change and fresh produce	To gain a general view of SA's contribution and level of consciousness regarding climate change. To confirm the significance of the research
2 **Retailer interview**	Major South African retailers classified as departmental chain stores where fresh produce constitute an important part of their sales	The Shoprite/ Checkers Group - Freshmark Holdings Woolworths Pick n Pay	One manager from each corporate department store was visited. (Stores that include franchise opportunities were also visited)	To address all issues covered by Objective 1.
3A **Consumer survey**	Respondents living in Tshwane, 20 to 65 years of age	Individuals who were the main decision makers in their households regarding consumption of fresh produce	Sample size - 560 respondents	To address all issues covered by Objective 2.
3B **Consumer Focus group discussion**	Respondents between 20 to 65 years of age		Participants were randomly selected from the respondent survey pool (3a)	To get a deeper insight into issues regarding consumers tacit / discursive consciousness relating to sustainable FP consumption.

1.8 DATA ANALYSIS

Data analysis of phases 1 (expert group survey), 2 (retailer interviews), and 3 B (focus group discussion) were done in the form of conceptual and content analysis, which entailed clarifying key concepts and indicating how these concepts were integrated into the body of the existing theory or research, an essential part of the analysis as confirmed by Mouton (2002:109). This was done manually by the researcher through colour coding the relevant concepts in the transcribed text. This process identified connections, associations and correlations between and among the categories and codes. Coding was categorised in terms of coherent themes that coincided with the theory relevant to this research.

Phase 3A, data (consumer survey – questionnaire) was coded, captured and checked. Cronbach alphas were calculated for all the items in the questionnaire (excluding the demographic data) to verify the internal consistency and reliability of responses. Data was then summarised by means of descriptive statistics, i.e. frequencies, percentages, means, standard deviations, standard errors and medians in the form of tables, graphs and figures. These descriptive statistics assisted in providing a general overview and background for the findings. To gain deeper insight with regard to the underlying relationships and/or dependencies, selected questions were submitted to exploratory and confirmatory factor analysis. One-

© University of Pretoria

way Analysis of variance (ANOVA) testing and subsequent post hoc tests were also performed to identify significant differences between the subsets of the sample.

1.9 QUALITY OF THE DATA

The aim of any research should be to provide data that is valid and reliable to ensure confidence in the findings; to understand whether the findings will also apply to other contexts; to guarantee that the findings will be repeated if the study were to be replicated; to ensure that the findings emerge from the context and from the respondents, rather than from the researcher's pre-conceived ideas and intentions; and whether participants had shared information that was true (Lincoln & Guba, 1985:290). Mouton (1996:109) views validity as the 'best approximation of the truth'. According to Mouton (1996:111) it is important to notice that different dimensions of validity apply to the different stages of the research process and it is essential that all the elements of validity are considered throughout the whole research plan in order to describe the truth as closely as possible. The following was done to limit error that might obstruct the validity and reliability of the findings.

1.9.1 Conceptualisation – Theoretical validity

Concepts provide the primary building blocks of scientific knowledge (Mouton, 1996:181). If concepts are poorly planned and conceptualised, the research, however carefully executed, will fail. Conceptualisation refers to both the clarification and the analysis of the key concepts; it also indicates the relevance between the concepts (Mouton, 1996:109). To enhance the theoretical validity of this study, all the key concepts pertaining to climate change, fresh produce, consumer lifestyle and socialisation, systems of provisions, waste and sustainability were identified through a thorough literature review beforehand, and especially before the compilation of the questionnaire. Furthermore, during focus group discussions assurance was sought that no relevant concepts were overlooked or omitted. It was important to be sure that no concepts were left vague or were too complex. To support theoretical validity regarding the questionnaires, experts from within both the consumer sciences and statistics fields evaluated the questionnaire for content as well as measurement validity.

1.9.2 Measurement validity

1.9.2.1 Content validity

Content validity is a non-statistical type of validity that involves the systematic examination of the relevant test content in order to determine whether it covers a representative sample of the total domain under scrutiny or not (Anastasi & Urbina, 1997:114). Content validity therefore refers to whether the

© University of Pretoria

means of measurement, in this case the questionnaire, represents all possible questions needed to study the problem at hand. To ensure content validity, all main concepts and their significant dimensions and indicators were carefully identified to guarantee representation in the questionnaire.

1.9.2.2 Face validity

Face validity refers to whether a test 'appears' (on a superficial level) to be measuring a certain construct. For instance, does the Richins and Dawson (1992) materialism scale actually measure materialism? Face validity is often criticised for being weak in terms of evidence, and it is often questioned because, although a test might seem to be measuring a construct, it does not guarantee that it is. When a test does not appear to be measuring what it is supposed to, it is said to have low face validity. In the case where a test is subject to malingering or 'faking' (often when respondents have caught on to the actual aim of the test and are hesitant to answer questions truthfully due to shame) low face validity might make the test more valid. Cronbach alphas were calculated to verify the responses to the questions that were formulated for the study.

1.9.2.3 Criterion validity

Criterion validity is the extent to which respondents' scores correlate with other variables or criteria that reflect the same construct. That is, it involves comparing the test scores of this study or a part of the questionnaire with other measures or outcomes that have already proven to be valid. An example of criterion validity in this study is evident in the application of the Kilsheimers' status consumption scale. It was decided to include this scale not only to measure status consumption *per se* but also, by adapting the scale, it was used to measure whether fresh produce purchases were driven by consumers' status and inclination or not. The outcome in the form of scores of these two scales was later jointly interpreted to gain more insight into the consumers' consciousness status and its effect on their fresh produce purchase behaviour.

1.9.2.4 Construct validity

Construct validity refers to the extent to which a particular scale actually measures the relevant construct (Delport, 2005:162; Mouton, 1996:128). To ensure construct validity, constructs were clearly defined and confirmed by means of an extensive literature study. Furthermore the study employed a mixed method design that relied on more than one data collection method to investigate a particular construct. The questionnaire was formulated in simple English, using language that could be interpreted and understood by the general public to avoid misinterpretation. Simple Likert-type scales were used throughout because they are relatively easy to understand and because it has already been proven to work well for similar

© University of Pretoria

studies (Haron, Paim & Yahaya, 2005, Steg, Dreijerink & Abrahamse, 2005, Minton & Rose, 1997). Apart from being the most widely used type of measurement instrument, it is also relatively easy to understand.

1.9.3 Sampling – Representativeness

Unless it is clearly stated and motivated that the sample truthfully or faithfully represents the population from which it was drawn, no assumptions can be made that it represents the population from which it was drawn (Mouton, 1996:136). To ensure that the sample provided valid information that provided a good reflection of the target population, participants were selected purposefully in terms of the demographic characteristics of the city of Tshwane across all suburbs in the city although on a convenience selection basis. Pre-determined criteria (age, gender, income) were used to monitor the sample during data collection. A large sample produces a smaller sampling error (Babbie & Mouton, 2002:191) and therefore a sample with a minimum of 500 respondents was envisaged. By ensuring that participants were eager and willing to assist, it was assumed that their responses were truthful. Respondents were not pressurised to complete questionnaires if they failed to do so in time. All questionnaires were completed anonymously.

1.9.4 Data Collection – Reliability

'The key criterion for validity in data collection is reliability' (Mouton, 1996:144). This is the degree of precision of a test, i.e. the degree to which the variables measured by the test are free from errors of measurement; furthermore it also states that the same test can be repeated on other subjects, and that the same results will be obtained (Plug et al, 1997:43). Reliability in this study was enhanced by use of a combination of data collection methods.

To reduce possible error during data collection by means of the focus group discussions, these precautions were taken: focus group discussions were arranged to suit all participants, with regard to time and place; they were held in a neutral environment that allowed for open communication between participants; they consisted of only 8 to 10 willing individuals so that all participants had enough time to voice their own feelings, perceptions and experiences as individuals.

To reduce possible sources of error during data collection when respondents were recruited to complete the questionnaires, various aspects received attention: a cover letter was attached to the questionnaire to emphasise the purpose of the survey, declare the researcher's affiliation and assure that confidentiality and anonymity were guaranteed; the questionnaire was constructed in such a manner that it would not take too much time to complete; the questions were easy to interpret and understand; and the

© University of Pretoria

questionnaire was submitted to a pre-test to eliminate error. Notwithstanding these provisions, some respondents complained afterwards about the length of the questionnaire.

Katzer (1982:54) state that there are several sources of 'noise' that can influence the collection of data, for example, the environment in which the research and questioning linked to it, takes place. All of these risks were considered before deciding to distribute questionnaires to respondents. Therefore, trained field workers were employed to conduct the surveys.

1.9.5 Data analysis – Inferential validity

Inferential validity refers to the validity of logical inferences drawn during the completion especially during the writing up of the results and ultimate conclusions (Moshman & Franks, 1986). A statistician was consulted before finalisation of the questionnaire and was involved throughout the research process to guide procedures and the interpretation of data. It is important to stipulate that the goal of this study was never to generalise the findings to wider South Africa but merely explore a situation that has never been investigated before, using Tshwane as an example. All major retailers involved are well-represented in the city and these findings could set the scene for a nation-wide investigation later on by making use of the methodology and measuring instruments used for this study.

1.10 ETHICS

Like most academic institutions and professional associations, the University of Pretoria has set a formal code of conduct regarding social research which, according to Babbie andMouton (2002:528) is required. All proposed research projects are officially evaluated and approved before any research endeavour can begin. The Ethics Committee of the Faculty of Natural and Agricultural Sciences scrutinises the research protocol that includes detailed reference to the measuring instrument.

All potential participants were informed about the purpose of the study and asked to participate voluntarily. Willing respondents' identities were protected through anonymous completion of the questionnaires, as Neuman (1997:452) suggests. All participants were guaranteed that information gained from the study would be kept confidential. No person, whether participant or researcher would be exposed to harm or inconvenience or be at risk in any way. All were assured of being safe throughout the study.

The researcher was also conscious of guarding against plagiarism and ensured that all ideas or thoughts from other researchers were well referenced. Research fraud that could result from falsifying or abusing

© University of Pretoria

data collected through using outside statisticians. This was a non-issue in this case as appropriate statistical programs were used to be certain that findings would be true and valid. A third party reviewed the interpretation of the data so that the reporting was done objectively.

1.11 SUMMARY OF RELEVANT LITERATURE

1.11.1 Basic concerns about climate change

According to recent statistics, South Africa is a notable contributor to changes in the global climate. In 1990, SA was responsible for about 1.2% of the total global warming effect, placing it within the top ten contributing countries in the world (DEAT, 2009). South Africa's carbon dioxide emission rate (approximately ten tons of CO_2 per person per year) exceeds the global average of seven tons per person per year. Although still considerably lower compared to developed countries such as the United States, which is at 20 tons per person per year (DEAT, 2009; Letete, Guma & Marquard, 2010:29), South Africans should not be left to 'continue business as usual'.

Waste production in South Africa exceeds the population growth rate by five per cent (Odhiambo, 2011; Ntuli & Pilusa, 2012; Oelofse, Nahman & de Lange, 2013) and waste generation in metropolitan cities like Cape Town increases at approximately five to seven per cent per year (Marshak, 2012). Globally, in 2010, emissions produced from consumer waste have apparently reached a record high (Theobald, 2011). On a very basic level, of the R1 500 spent on food by households per week, it is estimated that up to R26 000 is wasted annually (Nahman, Oelofse & Godfrey, 2012), which contributes to climate change and all the associated problems (Wills, 2008:27). Although methane gas produced by organic waste at landfills can be captured to be used as a renewable source of energy, it has global warming potential that is estimated to be 23 times greater than that of the same amount of carbon dioxide if allowed to escape into the atmosphere (Marshak, 2012; Nahman & de lange, 2013). It is therefore important to find ways of reducing the waste of organic material such as fresh produce by both consumer and retailer due to its contribution to escalating methane levels in the atmosphere.

1.11.2 South African consumers' contribution to global concerns about excessive waste

Environmental concern is conceptualised as a pro-environmental, strong positive attitude and behaviour directed towards preserving the environment, which includes a willingness to purchase more sustainable product alternatives in general and to reduce waste (Rousseau & Venter, 2001). Although South Africa was not set any limits on emission of greenhouse gases under the Kyoto Protocol (1997) due to its status as both a developing country and an emerging economy, the situation however required a revision due to unsustainable emission rates, that increase proportionally to an increase in consumer wealth (Spalding-

© University of Pretoria

Fecher, Clark, Davis & Simmonds, 2002). As a responsible global citizen, South Africa is currently committed to manage an emission trajectory that allows for economic growth in the next decade but declines thereafter (DEA, 2011). Indications are that as the wealth of nations, populations and households increases, so does their per capita production of waste (Wilson et al., 2011). A global estimate indicates that, on average, a total of 225 kg of food is wasted per capita (per person) per year in low-income households, 330 kg in middle income and 550 kg in high-income households (Wilson et al., 2011).

1.11.3 The consequences of unsustainable retailing practices

With food insecurity and hunger persisting in both urban and rural areas within South Africa, attention to the mitigation of food waste is becoming a matter of urgency (Frayne et al., 2009; Ziervogel & Frayne, 2011; Oelofse et al., 2013). It is unfortunate that many consumers today do not know where the food that they are buying comes from (Trace, 2006; Bloom, 2011). Consumers are for example not necessarily aware that that fresh produce is seasonal and that their demands for out-of season produce have dire consequences for our ecological footprint (Miller, 2005:6; Gustafsson et al., 2006; Lillford, 2008; Bloom, 2011).

With up to 98% of consumers nowadays preferring to shop in supermarkets because they prefer one-stop facilities (Wills, 2008:127), major retailers need to objectively and comprehensively assess their potential influence on consumers' purchasing behaviour. Unfortunately modern marketing and retailing encourage still individualistic, rather than social goals which enhances an 'I want', instead of 'we need' attitude (Barber in Lombardo, 20012). The long-term effect of promoting indiscriminate consumption is in direct conflict with the definition of sustainable consumption. The SA retailing industry has started to pay attention to a number of areas of concern in recent years, like promoting environmentally friendly forms of packaging (Chamberlain, 2007). Stores that manage waste and expired produce in a proactive manner are unfortunately still in the minority (Marshak, 2012).

1.11.4 Consumers' knowledge and consciousness about environmental issues

According to Nikols (2010), consumers gain knowledge in two ways namely: factual information and experience that respectively suggest their 'know about' and their 'know-how'. These two dimensions of knowledge represent explicit (declarative knowledge) and tacit (procedural knowledge) (Nonaka, 1991; Anderson, 1995:55; Medeni, 2005; Nikols, 2010). Consumer knowledge is seldom complete or errorless, particularly in the case of a topic like climate change (Alba & Hutchinson, 2000). Kaiser, Dodka, Patrick and Ranney, (2003) argue that a consumers' consciousness based on explicit (factual) knowledge alone will not necessarily relate positively to environmental behavior and that explicit knowledge should be supported by tacit knowledge (Nikols, 2010). Apparently a mere ten per cent of the world's population is well-informed about environmental issues and even fewer people meet the standard of scientific literacy.

© University of Pretoria

Consumers' ignorance is generally attributed to the fact that information pertaining to climate change is regarded as specialty knowledge, that is primarily accessed by academics or the scientific community (Ungar, 2000). The general public therefore relies on popular media to present a case for climate change (Busch, 2008; Boykoff & Goodman, 2009), which are more inclined to convey information that will captivate, entertain and retain the general audience (Boykoff & Goodman, 2009).

1.11.5 The role of consumer socialisation in creating consciousness about climate change

The purchasing, consumption and waste management of fresh produce in households are mostly regarded and treated in a casual manner that households seldom communicate about intentionally. Spaargaren's (1997) review of structuration theory (as designed by Giddens) explains that this type of behaviour is based on an individual's practical consciousness, which is developed over time (habits) (Spaargaren, 1997) while the mitigation of climate change requires a discursive consciousness of the matter which reflects a balance between explicit (factual) knowledge that include some theoretical facts and tacit (practical) knowledge that include insight in terms of skills.

In addition, consumer consumption is shaped by the economy that consumers are exposed to (Røpke, 1999; Sanne, 2002). It is therefore highly important to acknowledge the contribution that businesses and governments can make to create and encourage sustainable consumption and to create and shape concern about climate change (Røpke, 1999). As indicated by Giddens (1984) the link between consumers, consumerism, capitalism and climate change can no longer be ignored (Miller, 2005:2; Storm, 2009). In order to encourage consumers to revise their buying and consumption behaviour it is vital that retailers accept the responsibility and overtly demonstrate their stance by implementing more sustainable retailing practices (Tustin & De Jongh, 2008) and assist to inform and educate consumers. McGregor (2005) regard informed consumers as empowered consumers in that they are able to make their own responsible consumer decisions as well as advocate their behaviour to others.

It is alarming that the majority of consumers actually know very little about the state of our planet and the climate crisis in an era where information is readily accessible at the click of a button (Walker & King, 2008:259). By hiding behind a 'veil of ignorance' consumers distance themselves from their responsibility to gain more knowledge about the problem. They furthermore do not make any effort to acquire skills to mitigate the effect of their actions (Ott, 2003:60).

There is some evidence in recent research that consumers are receptive to the idea of change to become more alert and to consume more sustainably (McGregor, 2008; Tustin & De Jongh, 2008). Consumer education that addresses all the sentiments of sustainable consumption is a prerequisite for change. The primary point of departure must be to change consumers' focus from individual consumer rights to collective, responsibility (McGregor, 1999, 2000), so that the 'individualistic consumer' becomes a 'social

© University of Pretoria

citizen', in accordance with a predominant assumption of the global perspective that propagates voluntary simplicity and consumer well-being for future generations.

1.12 PRESENTATION AND STRUCTURE OF THE THESIS

This document is presented in eight chapters as summarised below.

Chapter 1: THE STUDY IN PERSPECTIVE

This chapter provides the background for the research, introduces the research problem, the justification, research design and methodology and highlights important constructs that are relevant throughout the study. It also includes a brief summary of the extensive literature review.

Chapter 2: SUPPORTING LITERATURE AND CONCEPTUALISATION

This chapter provides an overview of scholarly work that reinforces the theoretical background to the study and highlights the main concepts that guided the thoughts and reasoning behind the research done.

Chapter 3: THE INTERDEPENDENCE OF POLITICS, ECONOMICS, MODERN MARKETING AND CONSUMER BEHAVIOUR IN TERMS OF CLIMATE CHANGE

This chapter is devoted to a historical review of the interdependence between the consumer and the broader economic and political environments. The content does not refer to any specific country but aims to present an overview of consumers' behaviour and industries' practices globally. Because the global impact of the United States of America, and to some extent the United Kingdom on the global economy is undeniable, their scenarios receive more attention.

Chapter 4: RELEVANT THEORETICAL PERSPECTIVES

This chapter delves into the relevant theoretical perspectives that were used to frame the research objectives, the research design and to support the methodology used in this study. This chapter concludes with an exposition of the conceptual framework.

Chapter 5: RESEARCH DESIGN AND METHODOLOGY

The purpose of this chapter is to provide an exposition of the research design. It concludes with detail pertaining to the research methodology that proceeded in three different phases. The objectives for each phase are clarified and delineated.

© University of Pretoria

Chapter 6: RESULTS AND DISCUSSIONS OF THE QUANTITAVE RESULTS

This chapter describes the demographic profile of the sample before it provides an exposition of the findings of the quantitative phase. Findings commence with a general overview of consumers' fresh produce purchasing and consumption practices, followed by an explanation of how consumers' consciousness of climate change as well as personal characteristics influence their ability to abide to the principles of sustainable consumption.

Chapter 7: RESULTS AND DISCUSSIONS OF THE QUALITATIVE RESULTS

The chapter presents the findings derived from the qualitative data collection techniques, which included interviews held with industry experts and prominent retailers in accordance with the recommendations of Spaargarens' Social Practices Model as discussed in Chapter 4.

Chapter 8: CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the conclusions of the research in terms of the objectives for the study. Recommendations are based on the interpretation of the findings with specific attention to how the very intricate issue of sustainable consumption could be promoted as a 'way of life' that is supported throughout the retail and consumption chain. Shortcomings of the study are discussed and recommendations are made for future research as well as policymaking.

© University of Pretoria

Chapter 2

SUPPORTING LITERATURE AND CONCEPTUALISATION

This chapter provides an overview of scholarly work that reinforces the theoretical background to the study and highlights the main concepts that guided the thoughts and reasoning behind the research done.

2.1 INTRODUCTION

'The continued poverty of the majority of the planet's inhabitants and excessive consumption by the minority are the two major causes of environmental degradation. The present course is unsustainable and postponing action is no longer an option.'

UNEP (1999), GEO-2000, London: Earthscan.

The consumption of goods and services by human beings at present has profound implications for the future well–being of all inhabitants of planet Earth (Gore, 2006:79; Sundblad et al., 2007; Cherrier, 2009; Kennedy, 2011). It is said that the general way of life lived by most developed nations is placing an impossible burden on our planet's natural resources and that irresponsible consumption of these resources and consumer goods is one, if not the main, contributor to climate change (Cahill, 2001; Kilbourne & Pickett, 2008). The consumption patterns of consumers, especially in the Western world, present high waste and obsolescence that play a part in major environmental problems (Cahill, 2001; Slade, 2006). Climate change is even described as a more serious threat to humanity than global terrorism and has been defined in research done in the USA and China as a multi-dimensional global environmental crisis that undermines the basis of civilisation and the survival of the human species (Sundblad et al., 2007; Li, 2009).

The satisfaction of consumers' disproportionate needs is, however, still a priority for the retail sector and industry because sales increase profits that subsequently increase their competitive value in the market-place. Understandably this also leads to economic growth (Cogoy, 1999; Li, 2009) and is therefore condoned by governments especially in tight economic times. In developing economies, an increase in consumption is considered essential for national welfare as it directly correlates with economic prosperity (Hofsetter et al., 2006). The consumption patterns of the Western world have, in recent years, received a

© University of Pretoria

great deal of criticism (WWF-report 2012), because excessive consumption can lead to climate change and is associated with long-term threats. Sustainability issues have become a prominent global issue that attract considerable media, political and economic attention.

In order to manage climate change, a reconstruction and a reinforcement of some of the core institutions of modern society (i.e. governmental policies, industrial practices as well as consumer behaviour) is needed (Spaargaren, 1997; Spaargaren & Oosterveer, 2010). However, appreciation of the complexity of the problem is needed first (Spaargaren, 1997). This requires insight and the collaboration with various fields of study. In order to incorporate all role players of society and their relevant relationships in the context of climate change, the input of a discipline such as Consumer Science, which concerns itself with consumers' choices and consumption behaviour, is integrated in the discourse of this thesis together with other disciplines such as Economics, Marketing, Psychology, Sociology, Geography and various other environmental and ecological studies.

2.2 CONSUMPTION AND GLOBAL ENVIRONMENTAL CHANGE

The topic of 'consumption' has drawn considerable interest and is even referred to as 'the vanguard of history' (Miller, 2005:10). Consumption as a concept has different meanings and interpretations. During the early 1300s to the late 1800s, it carried a predominant negative connotation as it referred to a means to destroy, use up, waste and or exhaust (McGregor, 1999). Up to the early 1950s, consumption was merely defined as a process by which consumer goods and services were created, purchased, used and the disposed of on losing their utility value. It was, however, also associated with utilising economic resources to acquire consumer products in order to satisfy basic human physiological needs (Miller, 2005:12). The decade of the 1950s was a turning point, (also referred to as the 'age of affluence') in the sense that consumption was beginning to be recognised as a force that could influence the aspirations and attitudes of the average consumer (Cahill, 2001). A controversial shift followed during this time in that consumption went from being a negative action to a form of behaviour that not only resulted in pleasure and enjoyment but was also associated with a new-found freedom that linked consumption to 'a life well-lived'. 'Consumption' inferred activities associated with social status and ways to confirm or construct consumers' identities (Miller, 2005:102). Consumption, during this period, morphed into a concept that was not only the goal of economies but also implied activities essential to achieve individual happiness, human welfare. Hence it became the prime objective of modern consumer societies (Ekins, 1998; Clark, 2008). This is clearly reminiscent of definitions of 'materialism'. Miller (2005:104) states that 'the salience and poignancy of acts of consumption may have both increased and altered in recent years as a result of developments in industry, trade and bureaucracy'.

© University of Pretoria

Today the scars of 'living life to the fullest, by means of excessive consumption' contribute to the fact that 'consumption' is slowly regaining its initial negative destructive connotation (Gabriel & Lang, 1995:187; Kennedy, 2011). Nowadays growing recognition of the dilemma by several disciplines is fuelling the need to mitigate excessive consumption and irrational consumer demands due to its contribution to climate change (Recma, 2006; Spaargaren & Oosterveer, 2010; Kennedy, 2011). Cahill (2001) proclaims that as material indices rose, so environmental indices fell.

Despite international agreements to make an effort to curb climate change such as the Kyoto Protocol that was signed in 1997, it is evident that the world is getting warmer largely due to the presence of greenhouse gas emissions. This is a sign of a situation that might already be beyond control (Steg et al., 2005). Since 1970 the Earth has warmed by 0.74 °C and projections indicate that the temperature will rise by at least 1 °C before 2050 (Wills, 2008). The World Bank (2013) cautioned that the most recent estimates indicate that temperature increases could be as high as 4 °C. Although many might not consider this as noteworthy, research done in South Africa by Ziervogel & Zermoglio (2009) has already shown that the current rise in temperature is profoundly affecting the country's food crop yields and that the projected rise in temperature could be detrimental as far as food security in the country is concerned (Madzwamuse 2014).

The 1995 Intergovernmental Panel Report on Climate Change (IPCC) recorded a discernible human influence on the global climate with subsequent degradation of essential natural resources (Carter, 1998; Carter, 2004; IPCC, 1996; Schlegelmilgh, 1996). In 2007 the IPCC cautioned that careless consumer lifestyles and behaviour are to blame for the rising temperatures that cause the reduction and depletion of Earth's natural resources such as agricultural land, groundwater, air, minerals and even life itself (Wills,2008; Gerbens - Leenes & Nonhebel, 2002; Clarke, 1999). The UK's Department for Environment, Food and Rural Affairs (DEFRA), reporting on the environmental impact of food production and consumption nationally, states that the main human influence on global climate is the emission of key gases, namely carbon dioxide, methane and nitrous oxide (DEFRA, 2006). The 2008 report of the International Council for Science (ICSU) adds that globalisation i.e. the growing and accelerated interconnectedness of the world, as well as the pressure that population growth exerts, are inducing planetary-scale changes in the Earth's life support system. Over-consumption is encouraged by mass media and globalisation by introducing a way of life to which consumers would seek to aspire (Cahill, 2001; Griffin et al., 2004; Lertwannathan & Mandhachitara, 2012). Human activities apparently match, and more often exceed, the natural forces that regulate the Earth system.

© University of Pretoria

According to the 2011 ICSU report developed economies are said to be 'societies that are hyper-consumerist, with much of their consumption focused on improving their lifestyles' (ICSU, 2011). China, well-known as being a nation that is 'human–nature' oriented, is currently viewed as 'the most ecologically unsound place in the world' (Chan & Lau, 2000). Many countries with a similar viewpoint are currently bearing the brunt of the industrialisation era. Most of these countries are paying a high ecological price for rapid economic growth in terms of worsening pollution and an accelerated depletion of critical resources such as drinkable water and clean air (Belck & Ger, 1996; Chan & Lau, 2000). Various environmental studies suggest that serious action should be taken promptly to preserve valuable resources for the future (Schlegelmilgh, 1996; Wimmer 1998; Chan & Lau, 2000). Unless attention is given to this growing problem, in the near future consumers might find themselves not only desiring product variety on retail shelves but also longing for simple things like clean drinkable water (Clarke, 1999; Gerbens - leenes & Nonhebel, 2002). If the human race wishes to sustain its standard of living, mankind needs to conserve natural resources such as land, air, water, minerals and all living things, by reducing the present rate of consumption (Clarke, 1999; Belck & Ger, 1996).

Progress has therefore, over time, created a dilemma that may have irreversible consequences for the future unless drastic measures are adopted soon to alleviate the problems associated with consumers' overconsumption propensities.

2.3 CONSUMERS' CONTRIBUTION TO THE ECOLOGICAL FOOTPRINT

In order to understand issues pertaining to irrational and excessive consumption and their contribution to climate change, it is necessary to acknowledge the underlying mechanisms that drive climate change. Although existing research suggests that consumers should be held accountable for their irrational, excessive consumption and their wasteful behaviour, history disputes this. The following section describes consumers' current behaviour and consumption rates in terms of climate change. A brief historical overview of influencing factors is included. Insight into consumers' motivation for their behaviour will facilitate understanding consumers' waste behaviour and consequently their contribution to climate change via their ecological footprint. The section concludes with a discussion of the importance of consumer socialisation in terms of an increased environmental consciousness.

© University of Pretoria

2.3.1 The 'in'convenient/'in'considerate consumer

Reports indicate that the world's so-called "consumption champions", i.e. the culprits of excessive consumption are predominantly located in the West (ICSU, 2011; WWF-Report, 2012). 'The USA is particularly indicted for being too individualistic and consumeristic' (Lee et al., 2009), i.e. working, shopping, consuming, ultimately wasting and never seizing to want more. Benjamin Barber refers to '…Modern man's conundrum: the more powerful he becomes, the more miserable he feels: all that we have only serves to make us need more and the more we have the more we need to protect what we have (Sagoff, 1997). Due to globalisation, mass media, tourism, immigration and the internet, this Western trend is fast becoming a highly sought after 'culture' in many so-called Third World countries and currently emerging economies (Motavalli, 1996). Consumer behaviour, desires and expectations in less affluent countries (which, in the context of this study, include South Africa) are rapidly conforming to those of the so-called First World continents like America (Belk, 1988; O'Cass & McEwen, 2006). Unfortunately these global consumption influences are more likely to produce social inequality, instigate class polarisation, increase consumer frustration, promote materialism, enhance health risks and threaten the environment (Belk & Ger, 1996; Speth, 2010; ICSU, 2011).

Consumer lifestyles have changed notably in recent years as consumers have become more individualistic, independent, self-reliant and ultimately 'in' considerate as they are chasing personal goals, desires and social status. Modern day consumers are inclined to oppose external interference with their choices, whether by society, the state, or any other group or institution (Laroche, 1987; Spaargaren & Oosterveer, 2010). This gives rise to a situation that is conducive to excessive consumption, which is notably associated with the creation of waste. This is because individualism tends to maximise a person's own needs whilst excluding the needs of others and diminishing the well-being of future generations. Individualism thus disregards consumer behaviour as part of the bigger environment and as being accountable for problems such as climate change (Bitan, 2008). A survey done between 2008 and 2010 across six continents (N = 13 000) investigating the global opinion and concern regarding climate change indicated that 77% of South Africans are concerned about climate change compared to a global average of 69%. However, in terms of willingness to take ownership of the problem only 17% of South Africans were willing to do so, while 83% stated that industry is to blame and should take responsibility (Garton, 2010). This predicts a major challenge for environmentalists for the future.

Recent reports indicate that consumer behaviour and expectations have changed considerably over the years (Tustin & De Jongh, 2008). Consumers' consumption patterns are based on convenience and a demand for nothing less than superior products and services (Zikmund & d' Admico, 2001:654). Retailers

© University of Pretoria

now have no other option but to provide only the best. Even current research topics tend to focus on service excellence, on ways to deliver hedonic experiences and to save the time and effort through convenience products (Holbrook & Hirschman, 1982; Zikmund & d' Admico, 2001:654; Thang & Tan, 2002; Arnold, 2003). Consumers want it all and they want it now (Howardell, 2003). Moreover, consumers are willing to pay extra for high quality and variety (Arnold, 2003).

Retailers that fail to fulfil these needs will lose business and fail to prevail (Webster, 1994; Woodruff, 1997; Saxby, 2001). Retailers as well as consumers have, in fact, become more self-centred over time and in doing so have developed a laissez-faire attitude towards natural resources and the macro-environment. This is problematic because sustainable consumption relies on a decision-making process that acknowledges social responsibility amidst individual needs and wants (Casimir & Dutilh, 2003). It is argued that sustainable consumption can be described in terms of 'weak sustainability' and 'strong sustainability' (Fuchs & Lorek, 2005; Naess, 2006). Weak sustainability reflects the belief that consumers could lower their contribution by means of changing consumption patterns to include 'green', 'organic', 'environmentally friendly' products. Strong sustainability holds that true sustainability is impossible through simple altering of consumption patterns but rather requires actual reduction in consumption levels. Numerous academics (Uzzell & Rathzel, 2009; Kallis et al., 2010; Kennedy, 2011) have stressed the need for strong sustainability. It seems inevitable that consumers need to reduce levels of consumption rather than merely altering purchasing practices.

2.3.2 Consumerism - the 'proverbial elephant in the room'

The past century has seen consumerism attracting different levels of attention. In some spheres it is a debated topic in others discourse pertaining to it is altogether avoided because it is often related to inconceivable problems like climate change, hence the topic for this section 'the proverbial elephant' (A "proverbial elephant in the room" is an expression for an obvious truth that is being ignored or goes unaddressed). One of the main reasons also contributing to 'the proverbial elephant' is grounded in the fact that different meanings are attached to the concept 'consumerism'. On the one hand it refers to a social movement that aims to protect consumers against exploitation by industry and corporations, while promoting consumers' rights to fair trade, quality products and services that would enhance their quality of life (Cravens & Hills, 1970; 1973:232; Rosenberg, 1975; Huxley, 1989; Darley & Johnson, 1993; Jones et al., 2005). This is also referred to as a 'citizens movement', which focuses on introducing broad-reaching social, ecological and political demands on suppliers of goods and services (McIlhenny, 1990), whilst voicing consumer discontent and furthering corrective action (Maynes, 1990). The worldwide consumer movement that proclaims the so-called Consumer Bill of Rights came into being in 1962 when President

© University of Pretoria

John F Kennedy expressed his concerns and intentions to make a concerted effort to protect consumers as part of his presidential campaign (Alsmadi, 2008).

Ironically, the same movement unintentionally also gave consumers a sense of entitlement to consume without taking responsibility or acknowledging the consequences of their purchase and consumption decisions (Darley & Johnson, 1993; McGregor, 2008). Consumerism is therefore also a term that is used to describe excessive consumption, i.e. the effects of gathering and purchasing material possessions to increase happiness and social positions (Borgman, 2000; Csikszentmihalyi, 2000; O'Shaugnessy & O'Shaugnessy, 2002; Abela, 2006; Hume, 2010). Moreover consumerism also refers to consumers' pursuit of higher standards of living, by whatever means possible (Abela, 2006; Curtis, 2009). Media and industry often use this idea to justify their promotion of excessive consumption that fuels their own interest and capital gain (Paavola, 2001; Porrit, 2007; Busch, 2008). Evidence indicates that major corporations often engage in 'cool-hunting', attempting to find out what is viewed as trendy by their target markets in order to capitalise on them (Cahill, 2001). One of the most subtle and disturbing threats that have been associated with globalisation is 'economism'. This refers to the commercialization of everyday life in advanced countries where advertising turns everything into a commodity (Deese, 2003).

The meaning of consumerism apparently depends on the economic status of the country (Darley & Johnson, 1993). Less developed countries and emerging economies tend to be a 'sellers haven', where consumers have little or no protection, education or information about the market. Consumerism in these countries tends to be represented as social movements and an agent of change. South Africa in particular is viewed as a 'previously voice-less society'. Due to apartheid, recognised as an era of exclusionary practices, it is now showing an increase in spending power of the previously disadvantaged and is also demanding sound and just business practices (Tustin & De Jongh, 2008). The latest Consumer Protection Act that was launched on 1 April 2011 is evidence of this trend. It seems that governments of less developed countries and emerging economies appear to be under increasing pressure from international organisations and consumer unions to protect the interests of consumers (Darley & Johnson, 1993). However, in more developed countries such as the USA where information is more readily available and where consumers are generally better educated and have more complex sophisticated needs, consumer organisations that promote consumerism are less focused on consumer protection and are more involved in informing consumers on how to take care of their own destiny (Darley & Johnson, 1993). This is the reverse of the approach in less developed countries such as South Africa. South African consumers are not yet seen as a population in which people are ready to take responsibility on their own. Rather, larger

© University of Pretoria

institutions such as government, industry, retail and interested organisations should take the lead and inspire consumers to become more vigilant.

Sociological studies in recent years have also shown interest in consumers' changing consumption patterns and support the idea that consumption emphasises the autonomy of the consumer and that consumerism should be viewed as an act of liberation and self-expression (Cahill, 2001; O'Cass & McEwen, 2006; Sivanathan & Pettit, 2010). Many authors propose that consumerism is the essence of achieving the 'good life', which implies a lifestyle that is based on freedom, power and happiness (McGregor, 1999; Busch, 2008; Kamp, 2009). Lifestyle is the pattern of social relations, beliefs, attitudes, tastes and material goods, which differentiates one social group from another (Cahill, 2001). This definition shows a close relationship with culture that is the sum total of learned beliefs, values and customs (Donohue-White, 1999; Shiffman & Kanuk, 2010:649). In many social settings consumerism often equates or trumps attributes such as cultural norms and values when distinguishing an individuals' social status (Abela, 2006; Olson & Wiley, 2006; Curtis, 2009). Some researchers claim that the focus that is placed on ' the good life', affluent society today has given rise to a new set of consumer norms and values that are undermining traditional cultural norms and values (Giacomo & Olivier, 1996; Kilbourne & Pickett, 2008; Lee et al., 2009). Individuals therefore tend to identify with the lifestyle they can achieve through work rather than the work itself. Often consumers simply work to feed their 'compulsive consumption habits' (Deese, 2003). Consumption is thus apparently superseding cultural ethics such as 'work' and represses culture, norms and values as a source of identity (Lee et al., 2009).

It is said that consumerism is an inevitable response to the increasingly complex and impersonal traits of society and that modern consumerism concerns the very essence of modern consumption itself because it is characterised as an activity that involves an apparently endless pursuit of wants (Haanpää, 2007). The self-interest and the underlying value placed on the accumulation and consumption of material goods has created a consumerist society that shows little concern for fellow citizens and even less about the environment (Lee et al., 2009). An association is even drawn between 'consumerism' and 'conspicuous consumption', which is described as the acquiring and display of consumables with the aim to establish social prestige or envy (Ger & Belk, 1995; Frijters & Leigh, 2008; Rucker & Galinsky, 2009). In 'The Theory of the Leisure Class' (1899), Thorsten Veblen coined the term 'conspicuous consumption' for the first time, and described it as the act of purchasing and using certain goods and services, not in order to survive, but rather to identify oneself to others as having a superior wealth and social standing (Charles et al., 2007:1). Authors such as Campbell (1987:17) observed that 'it is not consumption in general which

© University of Pretoria

poses special problems of explanation, so much as that particular pattern [of consumption] which is characteristic of modern industrial [consumer] societies'.

Modern society tends to associate an individual's identity with what is consumes. Erich Fromm (1976), for example, stated 'I am' equals 'what I have and what I consume' and that self-expression is gained through acquiring material goods and using them (Cahill, 2001). Consumerism, in this sense, therefore confirms that consumption is a means to self-development, self-realisation and self-fulfilment (McGregor, 1999). Consumers, to some extent, have thus become disengaged and estranged from civic duty and the social responsibility of considering fellow citizens when making decisions relating to consumption. Consumerist societies hence have serious consequences for civilisation as we used to know it because 'citizens' have become 'consumers' (Morgan, 2003). Maximising consumer satisfaction has not only become a personal priority for individuals in seeking life fulfilment and happiness, but it has also become an industry goal in the pursuit of competitive advantage. Giacomo and Olivier (1997) concluded that industry's governing bodies out of self-interest that is often presented as an ideology of 'consumption norms' sought after by society often consciously create irrational consumption patterns. It is said that 'social inefficient consumption norms, giving rise to bandwagon and snob effects are generated by producers that are constantly aiming to maximise their inter-temporal profit' (Giacomo & Olivier, 1996).

In the last century development in technology has penetrated the mindsets of consumers and has accentuated the importance of sophisticated consumer goods (Lee et al., 2009). Technology has promoted individualisation (Cahill, 2001), i.e. the process whereby people are encouraged to act and behave as individuals notwithstanding the collective interest of society (Spaargaren & Oosterveer, 2010). Consumers often tend to purchase new technology out of self-interest, ignoring civil or ecological responsibilities and interests (Cahill, 2001; Porrit, 2007; Frijters & Leigh, 2008; Lee et al., 2009). In the view of climate change as part of the overall environmental crisis, consumerism is more frequently viewed and criticised for being 'economically manifested in the chronic purchasing of goods and services, with little attention to their true need, durability, origin of the product or the environmental consequences of manufacture and disposal' (Verdant, 1997 as in McGregor, 1999). Consumerism is also viewed as one of the main causes of environmental and social detriments (Hume, 2010).Critique like this has even encouraged the creation of new movements that aim to curb excessive consumption (Zavestoski, 2001; Deese, 2003). Anti-consumerism tends to negate current levels and patterns of consumption and is concerned with the environmental, economic, political, labour, personal, societal and spiritual impact of excessive, run-away consumption. Other alternative movements against excessive consumption include 'ethical consumerism' that not only encourages consumers to purchase ethically

© University of Pretoria

produced products but also advocates that consumer decision making and purchasing behaviour should become more ethical. Ethical consumerism may also involve the boycotting of companies that are perceived to have acted unethically or in an unsustainable manner (Tustin & De Jongh, 2008). Such reform of consumerism is crucial to protect the environment and to enhance human well-being (Deese, 2003). This, however, demands an understanding of the impact of consumer behaviour on the environment and subsequently on society at large. Individuals therefore have to change and accept their responsibility towards the sustainability of the worlds' natural resources (Cahill, 2001).

Considering all the existing definitions and underlying philosophies pertaining to 'consumerism', this study focuses on 'consumerism' in the context of modern man's excessive consumption, focussing on a specific product category, namely fresh produce consumption in households and the subsequent waste created at retail as well as household level that have major consequences for the future state of our natural environment. In relation to climate change, consumerism is thus interpreted as a social and economic creed that encourages consumers to consume notwithstanding the effect on the world's resources and regardless of the consequences. Indications are that consumers' current patterns of consumption do not necessarily reflect/support the ideals of sustainable consumption (Thaler & Sunstein, 2003)

2.3.3 Sustainable consumption practices

Although sustainability has been a major topic of discussion over the last three decades, the term 'sustainable consumption' has only been recently acknowledged. Sustainability is mostly associated with finding a balance between securing the supply of resources versus the demand for consumer products (Bruvoll et al., 2002; Kong et al., 2002; DEAT, 2009b). The term therefore has two dimensions and deals with both supply and demand of consumer products. In literature these two dimensions are referred to and addressed individually in terms of sustainable development and sustainable consumption.

Sustainable development addresses the activities and strategies from the supply and industry side, and refers to the use of resources to produce goods and services in such a manner that future human needs can still be met (Brundtland, 1987). The Brundtland Commission further argues that sustainable development is essential because "...the "environment" is where we live; and "development" is what we all do in attempting to improve our lot within that abode. The two are inseparable". Ultimately society's usage of energy and materials should not exceed nature's production and renewal of resources (Lambin, 2005). In South Africa, industry is under pressure to better understand society's attitudes, perceptions and expectations within the broader societal and natural environment. This pressure is mounting due to

© University of Pretoria

increased government regulation, transformation charters, as well as consumer-environmental report systems that are being put in place (Tustin & De Jongh, 2008). A positive reputation as 'corporate members of society' is crucial in a competitive business environment where judgement is passed, not only on profitability or quality of brands, products and services, but also on business's ability to indicate that the principles of sustainability are actually applied (Tustin & De Jongh, 2008; DEAT, 2009b).

Sustainable consumption is concerned with the demand side and therefore consumers' needs and demands in terms of products entails the consumption of goods and services with a reconsideration of consumers' needs and expectations without compromising the natural environment, exhausting natural resources or neglecting the needs of future generations (McGregor, 1999; Ott, 2004). It encompasses consumption practices that include considering the natural environment and is ultimately a societal process of change that promotes human dignity, quality of life and a perspective of interdependence that refers to the interplay between people, the environment and even the economy (Lafferty, 1994; McGregor, 2008, 2009). To achieve sustainable consumption the mindset of consumers needs to change. Subsequent practices of excessive consumption that are typical of modern society consumers, particularly the young 'Y' generation, have to be reconsidered because they are consumers of the future (Valkenburg, 2000; Hume, 2010). Some blame marketing practices for consumers' unsustainable consumption practices, particularly those of generation 'Y' (Valkenburg, 2000; Busch, 2008) because the media are inclined to encourage hedonistic behaviour. Hedonic consumer behaviour refers to the sense of enjoyment and pleasure that the consumer receives from the entire buying experience associated with shopping, and young consumers who still need to establish their social position are particularly vulnerable (O'Shaugnessy & O'Shaugnessy, 2002; Kaul, 2006). Because of the positive relationship between consumers' enjoyment of shopping and escalating consumption rates, marketing onslaughts are generally increased to increase market share (Valkenburg, 2000; Hume, 2010).

In order to achieve the ideal to protect the sustainability of the world's resources, economic and social pressure may be required. At this point it is important to reduce consumers' excessive consumption of goods irrespective of where consumers are located across the world so that voluntarily simplicity becomes a way of life (McGregor, 1998; Alexander & Ussher, 2012) and to revise business practices accordingly to achieve social change that will be conducive to the creation of a more sustainable world (Deese, 2003; Porrit, 2007; Kilbourne & Pickett, 2008; Hume, 2010). To develop a way of living that is both fulfilling and sustainable requires reconsideration of not only the relationships *within* society but also between society and nature. Society has become accustomed to treating the environment as something that is infinite and detached from people and their work (Wackernagel & Rees, 1996). The loss of

© University of Pretoria

environmental value is unfortunately seen as a necessary 'trade-off' for economic growth. Political and economic agendas still justify unsustainable practices believing that 'one cannot stop progress' (Miller, 2005:33; Diakanyo, 2010). Rapid economic growth and rising material standards within industrialised countries in recent decades have simultaneously strained and degraded the Earth's capacity and have accelerated resource depletion (Hulse, 1993). As the world becomes ecologically over-loaded, economic development actually becomes self-destructive and impoverishing (Wackernagel & Rees, 1996). Society and economic growth is, however, a fully dependent subsystem of the ecosphere and, if society is regarded as an integral part of nature, the environment cannot simply be reduced to a backdrop or support system in that 'human life and all human activities depend on nature' (Wackernagel et al., 1999).

Achieving sustainable consumption is a major challenge that will require effort and new regulations as well as proactive partnerships between governing bodies, industry and consumer households (Tonglet et al., 2004). The consequences of unmonitored consumption practices within a 'throw-away' society may unfortunately lead to environmental, social and economic degeneration (Hume, 2010). More recent research suggests that excessive consumption impacts negatively on the sustainability of communities and societies that opt for a simpler lifestyle and who refrain from excessive consumption tend to improve in terms of their well-being (Belk, 1995; Deese, 2003; Hume, 2010). The onus to develop sustainable practices can no longer be placed on specific segments of the economy, but need the input and support of all stakeholders i.e. government, industry and all citizens of a country, society and community (Hume, 2010).

Sustainability requires a societal mind-shift. Managing resources (i.e. sustainable development) is important but managing of consumer behaviour through sustainable consumption is even more important. Ecological economists refer to sustainability as humanity's ability to maintain the planet's natural capital stocks (e.g. fresh water, fish, forests, the ozone layer, the climate system and other units of cultural significance) (Wackernagel et al., 1999; Ott, 2004:62). In order to achieve sustainability of the world's resources mankind needs to first assess the impact of its production and consumption practices on existing resources in order to design a realistic strategy for the future. The ecological footprint concept offers such a tool.

2.3.4 The ecological footprint

The so-called 'ecological footprint' is viewed as one of the most successful tools to measure the impact of human behaviour on nature. The underlying principle of this tool is that all human beings consume products and/or services that are derived from natural resources, and that every person subsequently

© University of Pretoria

contributes to the degradation of the environment to some extent (Hulse, 1993; Wackernagel et al., 1999). The ecological footprint therefore refers to an individual's use of natural capital and compares people's consumption and wastage of resources to the Earth's capacity to reproduce and/or regenerate those diminished resources (Wackernagel et al., 1999; WWF-Report, 2012). It is argued that at present humanity's use of natural capital exceeds the replenishment rates and that the ecological footprint is growing in size. According to a study done by the International Centre for Trade and Sustainable Development (ICTSD), China consumes more than twice the natural resources that its ecosystems can sustainably supply, having doubled its needs since the 1960s. Despite this, China's ecological footprint is only ranked 69th in the world. It is, however, envisaged that, based on its population size, if China had the same ecological footprint as the USA, its demand would deplete the entire available capacity of Planet Earth.

Latest figures from the WWF-Report (2012) indicate that BRICS countries, and especially South Africa, merit special attention when looking at the ecological footprint due to their country's high population growth rates alongside their increasing average consumption figures per person. Currently it is estimated that the consumption figures of the average household in South Africa is similar to that of the average American household.

2.3.5 Greenhouse gases and waste management

Earth's atmosphere is viewed as a blanket of air that not only regulates our climate but also makes life on the planet possible. Composed of a multitude of gases in varying proportions (water vapour, carbon dioxide, methane, ozone and nitrous oxide), the atmosphere regulates a feasible temperature for our survival (Schneider & Lan, 2006; Girod & Haan, 2009). The gases that comprise Earth's atmosphere are commonly known as 'greehouse gasses'. By being semi-transparent greenhouse gasses allow some of the sun's radiation to penetrate through the atmosphere to reach the Earth's surface. Although some of the light entering is reflected back into space, as is the case where surfaces are bright like snow or ice-covered areas, most of the sun's rays do reach the Earth's surface in order to warm the planet. This exchange of incoming and outgoing radiation that warms Earth is often referred to as the 'greenhouse effect'. The warming of the planet occurs in that the Earth's surface absorbs the sun's rays and consequentially heats the surrounding air. This in turns heats up and/or evaporates liquid water into water vapour, and also re-emits energy upward as infrared radiation (Schneider & Lan, 2006). The greenhouse gases present in the atmosphere then absorb most of the infrared radiation and re-emit them both up to space and back down towards the Earth's surface again. The energy channelled towards the Earth causes its surface to warm further and emits infrared radiation at a still greater rate. This process continues until the emitted

© University of Pretoria

radiation is in balance with the absorbed portion of sunlight travelling to and from the Earths' surface (Schneider & Lan, 2006).

2.3.6 Mankind's influence on the environment

Emissions of harmful greenhouse gases due to industry and consumer-related activities, especially the use of fossil fuels, aggravate the natural greenhouse gas effect, which results in larger quantity of heat being circulated (captured and re-radiated) in the lower regions of the atmosphere. Subsequently the temperature on the Earth's surface rises, which is detrimental in terms of climate change (Firsing, 2007:17). Although the atmospheric composition can be affected by natural phenomena over which we have no control, like erupting volcanoes, the contribution of people in terms of the production of harmful greenhouse gases deserves more attention as that part of the dilemma is indeed more controllable.

Greenhouse gases have increased substantially since the onset of the Industrial Revolution in nineteenth century Europe (Stainforth et al., 2005; Firsing, 2007:33). The invention of power-driven machinery not only altered and eased production; it has also escalated consumption of consumer products (Varadarajan et al., 1994), thereby unfortunately contributing to the burden associated with waste. Waste is classified as industrial, commercial or residential, and generally defined as something that is useless and that nobody wants at a particular moment in time. Therefore its disposal is necessary (Barr & Gilg, 2005).

An exact definition for waste is currently still under debate. This is largely because of an increasing global trend to reduce, recycle, recover and reuse redundant products (Nahman, 2012; Marshak, 2012). The South African 'White Paper' on integrated pollution and waste management (2000) defines waste as, (an) undesirable or dangerous by product, emission or residue of any process or product, which has been discarded, accumulated or been stored for the purpose of discharging or processing. It may be in the following three forms: gaseous, liquid or solid or any combination of them. Waste, no matter what form it is in, contributes to increased concentrations of greenhouse gases that enhance the greenhouse effect, which is responsible for warming the planet (Wilson & Law, 2007:11). Humankind therefore contributes directly by throwing away products, or even unknowingly, for example, through premature replacement of products or excessive product demand. Thus people contribute knowingly or unknowingly to a problem that can have irreparable consequences for the future of the planet.

2.4 SOUTH AFRICA AND GLOBAL ENVIRONMENTAL CHANGE

South Africa is located at the southern tip of the African continent and currently has nine provinces. Its coastline of 2 798 kilometres includes both Atlantic and Indian Ocean shorelines, and it boasts an

© University of Pretoria

abundance of fauna and flora. Population-wise South Africa is a richly cosmopolitan country that houses multiple ethnicities, diverse cultures and languages of which eleven are recognised in the country's national constitution. English is commonly used in public and commercial life although it is only the fifth most-spoken home language (Statistics South Africa, 2011). The most recent South African population figures indicate that the population comprises 79.5% Africans/Blacks, 9% Whites, 9% Coloureds and 2.5% Indian/Asian (Statistics South Africa, 2011). About a quarter of the population is unemployed and they live on less than R10.20c ($1.25) a day. Despite the obvious prevalence of poverty, South Africa is still ranked as an upper-middle income economy by the World Bank (2013) and is the largest economy in Africa, which explains the presence of lavish consumption patterns within the South African population (World Bank 2012.

South Africa is also a notable contributor to the global climate change crisis. In 1990, South Africa was responsible for about 1.2% of the total global warming effect, which placed it within the top ten contributing countries in the world (DEAT, 2009a). It is estimated that the carbon dioxide equivalent emission rate per person in South Africa (approximately ten tons of CO_2 per person per year) exceeds the global average of seven tons per person per year. Although this is still considerably lower than that of developed countries such as the United States, which is twenty tons per person per year (DEAT, 2009a; Letete et al., 2010). South Africans should not be left to 'continue business as usual'. Although carbon dioxide burned from fossil fuels is the primary problem associated with greenhouse gas presence in South Africa, statistics have indicated that methane emissions from agricultural crop production and food waste are just as worrisome (Letete et al., 2010; Marshak, 2012).

2.4.1 Concerns about the ecological impact of waste

Recent statistics indicate that the increase in waste production in South Africa exceeds the population growth rate by five per cent (Odhiambo, 2011; Ntuli & Pilusa, 2012; Nahman, de Lange & Oelofse, 2013). Although exact figures for South Africa as a whole are unknown, indications are that waste generation in metropolitan cities like Cape Town increases at an approximate rate of five to seven per cent per year (Marshak, 2012). As a key intervention the South African government has identified waste reduction as a major priority. At the global level, during the 2011 International Climate Negotiations in Copenhagen this was confirmed during discussion to reduce greenhouse gas. Emissions produced from consumer waste have apparently reached a record high during 2010 (Theobald, 2011).

In some parts of sub-Saharan Africa, where more than 265 million people are facing malnutrition and even starving due to a lack of food (according to the FAO Report on world hunger Sub-Saharan Africa has

© University of Pretoria

the largest prevalence of malnutrition and hunger, with 32% of the current population malnourished) more than a quarter of the food that is produced is considered unfit for consumption even before it reaches end consumers because of poor harvests or storage techniques, severe weather or disease and pests (Theobald, 2011). This not only amounts to a loss of 1.3 billion tons of food per year but also means that huge amounts of the resources and greenhouse gases like methane are used and emitted in vain during food production (Gustavsson et al., 2011; Theobald, 2011). This problem is aggravated by the fact that nearly a third of the food that is actually purchased by consumers is discarded (Refsgaard & Magnussen, 2008; Wills, 2008). South African statistics indicate that if a family spends an average of R1 500 on food per week i.e. R78 000 per annum, they could waste food up to a value of R26 000 annually (Nahman, et al., 2012). Through food product wastage consumers not only contribute, but also hasten the effects of climate change (Wills, 2008).

In general, all waste in South Africa either ends up being incinerated or taken to a landfill (Oelofse & Strydom, 2010). It is estimated that wastage from food products contributes 12% of total waste that is deposited to landfills (Theobald, 2011). A total of 800 landfills are in operation throughout the country, of which only 478 have been authorized and given permits by DWAF (Department of Water Affairs and Forestry). This number seems small compared to US figures (approximately 6500 sites) (Themelis & Ulloa, 2007). DWAF has subsequently developed a trilogy of documents to set the minimum requirements and to provide standards and give legal effect to the permitting and licensing of waste management facilities such as landfills in South Africa.

Landfills can be broadly classified as two types (Themelis & Ulloa, 2007). The most common type of landfill, and still used today throughout developing countries, consists of dumps where municipal waste is deposited until it reaches a height that, for aesthetic or technical reasons, is considered to be the maximum it can accommodate. After the closing of a landfill, soil is used to cover the area. The problem with landfills is the production and leach of the greenhouse gas methane that is produced through the degradation of organic waste, an example of which is fresh produce wastage. Analyses of data on Arctic ice show that CO_2 and methane are at their highest values now than at any other time during the past 125 000 years (Hulse, 1993; DECC, 2013). Emissions of methane in South Africa have doubled during the period 1971 to 2003 (Letete et al., 2010), most countries that have pledged to reduce emissions are currently failing to comply (Biello, 2013). Although methane gas can be captured and used as a renewable source of energy, it has global warming potential that is estimated to be 23 times greater than that of the same amount of carbon dioxide if allowed to escape into the atmosphere (Marshak, 2012). In accordance with the international reporting and carbon trading protocols, each of the greenhouse gases is weighted

© University of Pretoria

by its 'global warming potential' (GWP). The GWP for each gas is defined as its warming influence relative to that of carbon dioxide (DECC, 2013). It is therefore important to find ways of reducing the waste of organic material such as fresh produce by both consumer and retailer due to its contribution to alarmingly high methane levels in the atmosphere.

Policy-makers worldwide aim to ban organic matter such as food waste from landfills to reduce methane emissions (Oelofse & Strydom, 2010) and to enhance their chances of meeting greenhouse gas emission targets set by the Kyoto Protocol. At the same time this could secure more renewable energy, as the waste could be diverted to anaerobic treatment plants (Burrows, 2011). The South African National Response Strategy of 2004 emphasises that waste reduction should receive attention and become a national priority (Nahman & de Lange, 2013). It was also proposed that reuse and recycling should be vigorously encouraged (Oelofse & Strydom, 2010). The growing quantity of waste requiring disposal at landfill sites (with a consequential increase in the methane gas generated) is said to be a result of urbanisation, which seems to be one of the strongest social forces to be reckoned with in the coming years (FAO, 2013; Notten, et al., 2014). Urbanisation is posing severe challenges to South African household food security in the context of high rates of unemployment, increasing development of the informal sector, deteriorating infrastructure, overcrowding and environmental degradation (Ziervogel & Frayne, 2011).

During the past ten years South Africa has made tremendous progress regarding waste management and disposal. The first legal step was in 1996 with the promulgation of the Environmental and Conservation Act that endorsees and guarantees South Africans the right to a clean and healthy environment (The Constitution of the Republic of South Africa, Act 108 of 1996). This was followed by the Draft White Paper regarding integrated pollution and waste management in 1998 in which the focus shifted from waste disposal and impact control to waste management and prevention (Matete & Trois, 2008). In an effort to curtail littering caused by consumers, the Environmental and Tourism Ministry banned the use of plastic shopping bags thinner than 30 microns and all major retailers agreed to encourage conscious consumer behaviour through charging extra for plastic carry bags as well as encouraging consumers to bring their own shopping bags (Hasson, Leiman & Visser, 2007). This has resulted in an 80% drop in the manufacturing of plastic bags, which in itself is very positive for the environment but has led to subsequent job losses (ARSCP, 2011). General packaging from food and drink products has recently also became a reason for concern and has received some attention from prominent retailers. Although the importance of food packaging can be argued in terms of protection and hygiene, the mere fact that current consumer behaviour produces nearly 30 million tons of household waste per year, substantiates

© University of Pretoria

the need for urgent action. According to the Waste International Alliance (2004) the only way to combat the waste generated by consumers is through zero waste tolerance. Zero waste is a goal that is both pragmatic and visionary, to guide people to emulate sustainable natural cycles where all discarded materials become resources for others to use. Zero waste means designing and managing products and processes to reduce the volume and toxicity of waste and materials, conserve and recover all resources, and not burn and bury them (Nair & Lakhani, 2007). Theoretically the concept 'zero waste' is totally unrealistic but the concept is used in its extreme form to emphasise the importance of endeavours to reduce as far as possible all discharges to land, water or air that may threaten the well-being of the planet for the future.

The promotion of sustainable recycling among consumers is envisaged as a possible measure to curb the generation of waste (Pretorius et al., 2009). The collection of methane gas generated at the landfill sites is also a possible solution to South Africa's pollution problems and pilot studies are being conducted to enable the tapping of biogas that can be used as a fuel (Thomas, 2007; DEAT, 2009a).

2.4.2 South African consumers' contribution to global concerns about excessive waste

Environmental concern is conceptualised as a pro-environmental, strong positive attitude and behaviour directed towards preserving the environment. That includes willingness to purchase green products in general and to prevent and minimise waste (Rousseau & Venter, 2001). South Africa ratified the United Nations Framework Convention on Climate Change (UNFCCC) in August 1997 (Holgate, 2007). While South Africa does not currently face any limits on emission of greenhouse gases under this convention and the accompanying Kyoto Protocol, due to its status as both a developing country and an emerging economy, the situation could change if emissions increase proportionally to an increase in consumer wealth (Spalding-Fecher, Clark, Davis & Simmonds, 2002). The problem in South Africa is aggravated by the fact that South Africans are not yet sensitised to reduce waste and to recycle in a way that Europeans and Americans have become accustomed to (WRAP, 2007; Wills, 2008:22; Gustavsson, et al., 2011). This contributes to excessive waste and a polluted country, which requires excessive sums of money to clean (Nahman et al., 2012). Instead, these funds could have been used in a far more productive manner for housing, schooling and to assist the poor. Although this is a behavioural problem, the causes are diverse and can be related back to poor education, unemployment and economic problems and even social and political issues (ARSCP, 2011).

By throwing away billions of kilograms of wasted food, consumers are putting stress on already bursting landfills and contributing to the emission of greenhouse gases like methane (Gustavsson et al., 2011). With landfills contributing large amounts of greenhouse gases, of which the methane constitute on

© University of Pretoria

average 34%, and food prices that continue to rise, the reduction of food waste is an inescapable necessity for South African citizens. Despite the South African governments' recently launched *Waste Wise* programme that encourages waste minimisation education and awareness throughout industry and public organisations, figures show that waste volumes are still on a steady incline (national policy, White paper on pollution and waste management – Cape Town, 2007). One of the main reasons contributing to this is the steady rise of more affluent black consumers whose newly found spending power encourages them to acquire a more 'satisfying lifestyle' (Gilg, 2005; Newell, Corliss & Green, 1997). As the wealth of nations, populations and households' increases, so does their per capita production of waste (Wilson et al., 2011).

A global estimate indicates that, on average, a total of 225 kg of food is wasted per capita (per person) per year in low-income households, 330 kg in middle income and 550 kg in high-income households (Wilson et al., 2011). The nature of the waste is different. In low and middle-income groups, it is primarily inedible food waste, such as vegetable trimmings. In higher income groups, food waste tends to be more ostentatious and even still suitable for human consumption (Wilson et al., 2011:13). In comparison to whites, blacks are more susceptible to conspicuous consumption and tend to be less concerned about the environment because they are less informed about matters relating to climate change (Charles et al., 2007). Concern amongst black consumers has, however, improved with better education now than was the case in the past (Newell, Corliss & Green, 1997). Although general awareness amongst black consumers in South Africa is showing a steady incline regarding matters pertaining to climate change, poor communication due to language barriers and lack of education still tend to be the biggest hurdles. This problem is even worse throughout the African continent where it is estimated that 60 per cent of the adult population at present is illiterate and where it is difficult to communicate with consumers (ICSU, 2008).

Recent research reveals that food waste in industrialised countries and to a certain extent emerging economies like South Africa, can be reduced by raising an awareness and ultimate knowledge of matters relating to climate change amongst food industries, retailers and consumers (Gustavsson et al., 2011). Consumer awareness and knowledge, just like behaviour, is influenced strongly by internal and external influences, such as personal, cultural, social and economic factors. For the most part, retailers struggle and often cannot control these factors. They should nevertheless take them into account if they wish to compete competitively (Cant, 2010:72). This offers opportunities to retailers to exert their influence over consumers through education.

© University of Pretoria

2.4.3 Consumers' ignorance about the origin of food and consequences for sustainable retailing in South Africa

As an emerging economy, South African consumers seldom consider the problems associated with food waste. The latest obtainable international figures indicate that 49% of all consumers are concerned about the issue of food waste, while 51% are less concerned or not concerned at all (Wrap, 2007). Although this is a global phenomenon, the consequences for South Africans are profound when considering issues like food security and poverty. With food insecurity and hunger persisting in both urban and rural areas within South Africa, attention and mitigation of food waste and climate change is becoming a matter of urgency (Frayne et al., 2009; Ziervogel & Frayne, 2011). Although South Africa seems food secure at a national level, one out of two households in the country (52 %) is at risk of hunger (Labadarios et al., 2008; Chopra & Witten, 2009).

Many consumers today do not know where their food comes from (Trace, 2006; Bloom, 2011:13). The detachment between consumer and origin of food products can be ascribed to the logistical changes of food production, retailing and procurement (Gustafsson, Jönson & Sparks, 2006:11; Bloom, 2011:13). Even the most casual consumer cannot deny the major transformation that food retailing has undergone over time. In the past, shopping meant a trip on foot to a variety of small retailers that stocked a limited number of products to meet consumers' basic needs (Lillford, 2008). Exposure to exotic fruits and vegetables was non-existent for many, and most women spent at least 25% of their waking hours preparing meals for the family (Laroche, 1987). Today consumers drive to supermarkets where everything is at hand and where complaints have become part of a shopping trip. If the imported mangoes are not fresh, or if the time-saving ready pre-prepared microwaveable vegetable mix is out of stock, consumers may complain and voice their dissatisfaction because their needs and expectations are not met (Wills, 2008:127). The majority of consumers nowadays do not have to cope with problems such as seasonality of fruit, distance travelled to get specific products and scarcity due to low supply (Miller, 2005:6; Wills, 2008:127; Nahman et al., 2012) because today, almost any type of fresh fruit and vegetable can be obtained almost anywhere, anytime. This is due to the 'progress and success' of the modern food supply chain (Lillford, 2008) that concerns 'all activities associated with the flow and transformation of goods from raw materials, to the end user, as well as the associated information flows' (Kotzab & Teller, 2005). The supply chain is meant to regulate the entire set of organisations from procurement of material and product components, to delivery of the completed product to the final consumer. Although some of the logistical changes have been driven by legal requirements and the development of new products and product categories, a substantial urgency and motivation came from supply chain role players due to their recognition of the importance regarding 'profit and survival' (Lillford, 2008).

© University of Pretoria

Fresh food retailing in particular has come to recognise that, in order to be more competitive, logistics had to become more efficient and effective (Gustafsson et al., 2006:33; Teller, Kotzab & Grant, 2010). Providing extra value to the customer offers individual role players in the supply chain an opportunity to differentiate among themselves and to gain a competitive advantage (Uusitalo, 2001; Gustafsson et al., 2006:21; Lillford, 2008; Sibert et al., 2008). In terms of primary food production this meant increasing production quantity and ensuring variation and superior quality. Because of the nature and perishability of some products like fresh produce, as well as the issue of food safety, rapid distribution and consumption of products became essential. Airfreight, fast land transport, temperature control and sophisticated packaging are all integral parts of today's supply chain that aim to ensure consumer satisfaction (Gustafsson et al., 2006:23). Today the fresh produce supply chain usually includes four main role players, namely, the producer, the distributor, the retailer and the consumer (Gustavsson, 2011; Gustafsson et al., 2006:21).

The Industrial Revolution can be seen as the initial catalyst for the development of large-scale production processes and consequential economies of scale that resulted in a steady flow of cheaper mass-produced goods (Busch, 2008). Today, however, industry relies on technological advances and a shift from a horizontal to vertical supply chain management system. The fresh produce industry in particular, evolved from a horizontal to more vertical alignment in order to meet growing complex consumer needs (O'keeffe & Fearne, 2002). Vertical supply chain management describes a style of management control (Gustafsson et al., 2006:22). Vertical integration is the degree to which a firm owns its downstream suppliers and upstream buyers. Contrary to horizontal integration, which is a consolidation of many firms that manage the same part of the production process, vertical integration is typified by one firm engaged in control of different parts of production (e.g. growing raw materials manufacturing, transporting, marketing, and/or retailing) (Fearne et al., 2004; Lillford, 2008). The general impression of a vertical alignment is that it enables cost reduction, allows for joint planning and information sharing to ensure on-time production, a stable supply, improved product quality and supportive relationships within the supply chain (O'Keeffe & Fearne, 2002; Fearne et al., 2004). Where retailers once were viewed as the passive recipients of consumer products such as fruit and vegetables, nowadays they tend to be more active controllers of product supply to meet consumer demand over time. Retailing has evolved from a simple way of doing business into a highly automated and sophisticated form of management (Mulhern, 1996). At present the areas of concern when aiming to achieve consumer satisfaction are logistics, inventory control and effective operational procedures. Retailers are seen as the 'channel captains' and often set the pace for the movement of goods through the supply chain (Mulhern, 1996; Gustafsson et al., 2006:23).

© University of Pretoria

While the market share of small retail outlets and greengrocers in South Africa is declining, retailing giants and supermarket chains are literally taking over, showing a steady increase in their market share (Madevu, Louw & Ndanga, 2009). To achieve a competitive advantage, supermarkets are increasingly controlling more supply chain role players such as farmers and food processors (Kirsten & Abdulrahman, 2008). Woolworths for example, identifies its own food suppliers and manages them throughout the food chain (Nicholson & Young, 2012). Supermarkets and other retail outlets have therefore become integral and very important role players in the daily lives of most consumers. In South Africa, factors such as time scarcity have encouraged the expansion of retail and supermarket chains (Kirsten & Abdulrahman, 2008; Marshak, 2012). The popularity and loyal patronage of supermarkets shown by consumers further amplifies the power and control that retailers enjoy within the supply chain. Research done in the United States of America, United Kingdom and Australia indicates that the rising power and control of retail and supermarket chains within the supply chain are enabling them to raise product pricing at the retail level and, at the same time, lowering prices paid to suppliers (Kirsten & Abdulrahman, 2008). In South Africa, the influence of supermarket growth on the supply chain of perishable products, such as fresh produce, is particularly interesting. In comparison to the tightly attuned logistical systems set in place by the retail and supermarket giants, the producers and suppliers of fresh produce tend to be small in size and less coordinated (Madevu, Louw & Ndanga, 2009; Marshak, 2012). Furthermore, due to the high perishability of fresh products, their farm-level supply is very price inelastic, thus reducing the producers' bargaining power (Madevu, Louw & Kirsten, 2007).

According to the Green Food Bible by Wills (2008:118), up to 98% of all European consumers nowadays prefer to shop in a supermarket because they are one-stop stores for multiple products and services that are convenient and time-saving. Supermarkets are also becoming a natural focal point for the community in many urban areas (Chamberlain, 2007). Retailers thus need to objectively and comprehensively assess their influence on consumers' purchasing behaviour (Nicholson & Young, 2012). A review regarding the environmental and social performance of 86 international retailers selected from around the world argued that shopping is increasingly becoming an activity of leisure, done not out of necessity but out of luxury and pleasure (Jones et al., 2005). This conspicuous consumption is linked to years of marketing strategies that promote lavish lifestyles (Bush, 2008). The problem with recent marketing and retailing strategies is that it aims to flatter solitary egos, but leaves the yearnings regarding the community dissatisfied. Modern marketing and retailing encourage individualistic, rather than social goals and encourage consumers to adopt an 'I want' instead of 'we need' attitude (Barber in Lombardo, 2007). The long-term effect of promoting lavish consumption is in direct conflict with the definition of being sustainable and is a huge problem for current retailers.

© University of Pretoria

The fresh produce industry in South Africa provides a good example. In order to survive, retailers need to satisfy consumers' demand for superior quality and a quantity of large variety produce. Retailers often over-compensate when ordering produce to meet these demands. In most fresh produce sections of major retail outlets consumers have become accustomed to brimming shelves with a large variety of high quality fresh produce. Behind the scenes, however, many retailers suffer a burden of enormous wastage due to the high perishability of fresh produce, 'sell by' and 'expiry' dates that require of them to remove produce from the shelves, although the products might still be edible and in a fairly good condition (Elliot & Weir, 2006). Furthermore, the growing population, and high consumer demand for perfection, fuels the amount of waste that is created. Waste created by households worldwide and specifically South Africa is increasing drastically and the management of waste is currently insufficient and not entirely environmentally benign (Clarke, 1999; Nahman, et al. 2012). Nonetheless, in recent years the South African retailing industry has been paying serious attention to a number of areas of concern like the environmental impact of packaging of foods and goods, the use of carrier bags and environmental recycling, waste and consumer awareness (Chamberlain, 2007).

Current practices within the supply chain and fresh produce trade in South Africa is unfortunately still unsustainable as is the behaviour of consumers. As far back as 2006, fresh produce wastage figures were estimated at 21%. The management and mitigation of industrial and retailing practices have therefore become one of the priority concerns and discussion points particularly in the retailing industry. Stores managing wastage and expired produce in a proactive manner are definitely in the minority with some of them donating non-saleable products to welfare institutions. In most cases expired produce is often found in poorly ventilated, back-up areas for several days, a situation that would clearly stimulate further deterioration, before it is collected and disposed of at landfills or incinerated (Marshak, 2012). This kind of mismanagement contributes to environmental degradation and loss of control of social responsibility. Furthermore, retailers stand the chance of losing customers as a result of forced price increases that are imposed to cover the financial losses incurred as a result of the unnecessary wastage of unsold goods (Sibert et al., 2008).

It can be proposed that sustainable consumption should become a primary focus of retailers to promote social responsibility and climate change consciousness among their customers so that they, by doing so, can gain a competitive advantage (Piacentini, et al., 2000). Presently the South African consumer population shows a small, but growing concern with regard to climate change (Sibert et al., 2008; Tustin & De Jongh, 2008). Wilkins (2008) provides evidence that shows that consumers long for enterprisessuch as

© University of Pretoria

retailers to provide further information and educational tools as well as offering environmental friendly products and services (Wilkins, 2008). Consumers are increasingly starting to notice the impact of their behaviour on the environment. The ideal to reach is that consumers will reach the point where they will urge retailers to conform. 'Each time we purchase food, we are not only deciding what products we buy, but we also support a form of agriculture, transport, retailing which affects not only the food industry, natural environment but also our ultimate well-being' (Longfield, 2007 in Wills, 2008:118).

2.5 CONSUMERS' KNOWLEDGE AND CONSCIOUSNESS ABOUT ENVIRONMENTAL ISSUES

'I'm sick of hearing that consumers want more information; they don't! They want knowledge – knowledge of what a brand stands for and to what extent it can be trusted to make those complicated decisions on their behalf'

Rita Clifton, Chair, Interbrand (WWF Report by Kleanthouse & Peck, 2006:15)

2.5.1 Knowledge explained

Despite the importance of knowledge with regard to consumers' ability to make rational decisions (Alba & Hutchinson, 1987), knowledge has only recently become an independent area of research interest (Nikols, 2010). Traditionally knowledge was approached as a one-dimensional construct that encompasses consumers' familiarity with prior knowledge of relevant products (Alba & Hutchinson, 1987). Critique against approaching knowledge as a one-dimensional construct is that it is restrictive to only a small portion of the richness that encompasses knowledge (Alba & Hutchinson, 1987). Many scholars today agree that knowledge should be approached as a multi-dimensional construct (Alba & Hutchinson, 2000; Nonaka, 2003; Medeni, 2005; Nikols, 2010). Nikols (2010) stipulates that consumers gain knowledge in two ways namely: factual information and experience that respectively suggest their 'know about' and their 'capacity for action' or 'know-how'. These two dimensions of knowledge are described as explicit (also known as declarative knowledge) and tacit (also known as procedural knowledge) (Nonaka, 1991:64; Anderson, 1995:131; Medeni, 2005; Nikols, 2010). Knowledge is therefore not only a body of knowledge that is captured in books and documents that can be easily articulated (explicit knowledge) but is also reflected in daily routines, processes and practices (habits), which are often difficult to articulate (tacit knowledge), needing personal contact in order to be transferred. Reflecting on this domain the existence of ignorance would be validated by recognising significant incongruities between these two types of knowledge (Ott, 2004; Nikols, 2010). In the context of this study this would be consumers having factual information about the problem and their ability to apply the skills needed to address the problem.

© University of Pretoria

Consumer knowledge in many areas is seldom complete or errorless, particularly in the case of a topic like climate change (Alba & Hutchinson, 2000). Nikols (2010) explains that individuals often 'know about' the issue at hand, but often do not 'know-how' to address the problem, in other words consumers often have *explicit knowledge* about an issue like fresh produce wastage and how it contributes to climate change, but lack the *tacit knowledge* (skills) to mitigate unsustainable consumption practices.

It can be postulated that if consumers are equipped with a sufficient amount of both explicit and tacit knowledge they should be able to reflect on sustainable consumption practices and employ appropriate behaviour. Kaiser et al., (1999:4) argues that a consumers' consciousness based on explicit (factual) knowledge alone will not relate positively to environmental behaviour. To address current unsustainable consumption practices it is therefore important that explicit knowledge be supported by tacit knowledge (Nikols, 2010). According to Nonaka and Takeuchi's (1995) knowledge conversion framework (also known as the SECI model) the interaction between explicit and tacit knowledge follows a distinct logic, which is significant for sustainable development (Medeni, 2005).

The four principles for the SECI model are first, socialisation that they define as the process of creating tacit knowledge from tacit knowledge (i.e. learning through observation and then simply replicating the behaviour without articulation); second, externalisation that implies articulating tacit knowledge into explicit concepts; third combination, which involves systemising concepts into an explicit knowledge system; and lastly internalisation that refers to the process of embodying explicit knowledge into tacit knowledge. Nonaka (1995; 2003) explains that the foundation for their model is *ba,* which is defined as the 'context that knowledge needs in order to exist, in which it is shared and utilised'. Nonaka (2003) emphasises that *ba* is especially important for the transfer of tacit knowledge that relies on the face-to-face interactions of individuals at the same time and in the same space (Umemoto, 2002). From this theoretical exposition it is evident that consumer cognition regarding the consequences of irrational and unsustainable behaviour, and how it relates to climate change, is not enough to mitigate change. Sourcing avenues and enabling access to sources of information as well as infrastructure that allows for and supports the transfer of knowledge is therefore of utmost importance. Consumers have to be assisted in gaining access to both methods and experiences that would enable and encourage sustainable practices.

2.5.2 Consumers' consciousness about environmental issues

History indicates that the public's consciousness of environmental issues peaked during the late 1990s (Roberts & Bacon, 1997). Since then it has stabilised at a new plateau. Many recent studies confirm that, although consumers are aware of issues relating to climate change, they lack fundamental knowledge,

© University of Pretoria

which is essential to mobilise sustainable consumption behaviour (Ungar, 2000; Howell, 2011). Fundamental knowledge that assists in mobilising sustainable consumption practices can refer to either explicit (factual information) or tacit knowledge (skills). It is proposed that unsustainable consumption practices are often due to an imbalance or deficit regarding explicit or tacit knowledge. Awareness of environmental issues alone is not sufficient. Fundamental knowledge is needed to encourage a consciousness that is conducive to sustainable behaviour (Patenaude, 2011). Troublesome figures indicate that a mere ten per cent of the world's population are well-informed about environmental issues and even fewer people meet the standard of scientific literacy. At best, the majority of consumers today are said to be attentive and curious, especially when it comes to information regarding climate change (Leiserowitz et al., 2010).

'All men, by nature, desire to know - Aristotle' (Lear, 1988:1)

The Aristotelian claim that people have an innate desire to learn or to be informed has to date not been supported by research (Zunjich, 2009). It is argued that had Aristotle simply stated that '*man* desires to learn' his hypothesis might have had more impact. The notion that individuals have an innate desire to know, may cast some doubt (Ungar, 2000; Zunjich, 2009). Many scholars would conversely propose that consumers actually acquire knowledge on a 'need to know' basis. This implies that consumers will accommodate new information only if it is relevant or essential in their daily life. For instance, it might be possible that most persons do not consider learning about the facts of climate change as a priority issue because they do not consider it relevant - for example, learning about recycling is of no use if curb-side removal of refuse is not available. The cost of obtaining knowledge would weigh heavily against its relative non-significance. Consumers tend to learn or acquire knowledge for its pragmatic value. Researchers have, however, found evidence that consumers are positively inclined towards learning that enables them to fit the basic profile of being a 'good-citizen' in society (Spaargaren, 1997; Ungar, 2000).

In their study Semenza et al., (2008) endorses the notion that environmental concern, and ultimately sustainable behaviour, relates positively to environmental knowledge. However, findings of this particular study also specify that cognition, as related to knowledge, is one of the main obstacles to addressing unsustainable behaviour. Similarly, research done by Scannell et al. (2010) showed that citizens equipped with more knowledge about climate change are more willing to accept mitigation policies.

Climate change is a relatively new issue in South Africa due to its past political isolation from international events. Education, training and public awareness thus lag behind the required standards (DEAT, 2011a). Although the government through the Department of Environmental Affairs and Tourism (DEAT) promotes the raising of public awareness on climate-related issues, it is not an easy task. Due to the

© University of Pretoria

related science and complexity of the subject, climate change per se is not a casual topic in which, consumers would often engage (Schneider, 2001; Scannell & Grouzet, 2010). Consumers' ignorance is generally attributed to the fact that information pertaining to climate change is regarded as 'specialty knowledge' and is forbidden territory to 'outsiders' who are not part of the academic or the scientific community (Ungar, 2000). The general public therefore has to rely on the media that seems to lack the necessary resources to present a case for climate change (Busch, 2008; Boykoff & Goodman, 2009) since it is encouraged to convey information that will captivate, entertain and retain the general audience (Boykoff & Goodman, 2009).

2.5.3 The role of consumer socialisation in terms of consciousness about climate change

Alexander and Ussher (2012) suggest that one of the ways to slow down and ultimately stop climate change would be through a change in consumer behaviour. This is not a simple task because consumer behaviour is the product of continual learning throughout an individual's lifespan. Consumers learn things partly through an unconscious process of learning by experience, which is influenced by the environments they are exposed to as well as formal learning for example in school and other facilities. It is well-documented that consumers acquire most of their purchasing skills and behaviour during their early childhood through consumer socialisation (Hawkins, Best & Coney, 1998:202; Jobber, 2010:78) i.e. the process in which young people acquire skills, knowledge and attitudes relevant to their functioning as consumers in the market-place. Although marketing-related activities such as advertising do impact on consumer behaviour, the influence of the family and family members is pertinent in terms of consumer socialisation especially relating to food consumption. Parents teach their children consumer-related consumption behaviour through instrumental training, modelling and mediation (McGregor, 2005; Gore, 2006:74; Wilkins, 2008; Wills, 2008). The example that parents set is therefore crucial in terms of children's future behaviour.

Unfortunately, at present, consumer socialisation does not necessarily focus on the issue of climate change (McGregor, 2005; Jobber, 2010:77). Consumer socialisation in terms of household consumption of fresh produce is often aimed at appreciating only top quality produce, which is typical of a materialistic value system or status consumption trends. The purchasing, consumption and waste management of fresh produce in households are mostly regarded and treated in a very casual manner. Often fresh produce purchasing and consumption become habitual in nature. Spaargaren's (1997) review of structuration theory (as designed by Giddens) explains that this type of behaviour is based on knowledge that constitutes an individual's practical consciousness that refers to knowledge of a practical nature, which assists in coping with day-to-day routine behaviour (Spaargaren, 1997). Although important, Spaargaren notes that the mitigation of climate change ultimately requires that this practical

© University of Pretoria

consciousness be brought to a higher level or into the domain of discursive consciousness. Spaargaren (1997) maintains that discursive consciousness and subsequent behavioural change come about through discussion and understanding within peer groups or other organisations outside the family structure. Taking this stance, it can therefore be hypothesised that consumer consciousness and ultimate behaviour regarding fresh produce wastage and its contribution to climate change, can be changed via this route.

In acknowledging practical and discursive consciousness it is important to note that the congruency and relevance of explicit and tacit knowledge can play a supportive role in mitigating climate change (Roux et al,. 2006, McGregor, 2005). In short, it can be explained as follows: for change to take place, it is essential that consumers are equipped with both explicit knowledge as well as tacit knowledge that will enable them to implement strategies to take action. With regard to unsustainable consumption, consumers' practical consciousness (habits) often reflects an imbalance between explicit and tacit knowledge; and a lack of it leads to consumers neither knowing the facts about the consequences of fresh produce waste nor having the know-how and skills to mitigate unsustainable behaviour. Through deliberate communication and interaction with peers and/or retailers consumers can bring their practical consciousness to a discursive level and, in doing so, acquire the necessary information and/or skills to support sustainable consumption practices. Therefore, for consumers to change their conspicuous needs and consequential wasting of fresh produce, retailers should be equipped with proper information regarding why purchasing produce of lower quality can be just as rewarding and, equally important, why it is more sustainable in the long run. Retailers should therefore not only provide information regarding sustainable behaviour but should also reinforce or encourage sustainability by providing proper avenues through which consumers can successfully reduce waste.

Although sustainability is rightfully promoted as the answer, it is true that one needs to reflect on the fact that sustainable and responsible consumption is a highly complex form of consumer behaviour. Missing from the available literature reviewed is a lack of apparent consideration of both retailers' and consumers' reasoning and interpretation of negligent practices and waste management pertaining to fresh produce. With this said it is again necessary to remember that consumers need to become aware of the oppressing power of materialism and its connection with observed excessive and irresponsible consumption. This requires that consumers adopt a new lifestyle that connects with the broader environment, rising to a moral consciousness that focuses away from oneself (McGregor, 2006). McGregor (2006) strengthens this argument by stating that 'consumerism' is a source of structural violence and that consumers need to shift from being economic consumers that are driven by monetary

© University of Pretoria

incentives towards moral consumers that are driven towards fairness, reciprocity and sustainability (McGregor, 2008).

Although societal structures such as family, peer and other reference groups are of utmost importance in facilitating the transition of consumer to citizen and sustainable consumption practices, it does not mean that the input and infrastructure of the retail industry cannot be harnessed. For example, retailers can communicate information regarding climate change and how current consumption and wastage of fresh produce contribute to global warming. They can also facilitate change in consumer behaviour through instrumental training. Instrumental training occurs when a parent or sibling specifically and directly attempts to bring about certain responses through reasoning or reinforcement (Hawkins, Best & Coney, 1998:203). It is one of the basic methods through which consumer socialisation takes place. Retailers can thus follow this method to educate and encourage consumers to purchase, consume and manage waste in a more responsible and sustainable manner by providing incentives such as lower prices for less perfect fruit and vegetables (McGregor, 2005). Retailers can further model sustainability by managing their own waste better and mediate consumer behaviour through explaining the impact and negative side of excessive consumption, for example**,** by using media format, such as promotional messages.

To implement strategies that will encourage consumers to change their behaviour it is vital that retailers also accept the responsibility and overtly demonstrate their stance by implementing more sustainable practices (Tustin & De Jongh, 2008). McGregor (2005) describes informed consumers as empowered consumers in that they are able to not only make their own responsible consumer decisions but also advocate their behaviour to others. Many authors claim that by educating and empowering consumers, retailers are actually losing their power over the consumer (Spaargaren, 1997). Empowerment is the result of 'liberatory' learning. Liberation means freedom and emancipation from oppressive power. Thus consumer empowerment gives rise to the creation of a 'powersumer' (McGregor, 2005) that can be defined as the power consumers now have to buy and consume on their own terms, instead of terms dictated by marketing and retail. With regard to climate change this should be seen as a positive outcome, for once consumer's start demanding sustainability practices from retailers the better to ameliorate the ill-effects of climate change.

Although a challenge, the ideal is that retailers should improve retailing and waste practices and assist to educate consumers by providing information at point-of-sale to attempt to discourage consumers' unrealistic expectations and excessive consumption ('consumerism'). Retailers could contribute by enhancing consumers' awareness of the consequences of thoughtless consumption for the common good

© University of Pretoria

of society. Retailers are in an ideal position to assist a mind-shift towards sustainable consumption which, in the long run, should be a sound financial investment in terms of increased profit margins (Tustin & De Jongh, 2008). Retailers will therefore have to become consumer educators as socialising agents as proposed by Spaargaren (1997) to assist consumers in accepting that their current purchasing, consumption and wastage patterns are actually repressing their well-being by having profound negative effects on them, their future, other people and the natural environment (Kong et al., 2002).

2.5.4 Reaching and teaching citizens

It is alarming that the majority of consumers actually know very little about the state of our planet and the climate crisis in an era where information is accessible at the click of a button (Walker & King, 2008:259). For many, climate change only exists in the silicon chips of super computers (Ungar, 2000), a cognizance level that is of little or no concern to them. Consumers are generally ignorant about the crisis aspect of climate change. Those who seem interested often find comfort in the belief that climate change is just a big hole in the ozone layer of which the solution lies in lowering the usage of CFCs (Ungar, 2000). Ignorance, in the context of climate change, is not just an assumption. It is a social fact that can be deduced, observed and explained (Ungar, 2000; Ott, 2004).

Some authors argue that ignorance about climate change is somewhat intentional - a kind of convenient 'refusal to know specifics' (Ott, 2003:60). By hiding behind a 'veil of ignorance' as Ott (2003; 2004) puts it, consumers tend to not take responsibility to gain more knowledge about the problem nor do they make any effort to acquire skills to mitigate the effect of their actions. McGregor (2008) is of the opinion that this stance permits consumers to contend that forces beyond their control caused their actions. This view coincides with Marx's (1845) theory of reification as it resembles alienation. Reification is a specific form of alienation where an individual's personal activity becomes something objective and independent to such an extent that the relationship between the individual's own behaviour and that of other social structures as well as processes in the natural environment, too fail to be acknowledged. This situation is then problematic because, as long as consumers succumb to the capitalistic notions of the global economy and believe that they have no control over what happens beyond the boundaries of their personal households, change towards more sustainable behaviour will be very slow.

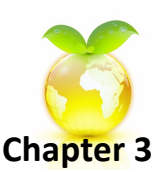
Clark (2007) maintains that combatting climate change depends directly on building a sustainable economy. However, the only way to build a sustainable economy is to encourage sustainable consumption, which requires consumer participation (Spaargaren, 1997; Tustin & De Jongh, 2008; Spaargaren & Oosterveer, 2010). Stuart (2009:206) suggests that this issue can be compared to the

© University of Pretoria

instigation of a new democracy where consumers exert their power: 'We vote for politicians every four years... but we vote every day with our money, and we can use it to bring about change, often much more rapidly than legislation can ever achieve' (Stuart, 2009:206). An analogy would be to apply this to consumers managing their spending patterns. It is crucial for consumers to 'see change' so that they can become the catalysts for change.

There is some evidence that consumers are receptive to the idea of sustainable consumption (McGregor, 2008; Tustin & De Jongh, 2008). Consumer education that addresses all the sentiments of sustainable consumption will be a prerequisite for change. The primary point of departure must, however, be to change consumers' focus from exercising individual consumer rights to collective, human responsibility (McGregor, 1999, 2000), so that the 'individualistic consumer' reverts to becoming a 'social citizen'.

© University of Pretoria



A HISTORICAL REVIEW OF CONSUMER BEHAVIOUR 1900 - 2013

This chapter is devoted to a historical review of the interdependence between the consumer and the broader economic and political environments. The content does not refer to any specific country but aims to present an overview of consumers' behaviour and industries' practices globally. Because the global impact of the United States of America, and to some extent the United Kingdom on the global economy is undeniable, their scenarios receive more attention.

3.1 THE INTERDEPENDENCE OF POLITICS, ECONOMICS, MODERN MARKETING AND CONSUMER BEHAVIOUR IN TERMS OF CLIMATE CHANGE

'The politician is in practice as much the servant of the consumer as of the capitalist' (Miller, 2005:12). Over time, capitalism has become more sophisticated and harnessed new forms of communication to delve more deeply into competitive commoditisation of increasingly more domains of everyday life (Zukin & Maguire, 2004; Miller, 2005:4; Lertwannawit & Mandhachitara, 2012). Most of life's decisions tend to be seen as trivial, but when comparing decisions about which brand of household cleaner to purchase and communicating decisions that may result in a change in the government, the choices hardly carry the same weight. The primary reason for this difference is that the purchasing of consumer goods is often viewed as a simple everyday task, an activity that is also viewed as being just the 'tail-end' of a capitalistic strategy that is meant to increase profitability (Laroche, 1987). Miller (2005:4) argues that this particular 'tail' is increasingly responsible for 'wagging the societal dog'. The authority that a First World housewife demonstrates in her consumer decision-making is associated with that of a 'global dictator' is far from flattering (Miller, 2005:34). The thought of a housewife deciding the fate of society through everyday decisions is indeed disturbing. Reality has shown that the responsibility of handling the household budget can cause considerable anxiety. Decisions that are driven by hedonism and materialism can be a major burden because one's innate motivation is then based on thrift and living frugally (Ger & Belk, 1995; Xu, 2007; Hanson & Zogby, 2010). However, one might well ask why consumer behaviour often tends to reflect conspicuous consumption which could even be irresponsible and irrational, if it seems more sensible to make decisions that are sound and economically wise (Waldfogel, 2005). Compulsive buying is a tendency among consumers that appears to be on the rise (Roberts & Sepulveda, 1999; Xu, 2007; Manolis & Roberts, 2008). At the start of 2008, figures regarding consumer debt in the USA, (excluding real estate debt) was set at 2.5 trillion dollars, with credit card debt alone a staggering 972 billion dollars

© University of Pretoria

(Rucker & Galinsky, 2009). Some researchers (Miller, 2005:75; Rucker & Galinsky, 2009) have suggested that consumers nowadays tend to be less powerful in terms of controlling their consumption patterns and that their powerlessness increases status-seeking through irrational consumption.

3.2 THE TRANSITION OF CITIZEN TO CONSUMER - A HISTORICAL OVERVIEW

During the twentieth century consumer behaviour morphed from the simple social act of acquiring goods and services to maintain daily life to the daily act of satisfying personal greed to such an extent that it not only undermined the values of current societies but also jeopardised the fulfilment of future society's needs, which is indicative of unsustainable behaviour (Roy & Pal, 2009). The 'shop till you drop' syndrome, that is, the ever-increasing spiral of over-consumption has become a characteristic of present-day society (Rosenberg, Gonzalez & Narain, 2007; Lerwannawit & Mandhachitara, 2012). Lombardo (2007) states that the problem with excessive consumption (consumerism) is that it often ends up as an illness and the word 'affluenza' was used to describe the painful, contagious, socially transmitted condition of overload, debt, anxiety and waste, resulting from the dogged pursuit of wanting more. In modern America, consumerism has encouraged individuals to seek happiness through the constant expansion of their material standard of living (Ger & Belk, 1995; Lane, 2000; Busch, 2008; Cohen et al., 2008). Consumerism is understood to encourage status consumption and want creation; 'the essence of consumerism is, broken promises never renewed' (Todd Gitlin in Lombardo, 2007:2).

Although consumers' general consumption has increased worldwide since the mid-1800s, the origin of conspicuous patterns of consumption can be traced back to the early 1920s (Ger & Belk, 1995; Abela, 2006). The importance of social progress and economic development after World War I set forth an era where the use of contemporary marketing practices has contributed to a 'consumerist-materialistic' society (O'Shaugnessy & O'Shaugnessy, 2002). Modern marketing and retailing are said to be the main vehicles responsible for enticing consumers to want a hedonic lifestyle and for undermining other cultural values (Ger & Belk, 1995; O'Shaugnessy & O'Shaugnessy, 2002). Advertising in particular, is blamed for 'acclaiming acquisition and celebrating consumption at the expense of other values, and has been labelled the most value destroying activity of Western civilisation' (Lee et al., 2009).

At the heart of modern marketing are intellectuals such as Henry Ford, Sigmund Freud (father of psychoanalysis) but more importantly his nephew Edward Louis Bernays (November 22, 1891 to March 9, 1995), who was recently voted as one of the most influential minds in American history and founder of Public Relations (Bush, 2008). Using Freud's theory, Bernays explained that individuals are driven by

© University of Pretoria

primitive fears and tend to be irrational in thought (Ritzer, 2002:171). In his book 'Propaganda 1928' Bernays argued that the scientific manipulation of public opinion was necessary to overcome chaos and conflict in society. This idea was later put to use and assisted American corporations in manipulating the consciousness of the masses into wanting products that they did not really need. By systematically linking mass-produced goods to the unconscious desires of individuals, Bernays assured not only the financial growth of simple corporations but also aided activity in the interests of the economy (Bush, 2008).

3.2.1 The 1920s

The end of World War I led to the return of normal social structures and indicated a decline in the need for the many mass-produced consumer goods and services. During the early 1920s many corporations in America therefore became aware of the danger of over-production (Laroche, 1987; Curtis, 2009). The reason for corporate panic was because consumer purchasing was primarily based on true necessity. The survival of mass production would require the restructuring of consumers' thoughts and decision-making processes, i.e. training citizens to want products that they did not really need. This theory was put to the test during Bernay's ploy to boost the sales of cigarettes by tapping into a new market, namely targeting females for whom smoking then was still a social taboo. Understanding and harnessing irrational thoughts and also the effect that these thoughts have on emotion especially among women can be very influential in directing their behaviour (Ghorbanshiroudi et al., 2011).

Reflecting on an example, Ghorbanshiroudi et al., (2011) maintained that 'The Torches of Freedom Campaign' was so successful because a link was established between the simple act of smoking and the desires of female emancipation. This campaign succeeded because it managed to expose the insecurities of female gender inequality, encouraging females to break the boundaries set by society, making smoking not only acceptable but almost essential. Encouraging females to smoke in order to be seen as equals in a highly patriarchal society and suppressing female anxiety and fears in reality had a dual purpose. First, the concept regarding the control of irrational thoughts of society was established; second the campaign resulted in a much wanted surge in cigarette sales that benefited the economy (Bernays, 1928:124). Many other campaigns followed this trend and showed financial success and ultimate economic growth, which was the backbone of the new capitalistic society. Studies indicated that although this type of marketing led to economic growth it also numbed the once active public citizen into a docile-passive consumer (Bush, 2008; Curtis, 2009).

Karl Marx (1818–1883), political economist and theorist of capitalism, was of the opinion that capitalism (as can be seen in the use of marketing strategies) tends to exploit society and often causes individuals to become disconnected and even 'alienated' (Lane, 2000; Ritzer, 2002:171). Alienation was also a direct

© University of Pretoria

consequence of mass production because commodities were not seen as products of labour any more due to the fact that the workers and producers themselves were not associated with the products. Commodities were seen as fetishes and defined as products or consumables that exerted an almost animate power in the world (Ritzer, 2002:131; Miller, 2005:102). Consumer products' usefulness or, as in Marx's terms, use-value, became increasingly subordinate to its exchange value or its social worth as generally determined by its price or monetary value. Over the years marketing strategies have continued to aid and exploit commodity fetishism by suggesting that commodities have 'magical properties' properties that they seldom can live up to, or that buying a product will increase the consumer's social status or attractiveness (Sanne, 2002). In contemporary society, things are purchased not for what they are but rather for what they represent (Haanpää, 2007). With the greater priority and emphasis that consumers now place on the importance of products, as well as the increasing role of consumables in social life, areas that were once beyond the economic sphere, such as the family or religion, have been transformed and recreated as commodities that are for sale in the market (Lane, 2000; Lee et al., 2009).

3.2.2 The 1930s

In years following the 1920s, efforts by President Franklin Roosevelt (1933-1945) and research done by Gallop and Roper (directors of the Fortune Survey, the first national poll based on scientific sampling techniques, 1935) who rejected Bernay's theories (Brown & Pittman, 2002), indicates that consumers were capable of rational decision making and that most individuals were willing and eager to act in a socially responsible manner (Kamp, 2009). Roosevelt emphasised that citizens should take note of the fact that he supported the idea of 'freedom from want' not 'freedom to want' (Kamp, 2009). These determined attempts directed the general public's attention to the importance of cohesion and compassion. However, this approach was short-lived and easily replaced by the onslaught of clever marketing efforts that, once again, encouraged citizens to consume out of self-interest and not necessarily for the benefit of the larger society. Bernay often emphasised the importance of the media as a valuable asset and stronghold for convincing and seducing people back into passive consumerism: 'the media is an easy tool to bring the public away from active citizenship to instinctual desires' (Bernays, 1930:113). Marx (1800) was of the opinion that, should society be confronted with the idea and belief that fetishism was the norm, it could end in reification. Reification refers to 'thingification' i.e. the process of coming to believe that humanly created social forms such as consumables are natural, universal and absolute. The concept of reification pertains to the social relationship between society and the greater social structure. Marx believed that social structures often create a situation that entices society to adopt actions that feed the structure's interest. It is, however, very seldom that the society revolts due to reification. This implies that people believe and trust that the social structures are as they should be, or beyond their control and therefore unchangeable due to their own individual actions (Ritzer, 2002:132).

© University of Pretoria

During the final years of the Great Depression, American industries hired Bernays to contest Roosevelt's efforts to banish fear and restore reason to politics (Teodorescu et al., 2007). Bernays responded in 1939 presenting the World's Fair, that introduced the 'democracity' in which the 'customer is king' (Curtis, 2009). The 'democracity' represented the varied elements of society whose cooperation was essential to providing for a better life, leisure and happiness to all who lived in it (Timbers, Chai & Morris, 2001). Democracity was viewed as a 'symbol of a perfectly integrated, futuristic metropolis pulsing with life and rhythm and music' (Bush, 1975). Miller (2009:279) sees democracity as 'a satire of mass consumerism, a means for social control that would change citizens into consumers'.

3.2.3 The 1940s

The 1940s saw the end of the Great Depression and an increase of the prominence, social status and overall role of women in society (Laroche, 1987). In comparison to the situation in the 1920s when only 20 per cent of the workforce constituted women, women accounted for 36 per cent in 1945. At the end of World War II it was estimated that six million women had entered the workforce for the first time (Wetzel, 1979; Wetzel, 2010).

A growing awareness of capitalistic ideals and the importance of product sales had industries seeking alternative ways to gain insight into consumers' minds and behaviour. It is believed that the first focus group was introduced by Ernest Dichter, an American-based psychologist and marketing expert, who is considered to be the 'father of motivational research and pioneer of applying Freudian psychoanalytic concepts and techniques' in particular to the study of consumer behaviour (Ames, 1998; Parkin, 2004). By exploring the sub-conscious of women to understand why the sales of products such as the Betty Crocker convenient cake mix did not sell as predicted, psychoanalysts' were able to identify feelings of guilt and shame (Curtis, 2009). This led to alterations in the product composition (adding an egg to allow women to add some labour to reduce guilt), which in turn saw a surge in sales (Parkin, 2004). Continued research, analyses and marketing have since exposed the importance and ultimate identification that consumers develop and form with products.

3.2.4 The 1950s

With the steady economic growth during the 1950s and the stable influx of women into the workplace, excessive consumption (consumerism) soared. Laroche (1987) reported that the prime reason for the introduction of women to the workforce was to support societal structures during World War II. However, the continuation of a large majority of females after the end of the war was grounded in the newly found appetite of households for new and socially astute consumer goods (Laroche, 1987). During this time

© University of Pretoria

consumers were motivated to consume for three reasons, namely, individual, social and cultural motivations (Wilk, 2002).

Over time consumers' motivations have changed from being societal (for the good of society) to being individual, based on consumers' personal desires, fantasy and ultimate need to create self-identity. Consumption based on social motivation is in most scenarios due to social pressure and competition. Individuals often feel that they not only want to be accepted by society at large but also want to be viewed as having superiority status that is longed for and appeals to others. This links with the theory of cultural motivation. Wilk (2002) explains that status is not merely to fit into the social spheres but has become a newly found culture that mimicked the old culture of the West, in fact, perhaps more specifically Europe regarding the bestowment of titles on citizens to indicate their social and financial status. Status was also a central theme in Veblen's explanations of excessive consumption (1899), and conspicuous consumption (Veblen, 1992; Rüling, 2000). According to Rüling (2000) extreme consumption was necessary among the American social elites of the late nineteenth-mid twentieth century, since status and appreciation were difficult to achieve in another way. It is furthermore explained that consumers' need to purchase and act as a symbolic report of their achievements (Wilk, 2002; Griffin et.al. 2004; Lertwannawit & Mandhachitara, 2012). Studies have shown that among teenagers, the act of purchasing, for example, gives a sense of belonging and comradeship (Busch, 2008).

In sociological theory, consumption is based on three aspects: identity formation, differentiation, and the transmission of symbolic meanings (Burgess 2003; Murphy, 2001; Warde, 2002; Wilska, 2002). Reasons why consumers consume are often linked to the pursuit of happiness. Some even claim that consumerism is un-equitable to happiness and true satisfaction (Smith in Busch 2008). It is argued that for true satisfaction or happiness, a shift from being a consumer towards being a citizen is necessary (Morgan, 2003; Clark, 2008; Spaargaren & Oosterveer, 2010). This is supported by Marx's notion that 'Human emancipation will only be complete when the real, individual man has become a species-being' (Marx, 1818). Busch (2008) proposes that this shift can be achieved through three principles, namely, justice, which refers to the act of individuals to protect others from harm; beneficence that refers to the act of sharing amongst society members; and prudence, referring to the act of protecting one's social status, not necessarily improving it but simply avoiding the decimation of personal status. Two of these principles, namely justice and beneficence are viewed as social virtues. Only prudence is related to the self, the individual.

During the 1950s excessive consumption (consumerism) and materialistic values pertinently impeded on social virtues by alienating or placing subjects in isolation and encouraging the importance of the 'self'

© University of Pretoria

above the importance of society (Sagoff, 1988; Morgan, 2003). Marketing strategies in the 1950s encouraged this behaviour. While the purpose of marketing previously aimed to control and suppress fears, marketing and product development started to take note of consumers' emphasis on self-worth (Smith, 2003). No longer did the consumer want to conform, or purchase mass-produced products that fulfilled the needs of average citizens. Consumers now wanted specialised goods that 'defined who they are' (Lee et al., 2009). In both economic and political agendas this became a concern for the once 'controlled - docile' citizens who had started to recognize their freedom to choose, the power in consumption and ultimate voice (Holzer, 2006). The process of individualisation created the social conditions for modern consumerism to flourish by providing the opportunity for marketers of goods to step in and amplify the desire of consumers to find and express a 'self'. Individualism is contrary to human nature in that it blinds consumers to the needs of others and creates an ideal of individual sovereignty - 'radical individualists live life completely for their own sake, failing to develop and maintain lasting social relationships' (Donohue-White, 1999).

3.2.5 The 1960s

The sixties saw the rise of the Hippie-era and numerous other consumer protest movements. These movements rebelled against the materialistic values of society, but more so against government control and encouragement of relentless consumption (Busch, 2008; Curtis, 2009). Considered as one of the most influential individuals, President John, F Kennedy not only introduced the legislation for the rights of working women in 1963 by commissioning the Status of Women and the creation of the Equal Pay Act, but also passed the Consumer Bill of Rights (Cady, 2009). With the enactment of President John F. Kennedy's Consumer Bill of Rights, consumption was viewed by many as protected action. Subsequent presidents still encourage this stance and have even contributed their own input. J.F. Kennedy's original Consumer Bill of Rights with additional amendments from subsequent presidents as taken from (Porter & Bogusky, 2010), were:

1. The right to safety: to be protected against the marketing of goods which are hazardous to health or life (J.F. Kennedy). 'To expect that his health and safety is taken into account by those who seek his patronage' (President Richard Nixon, 1969).

2. The right to be informed: to be protected against fraudulent, deceitful, or grossly misleading information, advertising, labelling, or other practices, and to be given the facts he needs to make an informed choice (President J.F. Kennedy). 'The right to accurate information on which to make his free choice.' (President R. Nixon) 'To recognize the right to consumer education' (President Henry Ford).

© University of Pretoria

3. The right to choose: to be assured, wherever possible, access to a variety of products and services at competitive prices; and in those industries in which competition is not workable and government regulation is substituted, an assurance of satisfactory quality and service at fair prices.

4. The right to be heard: to be assured that consumer interests will receive full and sympathetic consideration in the formulation of Government policy, and fair and prompt treatment in its administrative tribunals.

The 1960s was not only an important era for the development of consumer policies but also spurred commercial marketing and saw the rise of minority sub-fields such as macro and social marketing (Miller, 2005:62). Although slow at first, advertising and marketing gained considerable momentum during the 60s through the use of television that enabled industry to reach consumers in the comfort of their own homes (Porter & Bogusky, 2010). The act of shopping also changed, because the old corner shop was replaced by supermarkets, department stores and even superstores (Harris & Ogbonna, 2001). Although retailing in general showed the biggest evolution during the 1970s (Mulhern, 1996), it is important to take note of the shift in retailing power that was due to the abolishment of The Resale Price Maintenance Act (RPM) in 1964. Prior to 1964 the RPM acted as a regulatory mechanism regarding retailers' pricing strategies. With the Act removed, free market trading was initiated (Harris & Ogbonna, 2001). The work of Pommering (1979) explains that the power shift moved through three distinct periods: from 'manufacturers as kings' built upon post-war shortages during the 1950s; to 'consumer as kings' characterised by manufacturer branding in the 1960s; to 'trade is king' during the 1970s where retailers became increasingly powerful and concentrated (Harris & Ogbonna, 2001).

3.2.6 The 1970s

Riding on the coat tails of the Equal Pay Act (1963 – President JF Kennedy) the '70s saw educational opportunities extended to women (Cady, 2009; Wetzel, 2010). In less than a decade, women went from being discouraged to work outside the home in the 1930s to being legally encouraged to pursue professional endeavours in the 1970s (Wetzel, 2010). By 1978, over half of all families in America had two steady incomes compared to only one third in the 1950s (Cady, 2009).

The 1970s are viewed as an era in which the importance of self-actualization was emphasised. It is said that the works of Werner Erhard (who valued Abraham Maslow's theory of self-actualisation) played a crucial role in influencing not only American society but also people all over the world (Schulman, 2002:97; Schor, 1999:43). The idea of personal self-fulfilment once again encouraged individualism. Consumers now not only continued to consume in order to satisfy lower order needs but also felt

© University of Pretoria

compelled by marketing strategies to consume more, in order to meet higher order needs (Hendon, 1975:46). The concept of 'lifestyle' marketing was introduced and proved to be very successful in encouraging consumption. Enticing consumers to desire and want a certain lifestyle instead of only a specific product made a positive contribution to promoting retail sales over a broad spectrum of consumer goods (Ger & Belk, 1995; Fitchet, 2001).

3.2.7 The 1980s

For retailing the eighties is a reminder of a continued power struggle between retailers and manufacturers and a war among retailers to gain the ultimate competitive advantage. The concept of the 'one stop shopping' was introduced as a way to attract and gain customer loyalty (Harris & Ogbonna, 2001). Location of retail sites also became increasingly important and formed an integral part of competitive strategies. It was argued that the location of retailers in the 1980s was pertinent to their success (Fernie, 1997). It is estimated that the number of superstores and hypermarkets in the UK almost tripled (Fernie, 1997).

Another factor that played a major role was the transformation of the supply chain. Development regarding an extensive centralised network of information systems received attention. This enabled centralised purchasing and distribution. The introduction of the electronic point of sale system (EPOS) in 1986, not only enhanced efficiency and speed of transactions but assisted retailers in tracking consumers' purchasing behaviour. With this data captured, retailers could start to forecast sales and therefore plan production and supply (Harris & Ogbonna, 2001; Gustafsson et al., 2006:23).

From a political point of view, it is interesting to note how governing bodies in the USA and UK started to strategise like business entities. Statements like those made by Margaret Thatcher, a former UK prime minister, 'there is no such thing as a society, but only individuals' continued to promote individualism (Miller, 2005:15). It has been said that during the Reagan and Thatcher eras the idea was instilled that society should not care about the well-being of others and that average consumers are entitled to spend their hard earned money as they please (Ede & Calcich, 1999). According to Curtis (2009) this tactic of encouragement was employed to appeal to the masses. However, Miller (2005:15-39) argues that this presented proof that politicians were increasingly absorbed in the economic thought and ideal of capitalism because, from an economic perspective, individualisation represents the atomisation of markets (Anspaugh, 2007).

3.2.8 The 1990s

The emancipation of women had a major and significant impact on social structures all over the world. With more women working, a change of the 'housewife' profile of the modern consumer became

© University of Pretoria

eminent (Miller, 2005:34). During the 1990s marketing and retailing not only had to change strategies to accommodate the surge of male and child consumers, but also the increased need for convenience products (Valkenburg, 2000; Bakewell & Mitchell, 2006). Consumers in the 1990s demanded quick, easy-to-prepare grocery foods to match their fast-paced lifestyles (Morrison, 2001). This was supported by President Bill Clinton's amendment - (adding a fifth consumer right) to the Consumer Bill of Rights in 1994. To accommodate the change taking place in consumers' lifestyles this adjustment was made: 'The right to service - the right to convenience, courtesy, and responsiveness to consumer problems and needs and all steps necessary to ensure that products and services meet the quality and performance levels claimed for them' (President Bill Clinton, 1994).

With the internet becoming a worldwide phenomenon, information was now available to all and enabled consumers to become more conscious about their rights (Bakewell & Mitchell, 2006). In response, marketing and retailers both became more vigilant about profiling their consumers and anticipating their subsequent needs. Jobber (2010:12) argues that this approach of analysing consumers and developing products that reflect consumers' needs equates to dull marketing. Marketing instead is supposed to 'create' – 'push' rather than 'reflect' – 'pull' consumer demand. Consumers should be 'teased, tantalized and tormented by deliciously insatiable desire' (Brown in Jobber, 2010:12). This approach to marketing is referred to as 'retro-marketing' and employs tactics of exclusivity, secrecy, amplification, entertainment and 'tricksterism'. Exclusivity can be created by deliberately withholding a product from consumers. This often encourages the 'buy now while stocks last' effect (Jobber, 2010:12). Secrecy has the intension of alluring would-be purchasers with the aim to heighten interest. Amplification is designed to encourage consumers to talk about the product and often relies on promotional strategies that create an instant awareness through tactics of shock or excitement. The principle of entertainment is said to be 'modern marketing's greatest failure in that marketing has come to be analytical and rigorous and has lost its sense of fun (Brown in Jobber, 2010:12). Marketing is supposed to engage with consumers through entertainment. In fact, it has come to be assumed that by neglecting to entertain consumers you would have lost their attention.

It could be said that 'tricksterism', which is the last principle of retro-marketing, is also most controversial because if it is not employed with care is could have disastrous effects. Tricking people into buying a product could be perceived by consumers as clever even funny. However, some consumers might feel that the company has deceived them, which could lead to distrust and eventual loss in previously loyal customers. The importance of consumer loyalty became a critical point of interest in many companies during the late 1990s. Relationship marketing was considered a key ingredient to the success of an organisation. Relationship marketing shifted the focus of marketing from attracting to retaining existing

© University of Pretoria

consumers. Retention of consumers was considered as critical since retention rates have significant effects for future revenue (Jobber, 2010:162).

Internet retailing was soon a norm as not only does it save time but it has also become a necessity that neither retailer nor consumer can do without. The internet, in terms of relationship marketing, provides an easy gateway and platform through which a range of businesses like retailers can communicate and analyse current and prospective client satisfaction and needs. It is argued that the internet together with other software-based systems, facilitate programmatic control over content and messaging, and have enabled the marketing of merchandise in such a way that it not only fitted individual customer profiles but also profited the industry by removing the physical constraints of the bricks and mortar store floor, as well as the labour costs for staff and distribution (Katros, 2000).

For South Africa in particular, the 1990s meant the end of the apartheid era. With international sanction relief, industries and consumers were exposed to more international trading opportunities.

3.2.9 Beyond 2000

The technological advancement experienced during the '90s generated new avenues for a range of industries to understand, reach out to and capitalise on unfulfilled consumer needs (Kaptein & Eckles, 2010). Whereas new technologies, like the electronic point of sale (EPOS), television and cellular telephones may have fuelled consumerism, the growing use and instant gratification presented by the internet definitely spurred demand from the consumers' side (Brady, 2000). The internet in particular has revolutionised the way companies advertise, develop and distribute products (Bernhardt et al., 2007). It has been said that digital technology should be applauded for replacing the 'mass marketing' of the twentieth century with 'marketing for one' (Brady, 2000; Bernhardt et al., 2007).

Currently consumers are either permanently or at least for a good part of the day connected to the internet either via personal computers or cellular phones. With electronic systems like 'cookies' and 'crawlers' in place industries are now able to track any individuals' activities online (Dwyer, 2009). Unknowingly consumers are in charge of developing and altering production processes of consumables by just browsing the internet. On the flip side, authors such as Pariser (2011:4), warn consumers about the negative consequences of 'taste profiling' presented by electronic 'cookies, crawlers and filter bubbles'. Most targeting systems like crawlers tend to analyse consumers' consumption patterns in order to use that information to establish consumer preferences, hence the term 'taste profiling' (Dwyer, 2009; Pariser, 2011:11). Findings indicate that although some consumers are concerned about privacy issues, most consumers have accepted and quite like the idea of 'taste profiling' (Dwyer, 2009). However, it seems that taste profiling is soon to be replaced by the growing use of a technique called 'persuasion

© University of Pretoria

profiling'. The idea behind persuasion profiling is that electronic systems will soon be able to detect an individual's personality and cognitive traits and, based on that information, the pitch of an advertisement will be altered (Kaptein & Eckles, 2010; Pariser, 2011:4). A case in point: should an individual present attributes that are more prone to succumb to authority, a website that sells books, for example, might target the consumer by using word phrasing such as 'expert reviewer suggests...', whereas consumers who might present a high need for entertainment would be targeted with phrases like 'a new fun and exciting read...'. The main aim of 'persuasion profiling' is exactly that, namely, to persuade, encourage and influence consumers to purchase more (Kaptein & Eckles, 2010). Ironically this idea reflects the same principles that Bernay's theory on the 'engineering of consent' uses, as explained in Chapter 1.

With the ideal of individualisation strongly instilled and supported by politicians as well as consumers, industry is using the opportunity to entertain not only greater volumes, but also more effective classifications of consumers through the implementation of customisation. Where companies such as Nike introduced consumers to the possibility of designing their own shoes, and even offered the extra option of having their own initials embossed on the shoes, retailers such as Woolworths and Clicks were tracking consumer purchases through the use of loyalty cards with the aim of customising printed advertisements as well as ensuring a steady supply of preferred products (Bernhardt et al., 2007; Dwyer, 2009). The individualisation and customisation of commodities seem to have infiltrated every aspect of our lives and this trend shows no sign of slowing down (Donohue-White, 1999). In fact customisation today does not end with tangible consumer products but has even extended to the modification of the human body.

However, popular and growing in demand and application, it is argued that the economic and technological capabilities of industry today not only permit the rapid flow of information and communication, but they have also penetrated customisation as a very profitable approach that caters for a highly egocentric consumer 'Customisation is characteristically individual-centric, permissible to the masses by economies of scale and driven by a capitalist economy' (Anspaugh, 2007). With products and services currently being tailor-made, packaged and distributed according to consumers' specifications, industries benefit through assured profit whereas consumers experience a sense of power (Bernhardt et al., 2007). Often, this is a false sense of power, an illusion purposefully designed by industry to lull consumers to invest more time, effort and money in building the economy (Curtis, 2009). If the true intention of customisation is to provide consumers with a voice to express their desires, it could be that marketing today reflects the same mindset as that proposed by Bernay's during the 1920s. With this said, the question is, whether it is possible that the old saying of 'the more we try to change the more we stay the same' is true. It seems that when it comes to growing a brand, business or a global economy, the

© University of Pretoria

manipulation of consumer consciousness via mind mining, using or suppressing their desires and insecurities, whether applicable to yesterday, today or tomorrow, is a valuable starting point (Donohue-White, 1999; Bernhardt et al., 2007). Interesting to note is that marketing literature insinuates that the twenty-first century has begun to present a period of heightened awareness regarding consumer needs. This feature has resulted in societal and relationship marketing which focus on retaining consumers through fostering their needs rather than attracting consumers through manipulative tactics aimed at enticing consumers to purchase products even during times of hardship (for example, during an economic downturn) (Cronin, Brady & Hult, 2000; Jobber, 2010:162). Whether this can be confirmed as true might be questionable.

3.2 CONCLUSIVE REMARKS

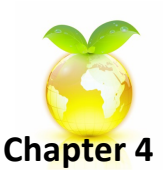
Several studies refer to the contribution of consumers' irrational consumption to climate change (Wilk, 2002, Alexander & Ussher, 2012). Attention has been drawn to the fact that the mind set of consumers needs to change, become socialised about ethical and sustainable behaviour and ultimately be accountable and take responsibility for the far-reaching consequences of their consumer decision making and consumption behaviour (McGregor, 2006). To address or change consumer behaviour is not a simple act. Understanding the fact that consumers per se change over time, and that behaviour will adapt due to situational factors such as marketing, economics and political influences, is very complex (Gustafsson et al., 2006:21). Consumer behaviour per its alternative definition includes a copious amount of thoughts, decisions and ultimate financial investments (Gustafsson et al., 2006:21-22). Røpke (1999) explains that consumers are willing to change but are 'locked in' due to circumstances that are deliberately created by the greater economic and political environment and out of self-interest. Consumer behaviour is also often viewed as an essential spoke that drives capitalism (Miller, 2005:4). Modern capitalism effectively works on the principle, 'do it, monopolise it and make as much money out of it as you can before the negative effects are discovered, and ensure that it takes as long possible before such effects are acknowledge' (Van Der Zee, 2007:48).

By accepting that consumers are the main driving force behind conspicuous consumption and ultimate excessive consumption (consumerism) would neglect the fact that history indicates that consumer consumption has been shaped by a much larger and very influential system called the economy (Røpke, 1999; Sanne, 2002). Donohue-White (1999) states that economic growth should not be sought for its own sake; instead what should become the norm is a longing for genuine human development of which one component is economic growth. Genuine human development is defined as actions involving growth that is aimed at 'human betterment and the increase of the common good' (Donohue-White, 1999).

© University of Pretoria

It is of significant importance to take note of the contribution that businesses and governments make to creating and encouraging environments that are conducive to increased consumption, often through marketing campaigns (Røpke, 1999). To assist consumers in taking responsibility for their decisions and actions requires that the link between consumers, consumerism, capitalism and climate change be no longer ignored (Miller, 2005:2; Storm, 2009).

© University of Pretoria



RELEVANT THEORETICAL PERSPECTIVES

This chapter delves into the relevant theoretical perspectives that were used to frame the research objectives, the research design and to support the methodology used in this study. This chapter will conclude with an exposition of the conceptual framework.

4.1 INTRODUCTION

Personal consumption of most consumer products is a major issue in terms of sustainability (Wilk, 2001; Oakley, Chen & Nisi, 2008). Sustainability is defined as the use of goods and services in such a manner that it satisfies needs and ensures a better quality of life for current and future generations without depleting natural resources. It is said that the diverse pleasures enjoyed by the current consumerist society come at an immense cost to the natural environment, humanity and eventually the economy (Kennedy, 2011). As cautioned by Vlek and Steg (2007), the escalation in material demand exacerbates the threat to sustainability at environmental and social levels. The existence of a relationship and interdependence between existing consumer behaviour and the deterioration of the natural environment is undeniable. Every decision and action consumers make or take has some impact on the natural environment (Jackson, 2005b; Oakley, Chen & Nisi, 2008). Whether existing consumer behaviour is responsible or not in terms of maintaining our natural resources is a matter of great debate amongst politicians, academics and consumers (Oakley, Chen & Nisi 2008). What seems undeniable is that consumers' current environmental awareness needs urgent attention in the sense that consumers need to have more knowledge of their contribution to climate change and become more aware of general support and skills that could assist them to abide by the principles of sustainable consumption.

Understanding the relationship between fresh produce consumer behaviour and climate change necessitated the study of various theoretical perspectives and models that introduced a diverse set of ideas and assumptions pertaining to motivational factors for current consumer behaviour and its ultimate mitigation. Jackson (2005a) is of opinion that a good theoretical model should be well-balanced in terms of parsimony and explanatory completeness. A historical review indicates that a variety of explanatory theories regarding consumer behaviour have been used by scholars with success. Initial theories derived from the social sciences such as psychology and sociology focused solely on the human intellect in terms

© University of Pretoria

of consumers' rational choice (Elster in Jackson, 2005a). The second wave of theories supported the use of socio-psychological/ expectancy value models that emphasised the influence of social factors as related to norms and values, for example, Fishbein and Ajzen's theory of reasoned action of 1980 and Ajzen's theory of planned behaviour of 1990 (Ajzen, 1991; Thomson, Haziris & Alekos, 1994; Chan & Lau, 1998; Choong, 1998; Kalafatis, Pollard, East & Tsogas, 1999; Chung & Pysarchik, 2000; Azjen, 2002). Currently dominant theories involve integrative assessment like the structuration theory of Giddens (1982) and the social practices model of Spaargaren and Van Vliet (2000) that study behaviour as part of a larger system. Often these theories emphasise the regulatory or constraining influence of external forces that is perceived as being beyond the consumer's control and governed by society, industry and government (Jackson, 2005a; Kennedy, 2011).

4.1.1 Unsustainable fresh produce consumption: just another bad habit?

"In the case of climate change, our failure – or perhaps more accurately our unwillingness – to disrupt routines and old habits of both consumption and production has led to massive injections of greenhouse gases into the atmosphere over the last century" (Carolan, 2010).

Recently an impressive set of theoretical and empirical research initiatives provided insight into the role that habits and more specifically 'bad habits' play with regard to unsustainable behaviour (Carolan, 2010; Nayak, 2011; Barnett, 2013). Many authors agree that habits are essential for consumers to function effectively on a day-to-day basis (Jackson, 2005a; Jacoby, 2007) by reducing unnecessary mental effort to such an extent that it bypasses cognitive deliberation entirely and become almost automated, thus making it increasingly difficult to alter or change the behaviour. Before it is possible to enable change or mitigate unsustainable behaviour it is essential to understand how individuals establish habits (Jackson, 2005a).

Habits are formed through repetition and reinforcement (Jackson, 2005a). Anderson's (1982) three-stage model for the formation of a habit strongly reflects Nonaka's SECI model as explained in Chapter 2. According to Anderson (1982) the first stage involves gathering and processing information relating to a particular choice or action. This stage relies on **explicit, declarative knowledge**. The second stage involves the application of newfound knowledge in an almost trial and error stage in which the successful performance of a particular action or behaviour reinforces subsequent behaviour. If the action is associated with or results in a constant positive outcome, a 'cognitive script' is developed which can be repeated over time with very little cognitive or mental effort. The last stage of habit formation is where behaviour becomes so automatised that it reflects **tacit, procedural knowledge** and bypasses rational

© University of Pretoria

deliberation almost completely. Alba and Hutchinson (1987) refer to habitual behaviour as automated behaviour and define it as the result of the over-learning of a specific skill to the extent that it requires no conscious control. Automaticity has a strong impact in terms of saving consumers' time during decision-making and this strengthens and instils the already ingrained behaviour even more.

With regard to fruits and vegetables, most consumers purchase these products on the basis of automaticity. The reason for this is twofold: first, it is viewed as routine behaviour where the habit (Jackson, 2005) of consuming a daily apple meant regular purchasing of an 'econopack' weekly, an action that could be carried down from one generation to another. Behaviour is thus imitated. In general, consumers perceive fresh produce as a much lower financial risk compared to other products purchased (Nahman et al., 2012; Erasmus, Donoghue & Dobbelstein, 2014). Consumers are furthermore also mostly able to absorb the financial loss incurred due to unwise fresh produce purchase decisions. Trying to mitigate ingrained behaviour that has little or no financial incentive is difficult. It has been observed that consumers are unlikely to alter their habits if an alternative behaviour does not provide an incentive that is both instantaneous and recurring (Jackson, 2005a).

At face value mitigation of unsustainable consumer behaviour, i.e. 'bad habits', seems simple if it is assumed that consumers would be encouraged to alter their practices merely by informing them that their existing behaviour is a concern. "The main objective in consumption is to help create the social world and to find a credible place in it" (Douglas, Gasper, Ney & Thompson in Raynor & Malone, 1998:144). However, a change in habits implies a real challenge, as behaviour is often so ingrained through personal beliefs and social norms that change seems almost unthinkable. Current consumer behaviour is rooted in a person's way of life that is driven by aspirations to achieve a better lifestyle through the acquisition of material goods. Thus to change consumer practices requires a revision of their existing perception of a quality lifestyle is not attainable through the sustainable acquisition of material goods. An additional concern is that consumers are often 'locked in' by infrastructure, which, in practice, severely limits consumer choice (UNEP, 2008; Kennedy, 2011) in that consumers who want to amend 'bad habits' often struggle because current infrastructure fails to make this possible. It is said that change is only possible if the three components, personal beliefs, social norms and infrastructure are addressed simultaneously through providing motivation, ability and opportunity (UNEP, 2008). Lewin (1951) suggested that behavioural change involves the 'un-freezing' of existing behavioural practices and the elaboration of new and preferable alternatives. He argued that the process of 'un-freezing' existing habits needs to take place in a group environment and to involve open and supportive communication amongst all relevant role players. This implies that it will happen in the context of consumers and retailers.

© University of Pretoria

4.1.2 Rational choice and mitigating unsustainable fresh produce consumption practices

Many theorists agree that consumers' purchasing behaviour is a complex phenomenon and that it does not make sense to associate consumers' motivation for purchasing consumables with rational choice (Jacoby, 2007). Criticism against rational choice argues that the theory neglects to recognise the important role of influential factors such as emotions and attitudes that are often embedded in the unconscious mind. Many consumer decisions can therefore not equate to rational thinking because it implies that consumers will need to process information consciously. The reasoning behind rational choice is that consumers make decisions by conscious deliberation of the individual costs and benefits. This involves considering different courses of action then choosing the option that maximises expected net benefits to reflect the intellectual underpinnings of classical economics (Jackson, 2005a; Jacoby, 2007).

Critique against rational choice emphasises that a consumer's day-to-day behaviour is often referred to as habits that are carried out with very little conscious deliberation. This would void the idea that consumer behaviour is based on rational choice (Jackson, 2005a; Barnett, 2013). A view that many authors subscribe to is that habitual behaviour and automaticity are essential for consumers to function effectively, also contradicting the notion of rational choice theory that consumer behaviour is grounded in deliberate thought (Alba & Hutchinson, 2000; Jackson, 2005a; Jacoby, 2007).

However, on reviewing the logic that underpins the formation of habits it is evident that the presence of rational thinking and choice is undeniable. Rational deliberation is a critical factor during the first stage of habit formation where consumers gather, interpret and select information on which they will base their future behaviour. Consumers also rely on rational deliberation to evaluate whether subsequent behaviour produces a positive result or not. Only later on when decisions become repetitive does it become possible to say that rational choice is less prominent. The question, however, is, to what extent? Literature proposes that habitual action is only possible for as long as the situation or social context remains stable (Jackson, 2005a). It is therefore inferred that consumers might often find themselves relying unconsciously on rational thinking to manage habits for the sake of ontological security.

Rational choice is also the key to 'un–freezing' existing habits (Lewin in Kaminski, 2011:1210). It appears that empirical evidence supports the fact that the most plausible action plan for the mitigation of sustainable consumption includes deliberate discursive social change that implies rational choice (Jackson, 2005a). Because rational choice is defined as 'choosing the best means to the choosers' ends' (Posner, 1975), it also implies cognitive deliberation of all relevant information. It is therefore easy to see

© University of Pretoria

the value of rational choice with regard to amending unsustainable fresh produce behaviour amidst times of climate change. However, current issues regarding the mitigation of sustainable consumption include not only consumers own cognitive functioning but also the role of social structure.

According to Posner (1975) the possibility for omniscience (knowing it all) is impossible as it suggests that rational choice need *not* be a 'conscious choice' but can be a product of the unconscious mind, i.e. 'unconscious rationality'. Since Socratic times it has been understood that human behaviour can be rational, emotional or a combination of the two (Jacoby, 2007). The possibility of an unconscious rationality is further supported by the fact that rational choice assumes that consumers should always have appropriate and sufficient information at hand and that the market-place will support consumers in this matter. This thus means that rationality is bound by the available choice set as provided by social structures. With regard to the sustainable consumption of fresh produce, it can be said that the combination of consumers' inability to acquire necessary information regarding sustainable consumption, together with the lack of support received from social structure, often leads to ignorance.

Ignorance is frequently the result of consumers' dependence upon 'low effort' or "low-involvement' decision making, which is essential for the purpose of removing cognitive/mental effort in everyday life (Alba & Hutchinson, 1987). This once again reflects the criticism against rational choice, which states that consumers often take mental short cuts in the form of habits, routines and heuristics to reduce cognitive processing. With regard to fresh produce purchasing it is evident that consumers can easily become ignorant about the impact of their existing behaviour. Because fresh produce purchasing is regarded as a 'low effort' purchase that requires little involvement, and is generally characterised by seeking little or no information, it tends to instead rely on heuristics to guide decision-making. This is an area of concern because it is contrary to what seemed to be a possible solution for mitigation of unsustainable fresh produce behaviour; consumers fail to attend to information or to deliberate the consequences of their behaviour during low-involvement purchasing. Little change towards sustainable consumption can therefore be expected by simply improving or providing extra information.

It is also important to take note of two important attributes concerning rational choice. First, although rational choice is viewed by many as an essential part of consumer behaviour, the level of consciousness involved in this process is inconsistent. Rational choice, when making fresh produce consumption decisions as one of many of general daily activities, might be less prominent and take the form of an unconscious rationality. Because of this it is essential for consumers' routine behaviour to be coaxed from the consumer's unconscious mind into a conscious state for the purpose of deliberation and ultimate

© University of Pretoria

mitigation of existing behaviour. In other words, consumers need to become more aware of and pay more attention to fresh produce consumption behaviour. Converting a low involvement decision into a higher-involvement decision-making process is necessary for the mitigation of unsustainable consumption practices. Secondly, the general assumption that rational choice will lead to a rational output is also debatable. Jacoby's (2007) statement that rational choice only relates to the expected or perceived outcome and that it is not intended to be aligned with the actual outcome, is often mistakenly understood and misread, thus instigating unnecessary criticism of the theory of rational choice.

4.2 RELEVANT THEORETICAL PERSPECTIVES

Understanding consumer behaviour and the policies that might influence consumer behaviour rest either implicitly or explicitly on certain kinds of theories and/or models that indicate what consumer behaviour is; what its antecedents are; how it is shaped, influenced and or constrained (Jackson, 2005a). Through the process of writing this thesis it has become evident that not only is consumer behaviour and the underlying motivations incredibly multi-faceted, but so also is trying to derive answers from a single or an universal causal model virtually impossible. This chapter therefore provides an overview of the different perspectives and models that have had an influential role in terms of gaining insight, providing a framework and assisting in testing the strength and interdependence of different kinds of relationships relevant to this particular study.

Because this study focused solely on Westernised industrialised consumption patterns, it was decided to include the use of theories only developed in the last 25-year period. This does not mean that older theories such as those by Weber (1905), Veblen (1899) or Marx (1844) were not consulted. Rather it simply states that the main guidance for this study was drawn from more recent theories, which do, however, reflect assumptions of older theorists, to provide a more holistic and up-to-date perspective.

For this study in particular, it was critical to review a broad spectrum of theories that included assumptions regarding consumers' intrinsic (cognitive ability) and extrinsic (social context) attributes. Although not all the theories were included in the final draft of the conceptual framework, it was decided to include a short description of all the theories that contributed significantly. In order to explain their relevance, the following section will commence with a brief expose regarding the theory of reasoned action and planned behaviour followed by the theory of ecological modernisation. Structuration theory (Giddens, 1984) is followed by the social practices model (Spaargaren & Van Vliet, 2000) and will receive

© University of Pretoria

more attention due to the fact that these theories were critical in directing the general thought behind the structure of this thesis, the research design, the methodology and final interpretation of the results.

4.2.1 The attitude-behaviour paradigm

Originally developed by Azjen and Fishbein (1980), the theory of reasoned action is perhaps the best-known social–psychological attitude-behaviour model to date (Jackson, 2005a). It extends the original idea captured by the expectancy value theories (of which rational choice is an example) and states that consumer behaviour is motivated by the expected outcome. It aims to illustrate how normative social influences, namely attitudes, also contribute to behavioural intent. It deviates considerably from the standard expectancy–value theory in terms of one important aspect, namely the inclusion of subjective norms. Subjective norms are said to influence consumer behaviour through consumers' perception of how most people think a person should behave. In short, the theory of reasoned action stipulates that consumers' behaviour is motivated through personal perception of the outcome, their current attitudes to the situation, plus what the consumer thinks significant others would view as socially acceptable behaviour.

The theory of planned behaviour (Azjen, 1990), follows the same basic principles as proposed by the theory of reasoned action although it also includes the actor's/ consumers' perceived control over the outcomes of their behaviour as a motivational factor. In essence, both these theories ascribe behaviour to consumers' attitudes and expectations. Attitude is understood as comprising motivational and normative components that are assessed by the individual when making decisions. Motivational components refer to those aspects that will encourage behaviour through a reward system, whereas normative components refer to inherent norms and value systems that guide behaviour. According to Azjen and Fishbein, ultimate consumer behaviour is therefore the result of an individual's assessment of the consequences of different behaviours and how they relate to personal rewards or gain within a specific setting. These models focus mainly on establishing a clear theoretical link between evaluative criteria, and a person's attitude, intention, behaviour and/or ultimate satisfaction.

When reflecting on the principles of these two theories it can be deduced that a consumer's overall attitude and ultimate behaviour towards the environment and waste management could be derived from basic beliefs and feelings, although it is also controlled by relevant external or internal influences that are perceived consequences. Both the theory of reasoned action and the theory of planned behaviour have been successfully applied to a wide variety of topics, for example, physical activities, smoking,

© University of Pretoria

complaining, internet use and green marketing (Thomson, Haziris & Alekos, 1994; Chan & Lau, 1998; Choong, 1998; Kalafatis, Pollard, East & Tsogas, 1999; Chung & Pysarchik, 2000; Yu & Wu, 2007).

Critique, however, of these theories is that they tend to not only rely or fixate on attitude as a variable that has proven to be inconsistent with regard to time and space, but they also lack the ability to underpin detail and important information regarding consumers' relationship with greater society, i.e. the system of provision (in this instance the retailing industry). Some of the severest criticisms against the attitude-behaviour models are based on the inadequacy of dealing with reasons, intentions and motives of the consumers and views the actor 'in isolation'. It is also found lacking because of its limitation to one form of consciousness only, namely discursive consciousness, and disregards the important role of practical consciousness. This point is better understood within the framework of structuration theory. To fully grasp the assumptions and why it was decided to include structuration theory, a brief discussion of the ecological modernisation theory will be presented, followed by a discussion of structuration theory that has had a profound influence on the social practices model that was used to structure the conceptual framework for this research.

4.2.2 Ecological modernisation perspective

Joseph Huber (1980) stipulated that ecological modernisation is a school of thought that argues that moving towards environmentalism will benefit the economy (Buttel, 2000). Ecological modernisation has gained considerable attention during the last decade from both academics and governmental policymakers worldwide. However, it has mainly been employed as a strategy for policy making (Buttel, 2000) because it focuses on the reorientation of institutions and industries towards more sustainable ecological practices and outcomes. The largest critique against it is that it is still encouraging the development of the industrial system (Spaargaren, 1997) and tends to pay little attention to changing the relationship between consumers and suppliers or changing the capitalistic mode of production (Spaargaren, 1997; Berger, Flynn, Hines & Johns, 2001). According to Giddens (1990) both capitalism and industrialism are at the core of modern societies. This is a problem because it has been proven that current environmental problems are inherently connected with those institutions that give modern society its industrial character (Spaargaren, 1997).

For the successful mitigation of industries to become more sustainable it is essential to note the important role that 'knowledgeable and capable agents' (Spaargaren, 1997; 1999, Spaargaren & Oosteveer, 2010) have to play. Unfortunately ecological modernisation discourages the inclusion of agents (i.e. consumers) in the mitigation of climate change as it fails to recognise that individual

© University of Pretoria

consumers are able to instigate and contribute notably towards positive change. This is based in the assumption that consumers are too individualistic and self-reliant and therefore will reluctantly participate in activities that work against their own interest. It assumes that it is naive to ascribe the responsibility for mitigating such as big problem as climate change to individual consumers (Princen, Maniales & Conca, 2002:133). Ecological modernisation believes that the responsibility to mitigate climate change should fall on the shoulders of industry and government who have more control and resources to assist in combating climate change (Huber, 2008).

In comparison to structuration theory that emphasises the duality of structure and aims to identify and explain behaviour from the perspectives of both the 'agency' (i.e. consumer) and 'structure' (i.e. social institutions like retailers) not necessarily pertaining to climate change, ecological modernisation focuses on the actual restructuring of modern institutions and industries to follow environmental specific interests, perspectives and rationalities (Spaargaren et al., 2006). This relates to sustainable development as discussed in Chapter 2 as it pertains to production and its regulation. Although this should be viewed as positive it is this attribute that also evokes the most critique.

Attention has only more recently been directed towards an explanation of the impact and importance of the consumer in this saga. The development of the social practices model of Spaargaren (2003) began to create avenues to facilitate understanding and/or enable opportunities for sustainable consumption. Spaargaren & Mommaas (2006) argue that ecological modernisation should encompass more than just realigning industry practices in terms of eco-efficiency. A mind shift is needed to combine a focus on innovation and eco-rationalisation with an equally important emphasis on the social, especially the meaningful behaviours of consumers. In order to understand the social practices model it is required to discuss the basic assumptions of Anthony Giddens' (1984) structuration theory that provides the fundamental arguments for its final design.

4.2.3 Structuration Theory

It is clear that mitigation of climate change will not be as a result of the change in attitudes of separate individuals, but that it requires the input and contribution of all core role players in the greater society. According to Jackson (2005a) the internalist–externalist dichotomy in theories of consumer behaviour mirrors a long-standing debate concerning the relationship between agency (human action) and structure (the social institutions that constitute the framework for human action), that questions whether humans are capable of autonomous, directed social action; or whether they are locked into historical and social processes over which they have no control. As discussed in Chapter 2, it is evident that the main reason

© University of Pretoria

for climate change is due to consumers' 'individualistic inclination' that refers to isolation of human beings from one another within the greater society and the natural environment. Industry practices, in particular marketing strategies, are often held responsible for creating this situation. Aggressive advertising and marketing are held liable for enticing consumers to conform to materialistic ideals that seldom acknowledge the needs of others, thereby promoting individualism that refutes the principles of sustainability (Bocock, 1997:76). This would therefore reflect the notion that consumers are locked in by structure and therefore compliance to the principles of sustainability is unlikely. Achterhuis (1986 in Mol & Spaargaren 2000) explains that the mitigation of climate change is feasible only when environmental goods are no longer perceived as 'collective goods', but as 'communal goods'. Shifting the focus to communal goods presupposes a sense of shared responsibility between consumers, industry, the micro- and macro environments.

Structuration theory as developed by Anthony Giddens (1984) offers a practical alternative to previous socio-psychological models because it makes possible a sociologically contextual approach in which agents and structure take an equal stance and shared responsibility. Important to note is that structuration theory draws together two principal strands of thinking. In the structuralist tradition the emphasis is on structure that creates constraints, whereas in the phenomenological and hermeneutic traditions the human agent is the primary focus. Furthermore structuration theory offers an account of social life in terms of social practices developing and changing over time and space to recast structure and agency as a mutually dependent duality. The theory of structuration notes that social life is more than random acts of consumer behaviour. Structuration theory suggests that social life is not merely a mass of micro-level activities neither can it only be ascribed to macro-level influences. To truly understand and explain society one needs to study the relationship between the human agent and social structure (Gauntlett, 2008:99). Giddens' critique against other theorists includes his view that symbolic interactionism ignores the importance of structure. He opposes the structural idealism of Levi–Strauss (1963:277) and (Lizardo, 2010) for ignoring the undeniable role of human agency in favour of essential systems of codes that drive individuals in specific directions. He also criticises macro-structuralists like Peter Blau, for not acknowledging the reflexive capacity of human agents (Turner, 1987).

Although the structuration theory was chosen to assist in the understanding of consumer consciousness and environmental behaviour it does not imply that this theory proposes a 'ready-to–use' recipe for studying consumers' environmental behaviour since it is a general, sociological action theory that does not even refer to environmental behaviour. Structuration theory is best explained in terms of a series of "sensitising concepts" (Giddens, 1984). As a result, much of Giddens's structuration theory is a series of

© University of Pretoria

definitions of concepts that are presumably meant to denote the important processes in the social world. The following depicts all the relevant concepts pertaining to structuration theory and tries to illustrate the relationship between them.

4.2.3.1 Agents versus structure

In comparison to previous theories like ecological modernisation where the importance and influence of the agent is often overlooked, structuration theory proclaims that agents are important role players because they are equipped with free will and knowledge. Giddens states that it is essential to understand the agent as knowledgeable (Kaspersen, 2000:22), “A conception of action... has to place at center the everyday fact that social actors are knowledgeable about the conditions of social reproduction in which their day-to-day activities are enmeshed” (Giddens, 1984). According to structuration theory, consumers draw on ‘stocks of knowledge’ to make sense of and to apply knowledge in their daily activities. Giddens suggests that agents rely on knowledge and routinely "reflexively monitor" not only their own daily behaviour but also the contexts and settings surrounding them. This routine maintenance is viewed as an important aspect because it tends to illustrate and deepen the agents “theoretical understanding' of the grounds of their activity", and enables them to explain and elaborate discursively why they act in the manner that they do (Shields, Dervin, Mitchell & Goswami, 1996).

In contrast to agents, structure refers to the ‘rules and resources’ or recurrent patterned arrangements that influence or limit the choices and opportunities individuals possess. Giddens (1984) regards structure not merely as constraining, but also as enabling human agency seen as general behaviour.

4.2.3.2 Human agency

Human agency, in Giddens’ (1984) formulation, is the capacity to make a difference that is also known as the structuration process, transformation capacity (Rose & Scheepers, 2001). According to Giddens (1984), agency is intimately connected with power, which is the result of knowledge. This is viewed as one of the defining characteristics of structuration theory, since the loss of transformational capacity equals powerlessness (Rose & Scheepers, 2001). Power is said to involve the exploitation of resources that are often categorised as either authoritative or allocative in nature. Authoritative resources involve the coordination of the activity of human agents, whereas allocative resources stem from the control of material products or aspects of the natural world. Giddens (1984) defines resources as an integral part of structure due to their immense control of structure.

Applied to the context of this study, structure as defined by structuration theory refers to the greater society and the rules and regulations that consumers move within. Therefore it could be said that

© University of Pretoria

consumers are locked in by current social norms and values e.g. status- and materialistically-driven inclinations that fail to abide by the principles of sustainability. Consumers' current practical consciousness tends to reflect habitual behaviour usually aimed at the fulfilment of unrealistic aspirations. One could furthermore assume that consumers struggle to conform to the principles of sustainability because they might have general knowledge about climate change but find themselves locked in by structures that control and withhold necessary knowledge and resources that could support a more sustainable lifestyle.

4.2.3.3 Duality of structure

Agency and structure are intertwined, interdependent and dependent on each another. Giddens' (1984) structuration theory argues for the 'duality of structure', where social structure is both the medium and the outcome of social action. Dualism relates to the fact that the two independent sets of phenomena of structure and agency rely and are dependent on one another for progression (Rose & Scheepers, 2001).

Applied to the context of this study, it was assumed that socialisation over the years had taught consumers to become more dependent on, and abide by the rules of existing social structures. This alienated them from their responsibilities as consumers and in doing so limited the 'stock of knowledge' that, in turn, resulted in consumers feeling powerless thereby limiting their reflexive monitoring of current behaviour. Current social structures have shown very little change recently because of consumers' docile relationship with industry structures like retail, that actually reflects signs of reification and powerlessness. To mitigate climate change, consumers need to be socialised in such a manner that they re-evaluate the current social structure and encourage change where need be. The idea is not to reveal the restrictions consumers encounter, but to emphasise the important role and contribution consumers (agents) make in the creation of social structures (Spaargaren, 1997; Rose & Scheepers, 2001). This would give their actions meaning and instil a sense of moral normative value. This means that social structures are the medium of human activities as well as the result of those activities. Social structures not only restrict behaviour but can also create possibilities for human behaviour. Duality of structure is therefore essential for the mitigation of unsustainable consumer behaviour in that combating climate change will not be the result of a change in attitudes made by individuals, but will require the input and contribution of all core role players within the greater society.

4.2.3.4 Structuration and reflexive monitoring

Structuration is defined as the process whereby the duality of structure evolves and is reproduced over time and space. At the heart of structuration lies not only interaction between agents and structure but also reflexive monitoring action. Reflexive monitoring refers to an agent's conscious effort or ability to

© University of Pretoria

alter social structure. Giddens (1984:191) states that all structural properties of social systems are the medium and outcome of the contingently accomplished activities of situated actors. The reflexive monitoring of action in situations of co-presence is the main anchoring feature of social interaction.

Applied to context of this study, it can be speculated that consumers who are breaking away from the traditional consumerist society and who are engaging in pro-environmental behaviour by demanding industry to incorporate and trade more sustainably, are in fact allowing for creating social reflexivity. Research and ultimate education of consumers as active 'agents' are therefore important because the knowledge gained is potentially emancipatory and conducive to mitigating unsustainable consumption practices.

4.2.3.5 Practical versus discursive consciousness

Reflexive monitoring occurs at two levels of consciousness, namely discursive and practical consciousness. Discursive consciousness denotes the capacity of people to give reasons and to rationalise their conduct. Practical consciousness refers to the agents' everyday knowledge that depends on a wealth of commonly accepted knowledge of general everyday life skills. Giddens (1984) also acknowledges that human agency also has an unconscious dimension that is viewed as an important aspect of action because it is directly linked to the agents' need for ontological security. Giddens (1984) argues that an agent's lack of ontological security results in confusion and acute anxiety. It is said that ontological security can be achieved both through continued reflexive monitoring and also through routinisation that is the continual production and reproduction of social practices. This would highlight the predictability and stability of actions and regionalisation that refers to how social practices are ordered in space and time (Turner, 1987). This concurs with Freud's theory that states that individuals' consciousness pertains to their current awareness, thoughts and beliefs as influenced by the pre-conscious and unconscious mind.

In his 'tripartite theory' (1923), Freud stated that the human psyche is structured into three parts, the id, the ego and the super-ego. The id is the impulsive (and unconscious) part of our psyche that responds directly and immediately to human nature or instinct. The ego is part of the id but is subjected to and influenced by the external world. The role of the ego is to mediate between the unrealistic compulsive id and the external real world. The super-ego incorporates the values and morals of society that are learnt from parents, peers and other influential members of society. The super ego functions in persuading the ego to turn to moralistic goals rather than simply realistic ones and to strive for perfection (McLeod, 2008). In terms of structuration theory, Freud's theory is seen in three of its facets: practical consciousness reflects characteristics of the super ego that would enable consumers to participate in daily

© University of Pretoria

routines through the use of habits; discursive consciousness exposes characteristics of the ego because it aims at mediating behaviour either through reflexive monitoring and/or deliberative communication with the external world; the unconsciousness exhibits characteristics of the id because of its referral to human nature and instinct that is reflected in agents' instinctual need for ontological security.

Applied to the context of this study, it should be noted that although all three levels of consciousness are important for consumers to function, practical consciousness appears to be the most critical in understanding existing consumer behaviour in terms of habits and the routine of daily life). Regarding mitigating unsustainable behaviour, attention shifts towards the importance of discursive consciousness (Kaspersen, 2000:31). Consumers' current practical consciousness probably presents unsustainable consumption behaviour that has been shaped through societal rules and regulations. Consumers have grown accustomed to purchasing and wasting fresh produce because society has never questioned it before. Furthermore, it could be said that consumers are locked in by structures because there seems to be no other alternative in terms of more sustainable practices. On the positive side, the boundary between discursive and practical consciousness is permeable and this allows for the interchange of information that highlights the importance of reflection and reflective monitoring (Giddens, 1984). Reflection entails that consumers and structure converge and share relevant information to enhance consumers' practical knowledge and assist them in their daily lives (Spaargaren, 2006). When consumers reflexively monitor their own behaviour they access their discursive consciousness. This would allow not only for the rationalisation of current behaviour but, more importantly, also for the communication and transfer of both tacit and explicit knowledge. Communication and the exchange of knowledge between agents and structure could assist in mitigating unsustainable behaviour.

4.2.4 The social practices model

The social practices model as developed by Spaargaren and Van Vliet (2000) argues that the analysis of sustainability depends on two main dimensions, namely sustainable consumption (consumer lifestyles) and sustainable production (core institution of production – systems of provision) (Spaargaren, 2003; Spaargaren & Maartens, 2005). Although the social practices model is mainly derived from structuration theory, it also emphasises the important role of core institutions, the systems of provisions that are the main assumptions of ecological modernisation theory. The social practices model presents a conceptual framework that highlights the critical role of human agency with equal emphasis on the important role of social structure that refers to core institutions, for example, industry and retailers (Spaargaren, 2003; Spaargaren & Maartens, 2005). It proposes that the daily behaviour of society with regard to consumption

© University of Pretoria

practices is the result of the continuous interaction between these two opposing constructs, actor/ agents and structure (Figure 4.1).

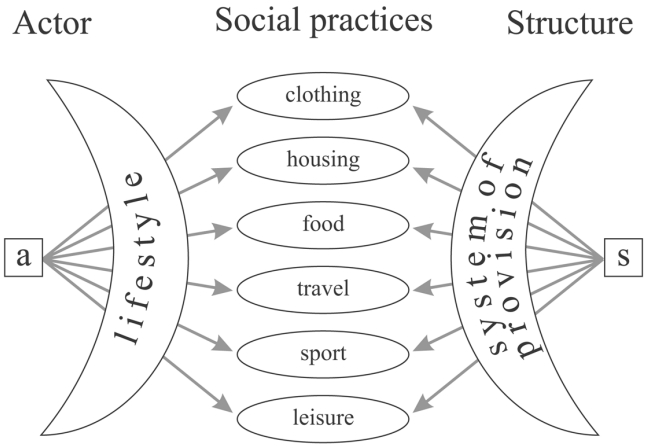


FIGURE 4.1: THE SOCIAL PRACTICES MODEL OF SPAARGAREN AND VAN VLIET (2000)

By bringing consumption issues to the fore and emphasising the role of citizen-consumers in shaping and reproducing the core institutions of production and consumption, the social practices model firstly identifies consumers as agents of change (human agency) that have the critical role of reflexive monitoring with the aim to prompt new social practices. The social practices model offers an alternative to previously mentioned theories, because it makes possible a contextual approach to consumption and lifestyles. In short, this implies the end of the individual as the only relevant unit of analyses as it proposes that the responsibility of individuals in terms of the environment be analysed in direct relation to social structure and the systems of provision. The social practices model therefore differs from other theories in terms of certain crucial respects.

Secondly, the model focuses on the possibility for designated groups of agents to reduce the overall environmental impacts of consumption in distinct domains of social life in terms of the deliberate communication and sharing of knowledge and skills. At the centre of the social practices model lie not the individual attitude or norm but rather the actual behavioural practices of consumers, situated in time and space. Spaargaren (2006) refers to it as a so-called 'consumption junction' and stipulates that these practices coherently make up the social lives of consumers. The consumption junction is very important because it is here where social institutions such as retailers, marketers or politicians, meet, converse and engage directly with consumers. This area would also be important for the mitigation of unsustainable consumer behaviour.

© University of Pretoria

Like structuration theory, the social practices model proposes that consumers' existing consumption behaviour is determined by their practical and discursive consciousness. However, it goes further and suggests that there is a clear distinction between consumers' practical and discursive consciousness. Practical consciousness in terms of the social practices model refers to consumers' daily routine behaviour that is drawn from existing 'stocks of knowledge' and reflects consumers' current habits that are perceived to be unsustainable. Discursive consciousness, on the other hand, reflects on consumers' (as agents) ability and access to knowledge and skills that could be discursively transferred or communicated between consumers as well as between consumers and systems of provisions.

Applied to the context of this study, it is postulated that consumers' current practical consciousness reflects on existing consumer fresh produce practices that are deemed as unsustainable. The situation is attributed to consumers' lack of rationalisation. It seems that consumers have grown accustomed to their current fresh produce purchasing practices and because it is perceived as a low-involvement purchasing decision, they do not bother with extensive information search. They therefore ignorantly trust that their particular current practices are still the only alternative to deliver the best result, which would be ignoring sustainability issues. The social practices model suggests that mitigating existing unsustainable consumption practices will require consumers to 'raise' routine behaviour from the level of practical consciousness to discursive consciousness where it can be rationalised and deliberately discussed and amended. For successful mitigation of consumers' unsustainable fresh produce practices, both the agent (consumer) and the systems of provision (retailers) need to realise their own individual responsibility and indicate their willingness to assist each other in amending unsustainable consumption practices.

4.3 CONCEPTUAL FRAMEWORK

The conceptual framework presented in Figure 4.2 presents the factors that influence consumers' and retailers' willingness to abide by the principles of sustainable fresh produce consumption. This framework integrates the assumptions and strategic thinking of Giddens' structuration theory (1984) in terms of the visual representation of the systems of provision as proposed by Spaargaren and Van Vliet (2000). Because consumers' fresh produce purchasing behaviour involves rational choice and thinking as well as cognitive ability, knowledge was included as a consumer-related aspect in the model. The inclusion of knowledge hence deviates from the original model proposed by Spaargaren and Van Vliet (2000). Figure 4.2 shows the interrelationship between agents and the systems of provision. It illustrates not only how these units function separately in terms of their individual goals concerning fresh produce consumption,

© University of Pretoria

but also *how* their interrelationship influences role players' willingness to change unsustainable consumption practices i.e. to abide to the principles of sustainable consumption.

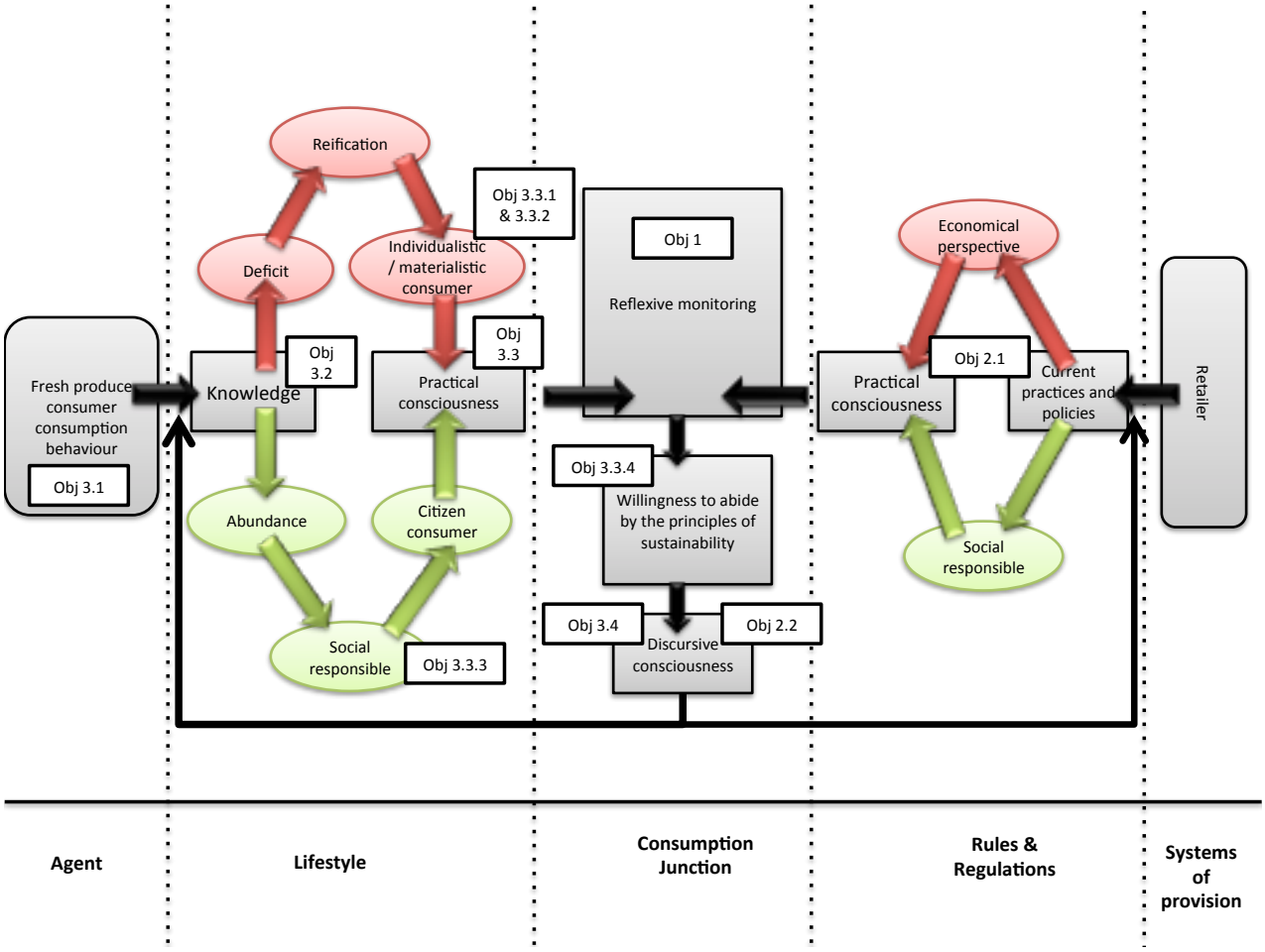


FIGURE 4.2: CONCEPTUAL FRAMEWORK

The use of the abbreviation Obj refers to the objectives set for this study, which can be found in Chapter 1 and 5.

Discussion of the framework commences firstly with a review from the agents'/consumers' perspective. Consumer decision-making and consumption behaviour inevitably requires some sort of rational thought that implies that decision making is a function of a deliberate conscious consideration and evaluation of information (Jackson, 2005a; Jacoby, 2007). However, when observing the mundane task of fresh produce consumption, one might question the level of rationality involved in consumers' decisions pertaining to fresh produce purchasing and consumption. This is because consumers' fresh produce purchasing often reflects behaviour that is habitual and almost automatic, with very little evidence of deliberate evaluation or consideration. It is suggested that everyday tasks like fresh produce purchasing encompass an unconscious rationality (Jacoby, 2007) from thought processes of which consumers are not necessarily aware. A considerable amount of research reveals that consumer behaviour is mostly controlled unconsciously (Polyani, 1997; Jacoby, 2007). Simon (1995) argues that rational consumer choice is often

© University of Pretoria

constrained by situational factors like time constraints or lack of access to information. Thus not only do consumers simply lack the time to accumulate all information necessary to amend unsustainable consumption practices, but often essential information that would assist in making sustainable decisions is simply not readily available, for example, was the fresh produce imported or not?

Arguments in favour of the theory of bounded rationality support two assumptions that they claim shape our everyday life. Firstly, that consumers' decision making occurs under time constraints; and secondly, that decision making operates under cognitive limitations as a result of influential and controlling systems of provisions involving, for example, industries and retailers (Simon, 1955; Jackson, 2005b; Ellison, 2006). Because consumers are seldom capable of coping with the cognitive demand of processing all the required information to make rational choices they often rely on a low-cognitive-effort for decision–making, more commonly referred to as habits. This is defined by Giddens (1984) as practical consciousness.

Although most decision-making is mostly the result of lower cognitive functioning, the decision to act and behave in a certain manner still requires some level of cognisance and consciousness that entails the role of knowledge. Knowledge, in particular *explicit* and *tacit* knowledge, is essential for guiding consumers' ultimate behaviour. Explicit knowledge refers to factual information (Nickols, 2010) e.g. understanding that fresh produce waste contributes to greenhouse gas emissions. Tacit knowledge refers to basic skills that is the general 'how to' lower fresh produce wastage. Tacit knowledge is not easily articulated and often requires the assistance of a social network or support structure to convey the necessary skills (Nickols, 2010). For example, consumers might be knowledgeable and have an understanding of the unsustainability of fresh produce wastage (explicit knowledge) nevertheless they might lack the general skills that could mitigate fresh produce waste (tacit knowledge).

With regard to sustainable fresh produce consumption it can be assumed that, during everyday purchasing and consumption practices, consumers have access to an abundance of both dimensions of knowledge. They should therefore be able to consume fresh produce in a sustainable manner. This is indicative of being a socially responsible citizen-consumer. Consumers, however, often experience a deficit regarding one or both of the knowledge dimensions, leaving the consumer confused and easily swayed by marketing strategies that aim to promote conspicuous consumption. The saying that 'knowledge is power' in this sense carries much weight. Consumers who lack knowledge might believe that accessing sustainable social structures is beyond their control because of reification (Marx in Ritzer, 2002:171). Reification can be explained as the result of the estrangement or alienation from one's own

© University of Pretoria

social network and fetishism, which devalues society, and the valuation of products (i.e. consumables) to the extent that relations between human beings assume the form of relations between things. For Marx (1859) “the essence of man is not an abstraction inherent in the isolated individual”.

According to Lukacs (1971:93) the structure of reification progressively imprints itself more deeply and more definitively into the consciousness of *man* as the capitalist system continuously produces and reproduces itself based on economic principles that only seek profit. The problem with reification is that it leaves consumers with feelings of powerlessness. The notion that consumers who feel powerless in terms of amending unsustainable fresh produce consumption are more likely to isolate themselves and revert to a lifestyle of materialism, is supported by Prandy (in Burris, 1988) who argues that the perception of the world’s willingness to change depends on the experience of effecting change in one's own everyday life. Furthermore, the lack of such experience provokes a view of the world that simply accepts things as they are and assumes that they could not be different. Thus it can be inferred that sustainable fresh produce consumption in the bigger scheme of things will not be possible unless consumers are able to apply and replicate the basic principles of sustainability in their own personal lives. To summarise, the effect of reification is therefore to say that powerless consumers are consequentially insecure and confused because of their lack of control. Consumers inherently strive to maintain some sort of ontological security and control that often results in taking comfort in old habits, portraying attributes of individualism and materialism, a situation that represents unsustainable lifestyles.

To conclude the discussion regarding the ‘agent’ it can be assumed that consumers’ current fresh produce purchasing behaviour or current habits reflect their practical consciousness that is indicative of their knowledge, i.e. cognitive ability to rationally motivate sustainability.

Studying the framework secondly from the ‘systems of provisions’ perspective, i.e. the retailer, reveals rules and regulations, that guides current fresh produce practices. These rules and regulations either embody a perspective that is rooted in profit, i.e. the economic principles, or principles that relate to social responsibility. Whichever route is followed will forge the retailers’ practical consciousness into habits and would include practices and policies, which are implemented in manners that entice consumer spending and ultimate patronage. Often it is these rules and regulations that restrain (lock-in) consumers from acting more sustainable.

The so-called consumption junction is crucial in that it represents the interface where the consumer and retailer interact with their own goals in mind. This section aids in the reflexive monitoring of role players’

© University of Pretoria

current behaviour. Reflexive monitoring refers to agents' and consumers' ability to monitor their actions and those actions' settings and contexts (Giddens, 1982). Reflexive monitoring enables agents to transform their social setting. In other words, should consumers enter the consumption junction with unsustainable/materialistic ideals, and is then introduced to retailers that provide information pertaining to sustainable fresh produce consumption that balances their knowledge deficit, the chance for mitigating the unsustainable practices seems highly likely, because of the reflexive monitoring. It is also here were the importance of discursive consciousness comes in to play.

Discursive consciousness refers to an agents'/consumers' ability to discuss or articulate issues or their knowledge of their social conditions and current behaviour based on the premise of Spaargaren and Van Vliet (2000) that, in order to motivate pro-environmental behaviour, one needs to elevate routine behaviour from the level of practical consciousness to discursive consciousness. As noted, fresh produce purchasing behaviour can be described as routine behaviour and is performed within a realm of practical consciousness. Evidence suggests that, to mitigate unsustainable behaviour, rational elaboration in terms of tacit and explicit knowledge by means of a discursive consciousness is required. Consumers and retailers should therefore take stock of existing habits, i.e. their practical consciousness. This will involve rethinking and discussing everyday behaviour and practices on a level of discursive consciousness that is conducive to the sharing of tacit and explicit knowledge, a prerequisite for rational deliberation and the ultimate mitigation of unsustainable fresh produce consumption.

To conclude, sustainable consumption practices for consumers and retailers are possible provided both parties accept their own responsibilities and engage in reflexive monitoring from a discursive consciousness perspective. A consumer-retailer relationship that is based on discursive consciousness should un-lock or un-freeze unsustainable habits (practical consciousness) to facilitate change to lead to sustainable fresh produce consumption.

© University of Pretoria

RESEARCH DESIGN AND METHODOLOGY

The purpose of this chapter is to provide an exposition of the research design. It concludes with detail pertaining to the research methodology that involved three different phases. The objectives for each phase are clarified and delineated.

5.1 INTRODUCTION

"It is a good idea to choose a problem that can be tested by a research design that plays to your strengths" (Hofstee, 2010:109). The research design for this study was therefore carefully selected to address the problem at hand. The researcher considered all the relevant options beforehand to ensure that the design chosen was the most appropriate in terms of its strengths and weaknesses.

5.1.1 Problem statement

The following is a brief summation of the research problem, which is discussed in depth in Chapter 1.

Much has been said, in recent years, about the sustainability of the world's resources. Along with these debates, concepts such as pollution, waste, greenhouse gases, climate change and food security have come to the fore. Although this topic and these concepts are discussed and used abundantly, it is not clear whether consumers and retailers in South Africa fully grasp the problem and are aware of why and how they could contribute towards a positive change. One of the scenarios very close to home that involves every household and that can contribute towards change is through purchasing and consumption of fresh produce. Based on waste figures current management and consumption of fresh produce unfortunately demonstrate little concern or consciousness about the consequences that excessive waste and indiscriminate product choices may have for the environment. The dilemma is that retailers operate in a very competitive retailing environment and subsequently tend to prioritise the needs of individual consumers for superior/ perfect produce to retain and attract customers rather than to show concern for the environment. Consumers have become accustomed to persistently demand fresh produce of exceptional quality and subsequently tend to waste a lot because they not necessarily possess the knowledge and understanding of the consequences of their consumption behaviour. To date, consumers have not really been reprimanded in any way for excessive waste of fresh produce. Unfortunately many consumers also do not have access to information that would encourage them to adapt their purchasing

© University of Pretoria

and consumption behaviour. Consumers may not even be aware of their contribution towards climate change through their purchase and consumption of a very ordinary 'every-day' product such as fresh produce in their homes.

5.1.2 RESEARCH AIMS AND OBJECTIVES

5.1.2.1 Research aims

This research is done in Tshwane, a major urban area in South Africa, and is instigated by global concerns about prevailing threats to the sustainability of the earth's resources, which have dire consequences for the well-being of future generations. This study specifically investigates and integrates reasons for the excessive consumption and waste of a basic household commodity, namely fresh produce that consumers can easily identify with and which in several ways through the supply and consumption chain contribute to global warming that is regarded as a pre-cursor of climate change. The aim is to integrate insights from the point of view of retail, which is driven by marketing strategies that are meant to address consumers', need in a highly competitive market place, with underlying reasons for households' questionable purchasing and consumption practices. This includes an investigation of underlying personal reasons for consumers' purchase decisions as well as consumers' consciousness of environmental issues and their knowledge of sustainable consumption practices. This study uses established theoretical frameworks to identify and highlight areas of concern related to unsustainable practices associated with a fairly ordinary product category. This is done from the perspective of retailers, consumers and experts associated with this product category in order to recommend avenues whereby sustainable consumption practices could be promoted for the future.

5.1.2.2 Research objectives

The mitigation of unsustainable practices requires the cooperation of various role players. With this in mind objectives were formulated for the three phases that were introduced in the research process as presented in Figure 5.1, each focusing on each one of the prominent role players in the South African fresh produce industry, namely so-called experts, retailers as well as the consumers (Figure 5.1).

© University of Pretoria

FIGURE 5.1: THE THREE PHASES OF THE RESEARCH PROCESS

Objectives: Phase 1

The following objectives were formulated for the explorative, descriptive investigation during phase 1 that involved South African experts on sustainability issues and the fresh produce industry (representatives of government, private organisations and industry). The aim was to delve into and document their views, concerns and awareness of South Africa's contribution to climate change specifically relating to the fresh produce category. The researcher sought:

1.1 To identify and describe prominent areas of concern in the fresh produce industry and to explain how these issues could be addressed to curb their effect on climate change.

1.2 To identify key role players in the fresh produce consumption chain that could be held accountable for unsustainable consumption practices and to explain how their actions and modus operandi contribute to problems associated with climate change.

1.3 To encourage and discuss measures that could be implemented to mitigate unsustainable fresh produce retailing and consumption practices.

© University of Pretoria

Experts shared information by agreeing to a short interview. Alternatively they could share their insights and comments through completion of an electronic survey.

Objectives: Phase 2

Objectives for the explorative, descriptive second phase focused on the South African retailing industry and were formulated to present an overview of retailers' environmental consciousness (practical- and discursive-), and willingness to abide by the sentiments of sustainable consumption through mitigation of disputed practices in fresh produce management. The investigation aimed to provide an overview of prominent South African fresh produce retailers' concerns and consciousness regarding their fresh produce management amidst pressing environmental concerns. The researcher sought:

2.1 To determine and describe to what extent retailers' existing fresh produce management practices are indicative of formal company policies that acknowledge concerns about climate change in order to identify critical areas of neglect due to improper mismanagement of fresh produce and ultimate waste. (When considering waste, retailers distinguish between waste that is still fit for consumption, which is often sold at a lower price or donated, and ultimate waste, which is considered as harmful and is labelled as 'waste – destroyed').

2.2 To deduce possible suggestions to curb fresh produce waste in retailing to promote sustainable consumption.

The investigation was done by means of a scrutiny of managerial reports on daily fresh produce management produced by retailers as well as the marketing strategies of retailers, supplemented by observation of actual wastage at retail outlets.

Objectives: Phase 3

Phase 3 involved South African fresh produce consumers and aimed to integrate empirical evidence of households' (the primary decision makers) fresh produce purchase decisions and waste with evidence of their general environmental consciousness (practical- and discursive-) and their willingness to abide by the sentiments of sustainable consumption through mitigation of unsustainable fresh produce consumption practices. Findings of this phase of the investigation are presented in terms of specific demographic characteristics of the respondents, namely, gender, age, population group and household income to allow the identification of segments of the population that may deserve more attention when promoting sustainable consumption practices for the future. The researcher sought:

3.1 To investigate and describe consumers' existing fresh produce purchasing and consumption practices as an indication of their current practical consciousness (habits) amidst times of climate change, and to present the findings in terms of the demographic characteristics of the sample.

© University of Pretoria

3.1.1 To investigate and describe consumers' general fresh produce purchasing behaviour.

3.1.2 To investigate and discuss the implications of the rationality/ sustainability of consumers' fresh produce purchasing practices in terms of sustainability considerations.

3.1.3 To investigate and explain how consumers' current fresh produce purchases and consumption practices contribute towards unnecessary wastage.

3.2 To investigate and describe consumers' knowledge about sustainable fresh produce purchasing and consumption behaviour as an indication of shortcomings that needs to be addressed in order to encourage change.

3.2.1 To investigate and interpret consumers' *explicit knowledge* of climate change and how that relates to the sustainable purchasing and consumption of fresh produce

3.2.2 To investigate and discuss consumers' *tacit knowledge* of climate change in particular and how it relates to the sustainable purchasing and consumption of fresh produce.

3.3 To explore the potential influence of underlying personal (specifically materialistic values) and social values (specifically status consciousness) on consumers' potential to adopt and adhere to the principles of sustainable consumption.

3.3.1 To investigate and discuss the relevance of consumers' materialistic orientation in a scenario where a more modest, rational approach is required to encourage sustainable consumption practices.

3.3.2 To investigate and discuss the relevance of consumers' status consciousness in a scenario where a more modest, rational approach is required to encourage sustainable consumption practices.

3.3.3 To investigate consumers' sense of social responsibility and to discuss the subsequent implications in terms of efforts to encourage and facilitate sustainable fresh produce purchasing and consumption practices in their households.

3.3.4 To investigate and discuss consumers' willingness to consciously implement sustainable purchasing and consumption practices when dealing with fresh produce for their households.

3.4 To integrate empirical evidence of consumers' current purchasing and consumption practices (Objective 3.1), their knowledge of climate change amidst a quest for sustainable consumption (Objective 3.2), the influence of personal and social values on the existing dilemma of households' over-consumption and waste of fresh produce (Objective 3.3) and to set an evidence-based scene for practical and policy related recommendations to enhance consumers' sustainable consumption of fresh produce.

© University of Pretoria

5.2 RESEARCH DESIGN

The mitigation of unsustainable consumer practices requires the cooperation of various role players. With this in mind, three phases were designed for the research process, each focusing on one of the prominent role players in the South African fresh produce industry, namely the experts situated in prominent organisations, the retailers and the consumers. The input of various role players necessitated that data collection be adapted according to the attributes of each role player. Data collection for phase one and two transpired through qualitative research techniques while phase three was pre-dominantly quantitative following a survey design and implementing a structured questionnaire.

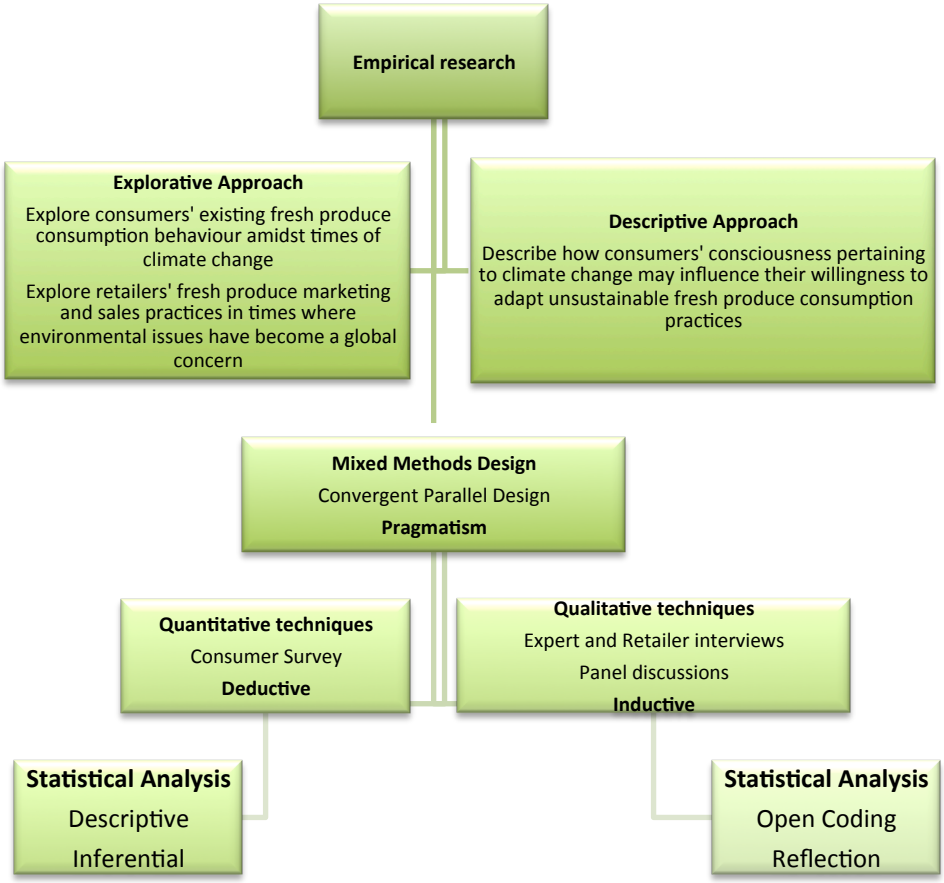


FIGURE 5.2: RESEARCH DESIGN

This study aimed to investigate a selected sample of South African consumers' fresh produce consumption practices as well as their consciousness of, and knowledge about climate change and sustainable consumption as an indication of effort required to improve consumers' understanding of a global problem that concerns the future and availability of our natural resources. The study was empirical in nature, addressing a problem in world one, i.e. the world we live in (Babbie & Mouton, 2002: 27, 75; Moody, 2002). Empirical research involves the collection and usage of data based on actual experience and or observation, to prove a theory or to drive a conclusion in science (Moody, 2002). Empirical

© University of Pretoria

research is necessary when studying a previously unexplored field (i.e. sustainable consumption of fresh produce amongst South African consumers, a field that has to date received little/ no attention). It is important to note that a field becomes less empirical as the acquired mastery of the field increases. The study followed an exploratory and descriptive route / approach and an integration of findings with relevant interpretations. It is said that conducting exploratory research is often recommended when little information is available about the phenomena or situation this is therefore conducive to empirical research (Fouché & De Vos, 2005:106). Exploratory research enables researchers to gain sufficient insight to address selected phenomena. In this regard it was envisaged to gain insight into consumers current fresh produce consumption and ultimate waste behaviour as an indication of their concern regarding climate change. The purpose of employing descriptive research is to not only understand, but to also describe specific details i.e. underlying relationships or a social setting. Descriptive research aims to observe the situation and then explain the observations made. In terms of this study descriptive research enabled the researcher to describe consumers' and retailers' consciousness pertaining to fresh produce wastage and climate change. It also assisted in the description of the influential role that industry/ retailers have in terms of consumers' willingness to amend unsustainable fresh produce consumption.

Data collection and analysis relied on a mixed methods design, which involved integrating quantitative, and qualitative data collection and analysis techniques in a single study (Creswell, 2012; Fischler, 2012). The quantitative component and qualitative component are often referred to as strands (Angell & Townsend, 2011). With regard to the quantitative strand the philosophical underpinning is positivistic in nature following a deductive logic. Data is presented numerically. The qualitative strands' philosophical underpinnings are rooted in constructivism and follow an inductive logic. In this study data is presented in text format.

A mixed method is often used for the purpose of gaining breadth and depth of understanding and corroboration of the research problem (Fischler, 2012). Key characteristics of mixed method designs include priority and sequence. Priority pertains to the weight carried by qualitative vs. quantitative data. In this study the quantitative data was more prominent and decisive and the qualitative data was used to support and elucidate the quantitative findings. Sequence pertains to when the data of each phase in relation to each other was collected and analyse. In this study the priority and sequence resembles a convergent parallel design as illustrated in Figure 5.3.

© University of Pretoria

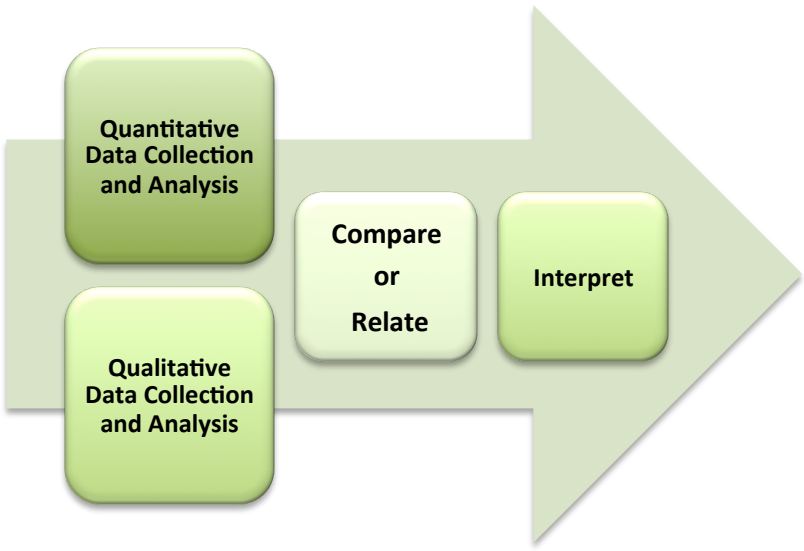


FIGURE 5.3: LAYOUT FOR A CONVERGENT PARALLEL MIX METHOD DESIGN

In a convergent design, the researcher collects two or more sets of data concurrently. Data is then analysed separately but is merged during the presentation and interpretation of the results (Fischler, 2012). The purpose of a convergent design is to obtain a more complete understanding from two different databases where both types of data have equal value/ relevance for understanding the research problem. In this study a convergent design enabled the researcher to gain a comprehensive view of consumers' existing fresh produce practices and how their consciousness in regards to climate change affects their willingness to amend unsustainable behaviour. Combining qualitative and quantitative data collection techniques assisted in overcoming shortcomings and limitations in a particular method (Bulsara, 2010:3). In this study it was particularly meaningful to corroborate the quantitative data (consumer survey) with the qualitative data (retail interviews and consumer focus group discussions).

To accommodate the mixed method design, the data collection was done in to three phases, namely:

Phase one: Interviews with expert groups.

Phase two: Interviews with South African retailing industry.

Phase three: A survey and focus group discussions, involving consumers.

The methodology is organised and presented according to the three phases.

© University of Pretoria

5.3 METHODOLOGY

5.3.1 Phase 1: Involvement of expert groups

Phase one commenced with the contacting of selected prominent organisations, i.e. Indalo Yethu, Enviropeadia, Council of Scientific & Industrial Research (CSIR), Soil Souls, Promofresh, South African Consumer Goods Council, Produce Marketing Association (PMA) and Simply Green. The selection of these specific organisations was done purposively due to the specific information that was needed and because they are viewed as experts in their respective fields. The use of special interest groups are supported by Zimmer, Stafford and Stafford, (1994:66) due to the following reasons:

- An assumption that the issue as addressed in the study is indeed relevant and that the information gathered is comprehensive and up to date.
- An assumption that consumers would not necessarily be able to articulate the problem at hand comprehensively if asked to name / explain their concern / behaviour/ management of waste.

Key persons at the above mentioned organisations were contacted either directly or by e-mail due to time and travelling constraints. Participants were asked to share the current environmental issues with which the organisation was concerned. The purpose with this phase was not only to gain some insight into the organisations stance and activities regarding climate change but to also use this information to support and highlight the urgency of the problem at hand and therefore provide the study with some credit. It was not the aim to draw questions from these organisations through a structured questionnaire but rather to prompt them into an uninhibited discussion of key questions such as:

- What is your organisations' main concerns pertaining to climate change?
- Is global warming a current challenge and concern to your organisation? Briefly state your organisations stance regarding climate change.

(A copy of the complete interview schedule can be found in Addendum A).

During June 2011, all selected organisations were first contacted telephonically. The principal researcher was responsible for conducting and retrieving the necessary information. All organisations were asked to participate either through telephonic interview or by completing the questionnaire via e-mail. Participating organisations that preferred to contribute through completion of the questionnaire were asked to return the completed questionnaire within two weeks. In the end, completed questionnaires were retrieved via e-mail from five of the organisations. Responses from the other organisations were gained telephonically.

© University of Pretoria

5.3.2 Phase 2: Involvement of prominent South African retailers

Individual interviews were scheduled with senior regional managers of the four main South African retailing chains (Woolworths, Pick n Pay, Shoprite-Checkers, and Spar). The researcher ensured that participating managers represented the respective organisations specific goals and views for the greater Tshwane area. Most of the retailing chains agreed to a personal interview and were eager to share information. One retailer agreed to a brief meeting and referred the researcher to the retailers' website for further information. The purpose of these meetings was to gain insight into the retailing industries' awareness and knowledge of climate change and their current viewpoint and implementation of sustainable practices. Other topics that were explored, included information regarding the retailers' existing fresh produce control, waste management practices, and general marketing practices e.g. in-store promotions. Interviews were conducted during October - November 2011. All retailers were interviewed personally and interviews took place at the office of each respective retailer. The principal researcher was responsible for conducting the interview. A research assistant was employed to observe and take notes of respective retailing practices and fresh produce waste management during the interview. All interviews commenced with a guided tour through each of the retailers back – up areas and market floor. The average time spent visiting the retailers was approximately two hours of which the interview took between 45 and 60 minutes. The interviews were tape recorded with the permission of the participants and were transcribed by the principal researcher for contextual analysis. Each manager received a gift (an University of Pretoria corporate gift, namely a bottle of Sherry) to thank them for their time and contribution.

5.3.3 Phase 3 A: Consumers' involvement

A consumer survey was done to provide quantitative data pertaining to consumers existing fresh produce purchasing and consumption behaviour, as well as their knowledge and consciousness of climate change. Consumers' status consciousness and materialistic inclination was also investigated and interpreted in terms of the influence of these dominant social forces on their potential to abide with to the assumptions of sustainable consumption.

The survey was done in the form of a structured questionnaire that reflected the objectives of the study (See Chapter 1, repeated in Chapter 5). With the exemption of the last two questions, the questionnaire presented closed, structured questions that were formulated in English. The questionnaire was fairly lengthy which was problematic for some as it took at least 20 minutes to complete. This resulted in a dropout rate of 28.6%. The respondents were not pressurised to continue if they chose to with draw. The questionnaire was lengthy due to the inclusion of multiple scales, which were crucial in terms of the overall aim of the study.

© University of Pretoria

The questionnaire consisted of seven sections:

Section 1: Demographic Information.

Section 2: Questions pertaining to consumers' general consumer behaviour.

Section 3: Questions pertaining to consumers' general fresh produce consumption behaviour (Measuring consumers' practical consciousness, i.e. their habits as reflected in their existing behaviour as an indication of their tacit knowledge).

Section 4: Questions pertaining to consumers' general thoughts and beliefs about the issue of climate change (Measuring consumers' explicit knowledge).

Section 5: Questions pertaining to consumers' status consciousness and materialistic inclination as an indication of obstacles in their potential to adopt sustainable practices.

Section 6: Questions pertaining to consumers' consciousness and responsibility concerning climate change.

Section 7: Questions pertaining to consumers' social responsibility and willingness to change/ adhere to the basic sentiments of sustainable consumption as an indication of their discursive consciousness.

Following a comprehensive study of extant research, the following established scales were included. All these scales were slightly adapted to reflect the topic of investigation and the context of the study.

Section 2: Question 18.11 – 18.21 investigated consumers' status consumption, reflecting on fresh produce. These questions were adapted from Kilsheimers' Status Consumption Scale (1993). Richins and Dawsons' Materialism Scale was used to investigate consumers' materialistic inclination when purchasing fresh produce. These scales were included and used in Section 5 in their original format to measure consumers' status and materialistic inclination in general (not only with regard to fresh produce consumption). Respondents were asked to respond to all items in question 18 implementing a 4 point Likert-type Agreement scale where 1 equated to Strongly disagree and 4 equated to strongly agree.

Section 3: This section tested consumers' practical consciousness in terms of their **tacit knowledge** (questions 19.27 – 19.36) regarding their households' consumption and wastage of fresh produce. These scales were self-designed. Respondents were once again asked to respond to all items by indicating their level of agreement on a 4 point Likert-type scale.

© University of Pretoria

Section 4: This section included selected parts of established scales (as indicated) to test consumers' **explicit knowledge** of climate change.

Questions 20.1-20.2: Social responsible consumer behaviour scale of Antil and Bennet (1979)

Questions 20.3-20.10: Eco Scale of Stone, Barnes and Montgomery (1995)

Questions 20.11: Dos Santos (2011)

Questions 20.12-20.17: Self-designed

Items chosen from the above mentioned scales reflected present-day statements with regard to climate change. Respondents were asked to respond to each of the statements by indicating whether they think the statement was true or false. A third option – uncertain was also made available to respondents.

Section 5: This section investigated the influence of materialism and of status consumption on consumers purchasing and consumption practices.

Questions 21.1-21.17: Materialism scale of Richins and Dawson (1992).

Questions 21.18-21.30: Compulsive buying scale of Edwards (1993).

Questions 21.31 -21.35: Status Consumption scale of Kilsheimer (1993).

Respondents were again asked to respond to all items by indicating their level of agreement based on a 4 point Likert-type scale.

Section 6: This section investigated consumers consciousness of their individual role / contribution and responsibility in terms of sustainability of global resources and included the following scales:

Questions 22.1-22.14: Connectedness to Nature scale of Mayer and Frantz (2004).

Questions 22.15-22.27: Interpersonal Orientation CAD scale of Cohen (1967).

A four point Likert-type agreement scale was used to measure respondents' answers.

Section 7: This section included questions that pertained to consumers' willingness to behave in a more socially responsible way. This section not only relied on the use of Antil and Bennets' Socially Responsible Behaviour Scale (1979) but also included two open-ended questions to probe consumers to share (discuss discursively) ideas about existing behaviour or ideals that could be implemented by retail or other consumers for the purpose of mitigating unsustainable behaviour.

Although existing scales were used, all scales were scrutinized and some items were adapted to ensure that the measurement applied to the South African context, and reflected on the focus of this specific study, namely fresh produce purchasing and consumption practices. As previously mentioned most of the questions relied on a four point Likert-type Agreement scale to measure level of agreement. This was done in order to eliminate the theoretical scale mid point thereby coercing respondents to either agree or

© University of Pretoria

disagree to statements (Mazzocchi, 2008: 121). Table 5.1 provides a brief over view of the compilation of the questionnaire in terms of sections, questions and selected scales used.

TABLE 5.1: STRUCTURE OF THE QUESTIONNAIRE

Section	Focus	Questions	Scale	Scale increments	Statistical analysis
Section 1	Demographic Information	1 - 12	Self-designed		Descriptive analysis
Section 2	General and Fresh produce purchasing behaviour. Consumers' fresh produce Status consumption.	13 – 18.10 18.11– 18.21	Self-designed Status consumption scale (Kilsheimer, 1993) Materialism scale (Richins and Dawson, 1992)	4-point Likert-type scale. 1= Strongly Disagree – 4= Strongly Agree	Items 13 -18.10 –descriptive statistics Items 18.11 – 18.21 were analysed in terms of: Cronbach Alpha's t-tests, ANOVA and subsequent post-hoc tests
Section 3	Consumers' fresh produce consumption and reason for wastage. Consumers' fresh produce consumption as an indication of tacit knowledge	19.1 – 19.12 19.13 – 19.36	All items in this section were self-designed based on literature.	4-point Likert-type scale. 1= Strongly Disagree – 4= Strongly Agree	All items were analysed in terms of: Cronbach Alpha's Exploratory factor analysis, t-tests, ANOVA and relevant post-hoc tests
Section 4	Consumers awareness pertaining to climate change as an indication of their explicit knowledge	20.1 – 20.2 20.3 – 20.10 20.11 20.12- 20.17	Social responsible consumer behaviour scale (Antil & Bennet, 1979) Eco Scale (Stones, Barnes & Montgomery, 1995) Dos Santos (2011) Self-designed	3-point True, False or Uncertain scale. True = 1 False =2 Uncertain = 3	During analysis all correct answers were summated. Higher scores reflected a higher degree of explicit knowledge in terms of climate change.
Section 5	Consumers' general materialistic inclination and status consumption behaviour	21.1 – 21.17 21.18 – 21.30 21.31 – 21.35	Materialism Scale (Richins and Dawson, 1992). Compulsive buying Scale (Edwards, 1993). Status Consumption (Kilsheimer Scale, 1993).	4-point Likert-type scale. 1= Strongly Disagree – 4=Strongly Agree	All items were analysed in terms of: Cronbach Alpha's Exploratory factor analysis, t-tests, ANOVA and relevant post-hoc tests. Means were calculated for each of the identified factors. Higher means indicated a higher degree of materialism and status consumption.
Section 6	Consumers' consciousness in terms of their contribution and responsibility in terms of sustainability of global resources	22.1-22. 14 22.15-22.27	Connectedness to Nature scale (Mayer and Frantz, 2004) Interpersonal Orientation CAD Scale (Cohen, 1967)	4-point Likert-type scale. 1= Strongly Disagree – 4= Strongly Agree	All items were analysed in terms of: Cronbach Alpha's Exploratory factor analysis, t-tests, ANOVA and relevant post-hoc tests. Means were calculated for each of the identified factors. Higher means indicated a higher degree of consciousness in terms of responsibility.
Section 7	Consumers' willingness to abide to the principles of sustainable consumption.	23.1-23.27	Socially Responsible behaviour scale (Antil and Bennet, 1979)	4-point Likert-type scale. 1= Strongly Disagree – 4= Strongly Agree	All items were analysed in terms of: Cronbach Alpha's Exploratory factor analysis, and relevant post-hoc tests. Means were calculated for each of the identified factors. Higher means indicated a higher degree of willingness to abide to the principles of sustainability.

5.3.3.1 Unit of analysis for the consumer survey

Respondents who potentially had the financial ability to adapt their fresh produce buying and consumption practices i.e. middle – to upper income households were targeted. Decision makers in

© University of Pretoria

households who were responsible for fresh produce purchasing were mostly recruited. It was assumed that these individuals would also be the main/ primary socializing agents regarding their family's food consumption behaviour. Respondents had to be between 21 and 65 years of age to ensure that the respondents were still earning a steady income or contributing actively towards the South African economy. Both male and female respondents were targeted. According to the Department of Economic Development of the City of Tshwane (CoT, 2011) the contribution in percentage of male versus female to the Tshwane population during 2010-2011 was equal, i.e. 50/50 (StatsSA, 2011). No limitation or requisites were set for population groups, i.e. all willing individuals, irrespective of gender or population group were welcome to participate.

5.3.3.2 Sampling method

Specific regions in Tshwane were purposively targeted. Data was gathered from non-probability "convenient" sample of consumers who fit the pre-requisites for the study and who were willing and able to participate in the study. Although similar researchers have done so with success (Bitner, 1994; Leong, Hoon Ang, Lin Low, 1997; Areni, 2003), Neuman (1997:204) cautions that this procedure puts at risk the representativeness of the sample. Extra care was, therefore, taken to recruit respondents in a planned and structured manner in order to gain insight from a diversified sample across the municipal area, it is important to note that it was never the intention of this study to present the findings as representative in terms of the entire South African population. Because the population in South Africa is very cosmopolitan and complex, a study of this kind would have required a much larger sample, which was financially and logistically not viable. Executing the study in a major urban area where retailers are within close proximity and where opportunity exists to access information with limited restrictions, nevertheless probably provided opportunity to compile a scenario that is worth using to benchmark remedial strategies in the future. The following measures / steps were followed in recruiting participants for the study, this in turn also ensured reliability of the data:

1. Thirty-five Consumer Science students were recruited as fieldworkers. Each received 20 questionnaires to distribute in their respective demographic areas assigned to them. Fieldworkers did not receive any monetary compensation for their assistance but completion of an assignment pertaining to the exercise earned them extra credits in a prescribed module that counted towards their semester mark.
2. Fieldworkers were assigned to all major areas of Tshwane (North West, North East, Central West, South and East. Refer to Addendum E for a detailed map). In total 119 suburbs were targeted to lower the risk of misrepresentation of the population. Fieldworkers only recruited in their designated areas.

© University of Pretoria

The researcher consistently kept record of the how many completed questionnaires were retrieved from each region to ensure adequate representation of the population.

3. Fieldworkers were trained and thoroughly briefed to administer questionnaires properly and ethically and to answer any questions adeptly (Calif, 2001) during a scheduled lecture at the University of Pretoria. The primary researcher was responsible for the training and personally ensured that each fieldworker understood the importance of distributing the questionnaires in a professional fashion. Emphasis was placed on their understanding and application of the ethical procedure during data collection. Fieldworkers were also carefully introduced to all sections in the questionnaire and relevant instructions for proper completion.

4. Individuals who reflected the parameters of the population in Tshwane (CoT, 2011) from which the elements were selected (Babbie & Mouton, 2002:175), thus different age, gender and population groups were approached. The same procedure was applied to recruit participants for the focus group discussions. Fieldworkers were also instructed to request respondents to indicate their willingness to partake in a following focus group discussion by providing a contact number on a tear off slip.

5.To ensure the validity and reliability of responses, a pre-condition for participation was that individuals had to be responsible for food purchases in their households and had to have had personal buying experience of fresh produce purchases for their households within the month prior to their completion of the questionnaire (Thang & Tan, 2003).

5.3.3.3 Sample size for the survey

The statistician recommended a minimum sample size of 500 respondents. In total 700 questionnaires were distributed, of which 560 were retrieved for analysis. McDaniel and Gates (2004:296) state that most studies include a sample size of 200 – 500 respondents and that this is usually related to the budget available. A drop off-collect-later procedure was followed and no pressure was exerted to return completed questionnaires if respondents failed to do so after one reminder. Fieldworkers were encouraged to deliver all questionnaires personally and collect them per appointment. Deliveries had to be in person.

The Distribution of questionnaires commenced in March 2012. All the questionnaires were retrieved by May 2012.

5.3.4 Phase 3B: Focus group discussions

Focus group discussions were conducted to provide more depth and detail regarding consumers' consciousness regarding climate change and to reflect reasons for consumers' purchasing and consumption behaviour. While a thorough literature review was used to provide a theoretical framework

© University of Pretoria

for the study, the focus group discussions allowed for the inclusion of additional information that might not have been taken into consideration during the previous phases. It also gave an indication of those elements and constructs that are accounted for in theory but were not covered in the questionnaire.

A focus group discussion is defined as the assembly of a small group of people with the aim to discuss a certain research topic (Neuman, 1997:253; Plug et al., 1997:108). It has disadvantages, such as imposing social influences and conformity pressures. This might especially be a problem due to the sensitivity/ nature of the topic. Consumers' behaviour is influenced by social pressure, subjective norms and attitude. Nevertheless successful data collections via focus group discussions have been done in several other studies. Fern (1982:444) states that group discussions create an excitement that encourages participants to expose their own ideas. Focus group discussions also provide group members with a sense of security that reduces the feeling of victimization, which is a common problem in an individual interview (Babbie & Mouton, 2002:293). Participants in a focus group discussion are often more willing to volunteer information than during a personal interview because they feel less inhibited to share their experiences, and in doing so encourage others to expose their ideas. Focus group discussions are ideal to evoke spontaneous discussions that will illuminate a limited number of issues that might need some clarification (Babbie & Mouton, 2002:292). It can also serve as opportunity for triangulation (Woodruf, 1997; Macun & Posel, 1998; Fischler, 2012).

Participants for the focus group discussions were drawn from the sample used during the consumer survey (Phase 3A). During the survey (Phase 3A), respondents could indicate a willingness to partake in the focus group discussion by providing their contact numbers to their respective field workers. Those who provided contact details were later telephoned by the researcher in order to confirm their participation and to arrange the different meetings. Differences in social status were addressed through the inclusion of individuals who were socially and intellectually compatible (Fern, 1983:121-125; Babbie & Mouton, 2002:292). Only eight to ten participants were included per focus group discussion to allow enough 'air time' for each participant to express his/her views without stretching the length of the session (Babbie & Mouton, 2002:291). The simultaneous participation of friends, spouses and family were not allowed in order to prevent participation and conflict (Cook, 1982; Babbie & Mouton, 2002:292).

Focus group discussions were held during March 2013 at the University of Pretoria in the Consumer Science building to ensure a neutral environment for discussions (Keim et al, 1999:445). The restaurant area in the Consumer Science building was used because it provided a relatively informal but structured

© University of Pretoria

atmosphere which seemed conducive to group interaction. The focus group discussions followed a phenomenological approach. Attention was given to the inclusion of brief warming up sessions where informal interaction is stimulated to encourage active participation during the discussions. A comfortable seating arrangement was made to ensure proper eye contact and unrestrained interaction (Lautman, 1982:54). Three focus group discussions were held. Groups A and C included a total of 8 participants each of which 3 were male and 5 were female. No differentiation was made in terms of income. Age groups reflected the three main age groups as presented by the findings as found in Phase 3 A. Group B presented a more homogeneous group, which included 6 females that were similar in terms of age and income.

Willing participants gathered at the venue as per prior appointment. After a brief warming-up session, the researcher facilitated the discussion by introducing certain discussion themes that guided but restricted the focus towards the research objectives (Lombard, Weyers & Schoeman, 1991:182; Neuman, 1997:253; Plug et al, 1997:108). The participants were informed that the study was about environmental concern more specifically consumer behaviour regarding fresh produce consumption and the impact on the environment. No mention was made of specific questions or characteristics. Garrison et al., (1999:430) advise that the sequence of questions develop from general to specific i.e. a deductive approach and that open-ended questions are used to encourage discussions of specific personal experiences. Before closure, participants were encouraged to make additional contributions. Discussions were tape recorded with the consent of the participants, to ensure accuracy when transcribing (Babbie & Mouton, 2002:277). Refreshments and a small gift were provided afterwards in appreciation of participants' time. Details of the questions that served as prompts for the discussions are presented in Addendum D.

5.4 DATA ANALYSIS

Data analysis of the qualitative part of the research, i.e. Phase 1 (Expert group contributions), Phase 2 (Retailer interviews) and Phase 3B (focus group discussions) involved the use of conceptual/ content analysis. Conceptual analysis implies the clarification of key concepts in a study and also indicating how these concepts are integrated into the body of the existing theory or research (Mouton, 2002:109). Firstly, the researcher transcribed all the interviews and discussions immediately after a data collection procedure. Care was taken not to change/ correct participants actual language. This was done by hand, using colour coding to identify relevant concepts within the transcribed text. This process (axial coding) was meant to identify connections between categories/ codes (Kendal, 1999; Brown, 2001). The codes were categorised in

© University of Pretoria

terms of themes that coincided with the applicable theory to conclude with narratives, without attempt to quantify information.

The consumer survey (Phase 3A) produced quantifiable data, which was captured by the Department of Statistics, University of Pretoria. All questionnaires were checked to ensure that they were filled out properly and completely, where after they were coded by assigning numeric codes to responses in the questions in accordance with a carefully designed coding schedule. Coding was done to enable statistical analysis using SPSS Version 21. The principal researcher and an assistant checked the captured data. Data analysis commenced with descriptive statistics. Cronbach Alpha's were calculated for all the items in the questions to check the internal validity of the questions (refer to Table 5.1. for a detail overview of the structure and content of the questionnaire). This was followed by exploratory factor analysis (EFA) in sections 2, 3, 4, 6 & 7. Factors derived through EFA were then compared across relevant demographic categories to identify significant differences. Where significant differences were identified subsequent post-hoc tests i.e. Bonferonni and t-tests were required and thus implemented.

5.4.1 Factor analysis

Responses to sections 2, 3, 4, 6 and 7 underwent factor analysis. Factor analysis is a statistical procedure used to identify the coherence of items and interrelationships that exist among a large number of variables (Mazzocchi, 2008:221). A data matrix may have a large number of variables (e.g. test scores, test items, questionnaire responses) and these items may be related to one another. When variables are related to each other, they represent underlying dimensions called factors, which explain specific variables. Factor analysis therefore looks for patterns among the variables to discover if an underlying combination of the original variables can summarise the original set in terms of factors (Cooper & Schindler, 1998:560; Mazzocchi, 2008:221). A correlation matrix is then generated from the original set of data (Mazzocchi, 2008:222). This can be done in a number of ways, but the most frequently used approach is the principal component analysis, which was used in this study (Cooper & Schindler, 1998:577). This method transforms a set of variables into a new set of composite variables (or principal components) that are not correlated with each other. These linear combinations of variables, called factors, account for the variance in the data as a whole. The best combination makes up the first factor. The process continues until all the variance is accounted for. Correlation coefficients between the factor and the variables represent the factor loadings. Factor loadings greater that ± .50 are considered to be significant.

© University of Pretoria

Factor analysis is not a true multivariate technique in that it is not used to predict a dependent variable or variables. Factor analysis is rather an interdependence technique considering all variables and how they are related to each other at the same time. Factor analysis can be used to either summarise or reduce data. In data summarisation, which was the primary purpose of this study factor analysis derives the underlying dimensions/ factors, which describe the data in a smaller number of concepts than the original variables. In data reduction, scores are calculated for each factor and these scores are then substituted for the original variables (Garson, 2008:1). Factor analysis can also be used for either exploratory or confirmatory purposes. As an exploratory procedure, factor analysis is used to search for a possible underlying structure in the variables without forcing items into specific factors. In confirmatory research, the researcher evaluates how similar the actual structure of the data, as indicated by factor analysis, is to the expected structure (usually derived from literature). The major difference between exploratory and confirmatory factor analysis is that the researcher has formulated hypotheses about the underlying structure of the variables when using factor analysis for confirmatory purposes (Garson, 2008:1).

5.5 QUALITY OF THE DATA

The aim of any research should be to provide data that is valid and reliable, i.e. to have confidence in the findings; to understand whether the findings will also apply to other contexts; to ensure that the findings will be repeated if the study would be replicated and to ensure that the findings emerge from the context and the respondents rather than from the researcher's pre conceived ideas and intentions and whether participants have shared information that is true (Lincoln & Guba, 1985:290). Mouton (1996:109) views validity as the 'best approximation of the truth'. According to Mouton (1996:111) it is important to notice that different dimensions of validity apply to the different stages of the research process and it is essential that all the elements of validity are considered throughout the whole research plan in order to describe the truth as close as possible. The following was done to limit error that might obstruct the validity and reliability of data.

5.5.1 Conceptualisation: Theoretical validity

Concepts provide the primary building blocks of scientific knowledge (Mouton, 1996:181). If concepts are poorly planned and conceptualised, the research, however carefully executed, will fail. Conceptualisation refers to both the clarification and the analysis of the key concepts; it also indicates the relevance between the concepts (Mouton, 1996:109).

© University of Pretoria

To enhance the theoretical validity of this study, all the key concepts pertaining to climate change, fresh produce, consumer lifestyle and socialisation, systems of provisions, waste, and sustainability were identified through a thorough literature review that was done beforehand i.e. before the compilation of the questionnaire. Focus group discussions contributed to ensure that important concepts were not overseen or omitted. The questionnaire was also pre-tested to ensure that no concepts were left vague or complex.

To support theoretical validity of the data gathered by means of the questionnaires, experts within both the fields of Consumer Sciences and Statistics evaluated the questionnaire for correctness and understand ability of the content as well as measurement validity.

5.5.2 Measurement validity

5.5.2.1 Content validity

Content validity is defined as a non-statistical type of validity that involves the systematic examination of the relevant test content in order to determine whether it covers a representative sample of the total domain under scrutiny (Anastasi & Urbina, 1997:114). Content validity therefore refers to whether the means of measurement in this case the questionnaire represents all possible questions needed to study the problem at hand. To ensure content validity it all main concepts and their significant dimensions and indicators were carefully identified to guarantee representation in the questionnaire.

5.5.2.2 Face validity

Face validity refers to whether a test 'appears' (on face value) to be measuring a certain construct. For instance, does the Richins and Dawson (1992) materialism scale actually measure materialism? Face validity is often criticized for being weak in terms of evidence, and it is often questioned because although a test might seem to be measuring a construct does not guarantee that it is. When a test does not appear to be measuring what it is supposed to, it is said to have low face validity. In the case were a test is subject to malingering or "faking" (often when respondents have caught on to the actual aim of the test and are hesitant to answer questions truthfully due to shame) low face validity might make the test more valid.

5.5.2.3 Criterion validity

Criterion validity is the extent to which respondents scores are correlated with other variables or criteria that reflect the same construct. In other words it involves comparing the test scores of this study or a part of the questionnaire with other measures or outcomes, which is already proven to be valid. Test data can be compared to existing data or it can be measured against data, which is collected during the same period. This is referred to concurrent validity evidence. An example of criterion validity in this study is

© University of Pretoria

prevalent in the application of the Kilsheimers' status consumption scale. It was decided to include this scale not only to measure status consumption per se but by adapting the scale it was also used to measure whether fresh produce was purchased from a status inclination. The outcome/ scores of these to different sections was later interpret in conjunction with each other in order to gain more insight into consumers' status inclination.

5.5.2.4 Construct validity

Construct validity refers to the extent to which a scale index measures the relevant construct and not something else (Mouton, 1996:128; Deport, 2005:162). To ensure construct validity, constructs were clearly defined and confirmed by means of a thorough literature study. The study furthermore employed a mixed method design that relied on more than one method of data collection. Pertaining to the questionnaire the language was adapted to reflect laymens' terms that could be interpreted and understood by the general public and therefore avoid misinterpretation. It was also decided to implement the usage of Likert-type scales. Likert-type scales have been successfully used in similar studies (Haron, Paim & Yahaya, 200; Steg, Dreijerink & Abrahamse, 2005; Minton & Rose, 1997). Apart from being the most widely used type of measurement instrument used, they are relatively easy to understand. The researcher also converted all the scales to 4 increments to prevent confusion.

5.5.3 Sampling: Representativeness

Unless the sample truthfully or faithfully represents the populations from which it was drawn, researchers have no reason to believe that it represents the population from which it was drawn (Mouton, 1996:136). To ensure that the sample provided valid information that is representative of the target population, participants were selected purposively across the larger area in specific geographic locations (suburbs) yet conveniently on the basis of pre-determined criteria. A large sample produces a smaller sampling error (Babbie & Mouton, 2002:191). It was therefore proposed to include a minimum of 500 participants. By ensuring that participants were eager and willing to assist, it was assumed that their responses were truthful.

5.5.4 Data Collection: Reliability

"The key criterion for validity in data collection is reliability" (Mouton, 1996:144). This is the degree of precision of a test, i.e. the degree to which the variables measured by the test are free from errors of measurement, furthermore it also states that the same test can be repeated on other subjects, and that the same results will be obtained (Plug et al., 1997:43). Implementing a combination of data collection methods enhanced reliability.

© University of Pretoria

To reduce error during data collection in Phase 3B with of the focus group discussions, the following precautions were considered:

Focus group discussions were arranged to suit all participants, with regards to time and place. Focus group discussions were held in a neutral environment, which assisted in open communication between participants. Focus group discussions included a maximum of 8 willing individuals to provide each participant with enough time to voice his or her individual feelings, perceptions and experiences.

To reduce possible sources of error during data collection in Phase 3A, the consumer survey, which was done by means of questionnaires, several precautions were taken. A cover letter was attached to the questionnaire to clarify the purpose of the survey, the researcher's affiliation and that confidentiality and anonymity were guaranteed. The questionnaire was constructed in such a way, that it would not take too much time to complete. The questions were formulated in such a way that it was easily to interpret and understand. The questionnaire was pre-tested with 50 candidates, which complied with the pre-requisites of the study to ensure understand ability and to determine the time required for completion. Pilot – test respondents were asked to provide feedback regarding the complexity of questions as well as any other problems that they encountered. Minor changes were made to the instructions in the questionnaire in order to prevent confusion during the final data collection procedure. Informed and well-trained field workers were employed to conduct the surveys.

5.5.5 Data analysis: Inferential validity

Inferential validity refers to the validity of logical inferences drawn during the completion especially during the writing of the results and ultimate conclusions (Moshman & Franks, 1986). The assistance of a professional statistician of the University of Pretoria ensured that data was analysed correctly and that appropriate analytical procedures were used to produce valid results. It is important to stipulate that the goal of this study was never to generalize the findings to the whole of South Africa but to merely explore and describe the phenomena at hand with in the context of Tshwane.

5.6 ETHICS

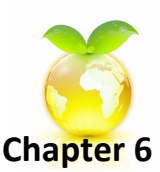
Ethical conduct begins and ends with the researcher (Neuman, 1997:443). A researcher's personal moral code is the strongest defence against unethical behaviour. Ethical behaviour is of the utmost importance prior, during and after conducting the study. Due to the importance of ethical behaviour in social research, the following was done to ensure and protect the research party and the participants. Like most professional associations, the University of Pretoria has set a formal code of conduct regarding social

© University of Pretoria

research (Faculty Committee for Research Ethics & Integrity, 2013). All proposed research is evaluated and approved by the Faculty of Natural and Agricultural Sciences prior to the research process. All participants were informed about the purpose of the study and asked to partake out of free will. Participants' identity and privacy was highly respected and ensured by not expecting participants to provide identifiable information (Neuman, 1997:452). All participants were guaranteed that information gained from the study would be kept confidential. No person, whether participant or researcher was put in danger in any way.

The researcher also guarded against plagiarism, and ensured that all ideas or thoughts from other researchers were well referenced. The researcher also guarded against research fraud, through the use of statisticians and relevant statistical programs to ensure that data gained is true and valid. Research fraud according to Neuman (1997:444) occurs when a researcher fakes or falsifies reports regarding the research. The supervisor and statisticians reviewed the interpretation of the data to ensure that the reporting was done objectively.

© University of Pretoria



RESULTS AND DISCUSSIONS PART 1: QUANTITATIVE INVESTIGATION

This chapter describes the demographic profile of the sample before it provides an exposition of the findings of the quantitative phase. Findings commence with a general overview of consumers' fresh produce purchasing and consumption practices, followed by an explanation of how consumers' consciousness of climate change as well as personal characteristics influence their ability to abide to the principles of sustainable consumption.

6.1 DEMOGRAPHIC PROFILE OF THE SAMPLE

Respondents' gender, age, income and education level formed part of the demographic information requested in section one of the questionnaire (Addendum C) to enable an interpretation of findings in terms of subsets of the sample.

6.1.1 Gender distribution of the sample

Despite attempts to recruit an even distribution of male and female respondents, the majority of the sample (N = 560) was females (n = 422/ 75.36%; male: n = 134/ 23.93%). This could be attributed to the fact that willing decision makers in households were asked to participate in the survey, and/or that the majority of grocery shopping in households is still done by females. The latter was confirmed in question 13.1, where 430 respondents (76.78%) indicated that they themselves were primarily responsible for food and grocery shopping for their households. According to gender statistics (CoT, 2011), females constitute the majority of the population in Tshwane, South Africa and therefore their views on pertinent issues such as food shopping would be valuable. Recent research findings still indicate that, despite changes in gender roles in recent years, females are still the main or sole grocery shoppers in most households (Jin & Suh, 2005; Wyma, 2011). In a worldwide survey carried out by WEN (Womens' Environmental Network) and NFWI (National Federation of Women's Institutes), 93% of the women surveyed said that they were entirely or largely responsible for food purchases in their households; 84% for clothing purchases, and 82% for choosing major household appliances (Haigh & Vallely, 2010). A study done by Phipps, Stites, Wallace and Braitman (2013), which specifically focused on the consumers' purchasing and consumption of fresh fruit and vegetables in the USA concluded that females, older, and more educated consumers are still the primary shoppers in most households.

© University of Pretoria

Apparently women in general are more affected by climate change compared to their male counterparts and are therefore inclined to be more concerned about sustainability issues. Usually women have to take special measures during food shortages and when food is expensive, which puts much strain on their household budgets (Patchen, 2006; Semenza, Hall, Wilson, Bontempo, Sailor & George, 2008; Haigh & Vallely, 2010; Wicker & Becken, 2013). It is said that even though women are more vulnerable, they are also viewed as important agents of change, which suggests notable potential to initiate change from grassroots level because they are often the main socializing agent in their homes, in charge of household grocery shopping and are inclined to be more altruistic (Haigh & Vallely, 2010). Some are even of the opinion that women will, if equipped with agency and social power, manage to reduce the effects of climate change (Oxfam, 2013). The problem, however, is that women as positive drivers for change is often undervalued and ignored.

6.1.2 Age distribution of the sample

The minimum pre-requisite for participation in this study was 21 years of age. Respondents indicated their exact age in an open question, which was converted to three age categories for the purpose of statistical analysis based on the premise that different age groups might have dissimilar perceptions and expectations (Patchen, 2006). Table 6.1 presents the age distribution of the sample.

TABLE 6.1: AGE GROUP DISTRIBUTION OF THE SAMPLE (N = 560)

Age group	n	%
20 - <30 years	229	40.89
30-≤49 years	219	39.11
50+ years	104	18.57
Missing	8	1.43

The predominance of young respondents was considered positive as research suggest that younger individuals are generally less sceptical about climate change and are more willing to mitigate unsustainable behaviour (Poortinga, Spence, Whitmarsh, Capstick & Pidgeon, 2011). The findings of this study would therefore reflect the perceptions and behaviour of future consumers. Older consumers are apparently inclined to be politically more conservative and to hold traditional values that hinder them from accepting new laws, regulations and/ or behavioural changes, which would be problematic in terms of efforts to motivate change in behaviour (IMB, 2012).

6.1.3 Marital status and average household size of the sample

The majority of respondents were either single or divorced (n = 243/ 43.39%). Married/ couples without children constituted 16.61% (n = 93) of the sample, whereas 37.86% of the sample (n = 212) consisted of households with children. Findings presented in Figure 6.1 reveal an average household size of 3 to 4

© University of Pretoria

members (n= 213/ 38.04%), which reflects the predominant household structure of the geographical area. According to the City of Tshwane - Household Survey (CoT, 2008) the representation of nuclear households in Tshwane is estimated at 75%. Traditionally an extended family system, which includes several generations of family members living in close proximity to one another, is accepted amongst most South African households (Kimani & Kombo, 2010). A shift towards smaller households amongst South African Whites transpired during the early 1970's and is attributed to women entering the work place and cultural values like individualism, which is promoted by Western societies and marketing media (YU, 2005). Unlike the South African White population category, change with regard to the structure and size of 'Other' households transpired post 1994 as a result of rapid demographic and socio-economic changes. Latest results reflect that the traditional – extended household, which is popular among Black population groups is being replaced by the smaller nuclear structure consisting solely of a father, mother and children (Kimani & Kombo, 2010).

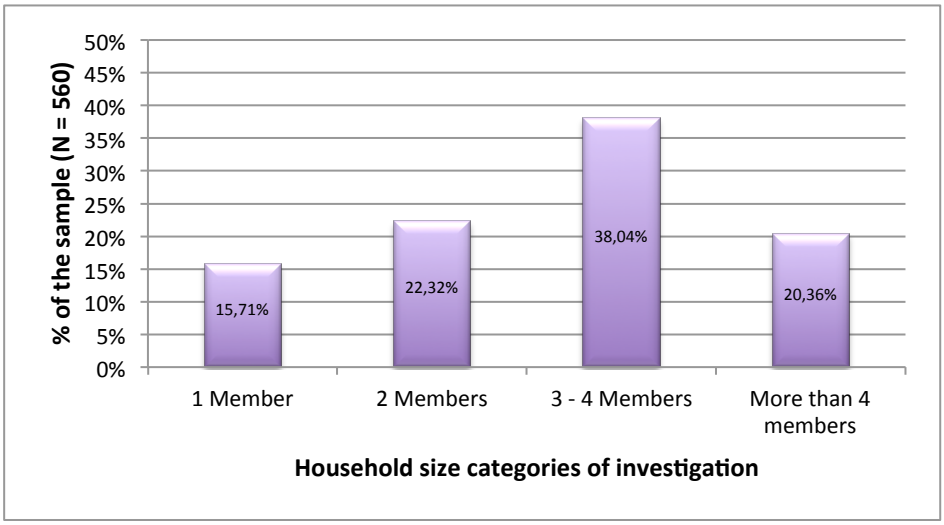


FIGURE 6.1: HOUSEHOLD SIZE (N = 560)

6.1.4 Level of education of the sample

Although it was expected that higher educated consumers might be more meticulous about environmental issues like climate change, a sizeable number of respondents who did not progress further than secondary school education (Grade 12 and lower) were also recruited to enable a comparison of groups with notably different levels of formal education. Table 6.2 presents findings pertaining to the three levels of education that were retained for further analysis.

TABLE 6.2: LEVEL OF EDUCATION OF THE SAMPLE (N = 560)

Categories of investigation	n	%
Lower than grade 12	8	1.43
Grade 12	219	39.11
Grade 12 plus a diploma or a degree	330	59.93
Missing	3	0.54

© University of Pretoria

The majority of the sample was well educated, possessing a diploma or degree. Only a small percentage of the sample did not complete secondary school up to grade 12. Better-educated consumers generally have easier access to sources of information (Patchen, 2006) and theoretically therefore have the potential to access information to mitigate unsustainable purchasing and consumption behaviour if they are interested or prompted to do so. They are furthermore also more able to interpret/understand complex issues regarding climate change and they should theoretically therefore be more willing to take ownership of their contribution towards climate change (Poortinga etal., 2011; Tobler, Visschers & Siegrist, 2012).

6.1.5 Home language

Consumers' home language may influence their ability to access and utilize information relating to climate change and sustainability issues (Sutton & Tobin, 2011). In South Africa with its eleven official languages and numerous dialects, the language issue is particularly worrisome. The majority of the sample was Afrikaans speaking (n = 275/ 49.11%), followed by those whose mother tongue was one of the European languages (English, German, French and Greek) (n = 184/ 32.85%). Only 64 respondents (11.43%) indicated that one of the African languages was used in their home, with Sepedi the most spoken language, which is in accordance with the profile of the City of Tshwane (CoT, 2008). When asked to indicate whether they experienced any problems or struggled to interpret information and/ or advertisements that are presented in English, only seven respondents indicated that they always struggle; 71 (12.68%) indicated that they sometimes struggle, and 467 (83.39%) indicated that they never struggle to interpret and understand product labelling. Respondents who participated in this study therefore did not have a problem to understand information conveyed in media in English. The situation in the rest of South Africa may be different because Stats SA (2012) indicates that only 41.7 % of the total population of South Africa possesses a grade 12 qualification, of which only 9.6% are able to comprehend and fluently communicate in English. Prinsloo, Van der Merwe, Bosman and Erasmus (2012) found that higher income and more educated consumers are more likely to use product information on product labelling in order to direct their purchase and usage behaviour. Poverty and poor education is currently ranked as major issues of concern in South Africa (Equal Education, 2011). This is therefore viewed as an area of concern because it could mean that a vast amount of consumers in South Africa might struggle to correct unsustainable behaviour through the usage of printed and product labelling because they will not be able to interpret it.

In terms of media that could be used to educate and inform consumers about climate change, television is apparently used by the majority of respondents (n = 226/ 40.36%) as an important source of information regarding environmental issues, closely followed by the Internet (n = 223/ 39.82%) and printed media (n = 209/ 37.32%). Only 43 respondents (7.68%) of the sample indicated that they receive information from

© University of Pretoria

retailers. This is a concern, which was later confirmed (Section 7 of the questionnaire, question 24) when 362 respondents (63.51%)suggested that education regarding sustainable practices is much needed and that retailers should take the initiative to equip consumers with the needed information. Findings about respondents' use of media as information source are presented in Figure 6.2 in descending order.

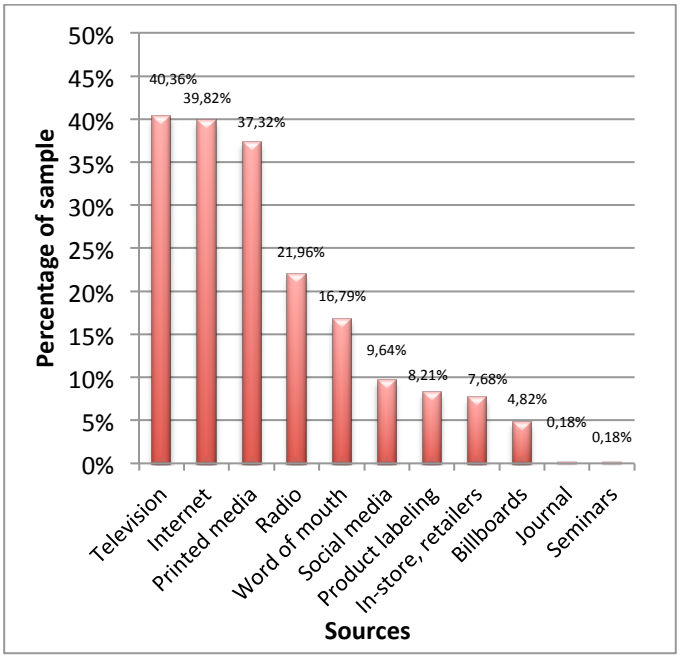


FIGURE 6.2: SOURCES CONSULTED BY REPONDENTS FOR INFORMATION PERTAINING TO ENVIRONMENTAL ISSUES
(N = 560)

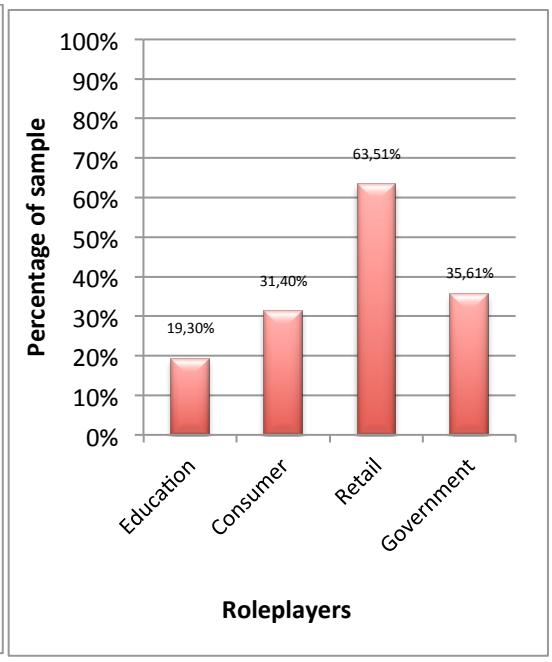


FIGURE 6.3: RESPONDENTS' SUGGESTIONS OF ROLE PLAYERS THAT ARE RESPONSIBLE FOR THE MITIGATION OF UNSUSTAINABLE CONSUMER PRACTICES (N = 560)

6.1.6 Average household income of the sample

Many authors agree that household income determines members' spending power. Research indicates that households' income and spending patterns (expenditure), especially in terms of what is spent on necessities and luxury goods, have consequences for the sustainability of the world's natural resources, which as a critical influence on climate change (Kerkhof, Nonhebel& Moll, 2008). The four household income categories that were formed in this study resemble the categories established by the South African Bureau of Market Research (BMR, 2012), and are also used in the latest South African living standard measurements (LSM) as established by SAARF (2012). An investigation of consumers' purchasing and decision-making behaviour in accordance with the income categories will enable recommendations for communication about sustainability issues in media later in this study.

© University of Pretoria

TABLE 6.3: INCOME DISTRIBUTION OF THE SAMPLE (N = 560)

Income descriptor according to BMR 2012	% of SA population	Monthly household income categories in this study	n	% of sample
Poor - Low emerging middle class	28.6	**≤R10 000.00**	168	30.00
Emerging middle class	22.4	**>R10 000.00 - R25 000.00**	111	19.82
Realised middle class	17.7	**>R25 000.00 - R45 000.00**	115	20.54
Upper middle class –Emerging affluent	21.2	**>R45 000.00**	87	15.54
Affluent	10.1	-	-	-
		Missing	79	14.11

Unfortunately 14.11% (n = 79) of the sample refrained from disclosing their incomes, probably because they were requested to specify their total monthly household income explicitly in an open question, and doubted confidentiality, although it was stated clearly in the cover letter. The median income of the geographical area is R14 500 ZAR (CoT 2011) and the median monthly income for South African households is estimated at R9 169 ZAR (SAARF, 2012; BMR, 2012) [Approximate exchange rate: 1 USD = 10.30 ZAR]. The majority of the sample was middle to upper income households, which was considered appropriate for this investigation as financial means is directly related to spending power and waste behaviour (Gustavsson, 2011; Marshak, 2012). The sample therefore included respondents who were theoretically prone to waste more. The inclusion of a majority of middle and upper income respondents provided the opportunity to investigate the knowledge and consumption behaviour of consumers that could hypothetically afford to spend more than what is considered apt and who could subsequently amend their consumption behaviour.

6.1.7 Population representation in the sample

Although this explorative investigation never aimed to distinguish the perceptions of specific population groups, respondents were asked to indicate which population group they belonged to according to the South African Population Equity Act. Because the population in South Africa is very cosmopolitan and complex, a correlation of this kind (between population categories) would have required a much larger sample, which was financially and logistically not viable in this study. Initially three broad population categories (Whites, Blacks and others) were distinguished. These three categories were converted to only two groups, namely Whites and Others (with 'Others' incorporating respondents of African/ Black, Asian and Coloured descendants). The population distribution of the sample indicated a majority of Whites (n = 435/ 77.68%) with the population group other than Whites representing only 22.32% of the sample (n = 125). The predominance of Whites is due to the convenience sampling method but as mentioned before, this study never intended to specifically focus on population differences.

6.1.8 Area of residence

The sample was recruited across the municipal area of Tshwane. Area of residence is merely indicated in Table 6.4 to confirm the distribution of respondents across the geographic area. Respondents were

© University of Pretoria

recruited from all Tshwane regions in accordance with the size of the particular area (i.e. larger regions and highly populated areas resulted in a larger representation in the sample).

It is noteworthy to report that suburbs 3, 4 and 5, which are well represented in the sample are well serviced by all of the retailers that are relevant to this study. It is therefore fair to say that respondents are exposed to all the different retailers referred to in this investigation even if they preferred to support selected retailers. It is furthermore assumed that they would be able to provide reliable information about the topic of investigation. To the contrary, consumers who have poor access to retailers and appropriate support structures will struggle to get hold of information to facilitate rational decision making, which is a requisite to mitigate unsustainable purchasing and consumption practices (Jackson, 2005b).

TABLE 6.4: AREA OF RESIDENCE OF THE SAMPLE (N = 560)

Area or residence categories of investigation		2008 CoT	n	% of sample
1	Dorandia, Garankuwa, Hebron, Mabopane, Motholung, Orchards, Pretoria North, Soshanguve, Theresa Park	(North West)	30	5.36
2	Annlin, Ekklesia, Hammanskraal, Kameeldrift, Magalieskruin, Montana Gardens, Montana Park, Montana, Sinoville, Wallmansthal, Wonderboom	(North East)	13	2.32
3	Arcadia, Clydesdale, Colbyn, Daspoort, Eastwood, Elandspoort, Groenkloof, Hatfield, Hillcrest, Lucas Rand, Lynnwood, Mountain View, Muckleneuk, Nieu Muckleneuk, Pretoria Central, Pretoria Gardens, Proclamation Hill, Riviera, Sterrewag, Suiderberg, Sunnyside, Wonderboom, Zandfontein,	(Central West)	184	32.86
4	Celtisdal, Centurion, Clubview, Doringkloof, Eldoraigne, Erasmia, Heuweloord, Highveld, Irene, Kloofsig, Laudium, Lyttleton, Monument Park, Olievenhoutbosch, Pierre van Reyneveld, Randtjiesfontein, Raslouw, Rooihuiskraal, The Reeds, Wierda Glen, Wierda Park, Zwartkops	(South)	109	19.47
5	Ashley Gardens, Bergtuin, Boschkop, Constantia Park, Eastlynne, Elardus Park, Eloffsdal, Equestria, Erasmuskloof, Erasmusrand, Fearie Glen, Garstfontein, Gezina, Hazeldean, Kilner Park, La Montagne, Lynnwood Glen, Lynnwood Manor, Lynnwood Ridge, Mamelodi, Mayville, Menlo Park, Meyerspark, Mooikloof, Moregloed, Moreleta Park, Murrayfield, Nelmapius, Newlands, Olympus,Pretorius Park, Queenswood, Rietfontein, Rietondale, Rietvallei, Shere, Silverlakes, Silverton,The Willows, Villieria, Wapadrand, Waterkloof Glen, Waterkloof Park, Waterkloof Ridge, Waterkloof, Waverley, Weavind Park, Willowpark, Wingate Park, Zwawelpoort	(East)	208	37.15
	Missing		17	3.04

© University of Pretoria

6.2 RESULTS

The results of the investigation are presented according to the objectives for the study. The initial results are descriptive in nature to provide some background concerning households' food purchase behaviour and their evaluation of the prominent food retail outlets. Because the sample was recruited through convenience sampling, the sample (N = 560) was not necessarily representative of the geographic area and therefore findings cannot be generalised. It was therefore decided to present and discuss results per demographic category, which allowed a more truthful impression of the behaviour than discussing the findings of the entire sample.

** Where applicable findings of the focus group discussion are included to either support or confirm the quantitative results.*

6.2.1 Consumers' purchasing behaviour concerning fresh produce (Objective 3.1.1)

6.2.1.1 Person responsible for food- and grocery shopping

The majority of respondents who participated in the study were personally responsible for purchasing the bulk of their households' food and other groceries. Partners assisted in some shopping on a weekly or monthly basis. Only 15 (2.68%) respondents indicated that their children took charge of the food shopping task once a week, while 80 indicated that their children almost never took responsibility for food purchases. Some respondents (n = 19/ 3.39%) indicated that someone else (an outsider) did their food and grocery shopping on their behalf, for example their maids, or they did their shopping by means of online shopping portals. Although females (n = 422/ 75.3%) seemed to carry the primary responsibility for doing the households' grocery shopping, men (n = 134/ 23.9%) did not shy away from the task in certain households. Figure 6.4 not only illustrates who are mainly responsible for households' food procurement, but also indicates how frequently they do shopping for food and groceries.

6.2.1.2 Food purchasing behaviour

From the previous discussion it is clear that the majority of respondents indicated that they themselves were primarily responsible for food and grocery shopping for their households. This could be attributed to the fact that willing decision makers in households were asked to participate in the survey. Figure 6.4, further illustrates that households (irrespective of who the primary shopper is) are inclined to purchase food and groceries weekly, or twice per week.

© University of Pretoria

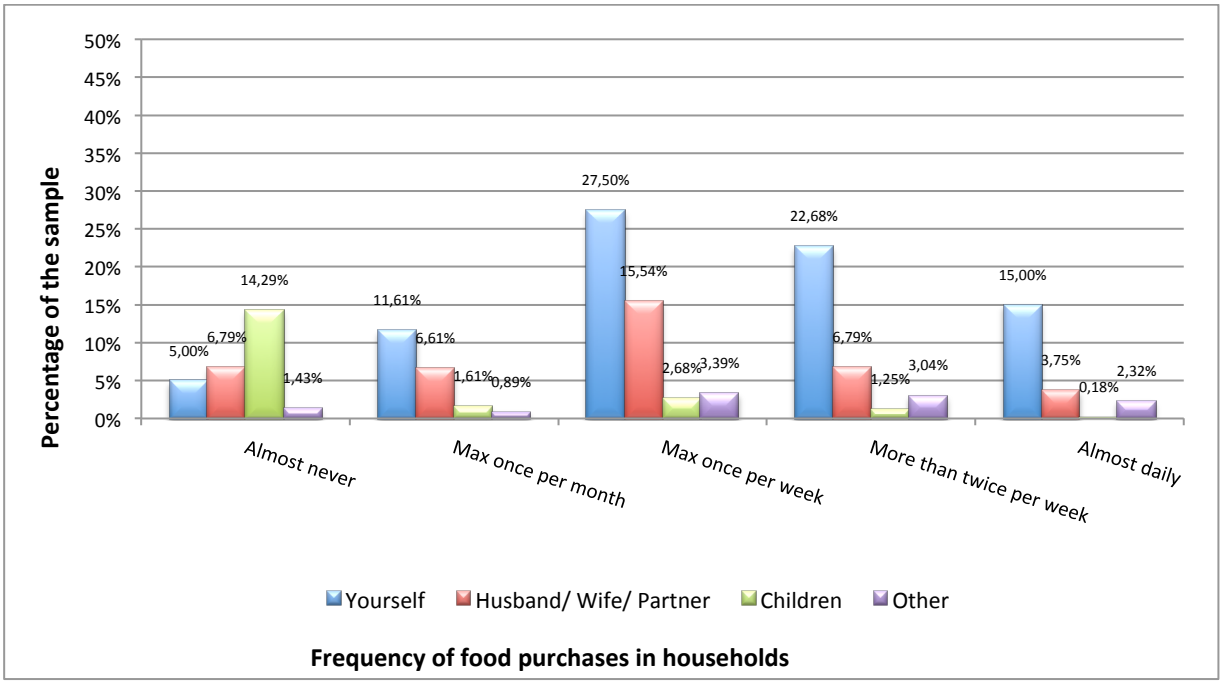


FIGURE 6.4: FOOD PURCHASES IN HOUSEHOLDS (N = 560)

A smaller percentage of the sample indicated that they do their shopping on a daily basis and very few respondents indicated that they purchase food and groceries once per month. Consumers who shop frequently may be less inclined to plan their purchases beforehand, which may result in compulsive and even erratic consumer behaviour that contributes to unnecessary waste creation.

6.2.1.3 Consumers' patronage of South African retailers

Respondents firstly indicated which of the six prominent food and grocery retailers in the country they preferred and patronised on a regular basis. Interpreted in terms of a 4-point Likert-type agreement scale, means for the six retailers for store patronage ranged between 1.23 (Retailer 6) to 2.72 (Retailer 2). Findings are presented in Figure 6.5. Retailers 2, 3 and 4 that target similar target markets scored very closely in terms of consumer patronage in general. Findings from this study (Phase 2) revealed that these retailers have similar interests and policies regarding climate change.

© University of Pretoria

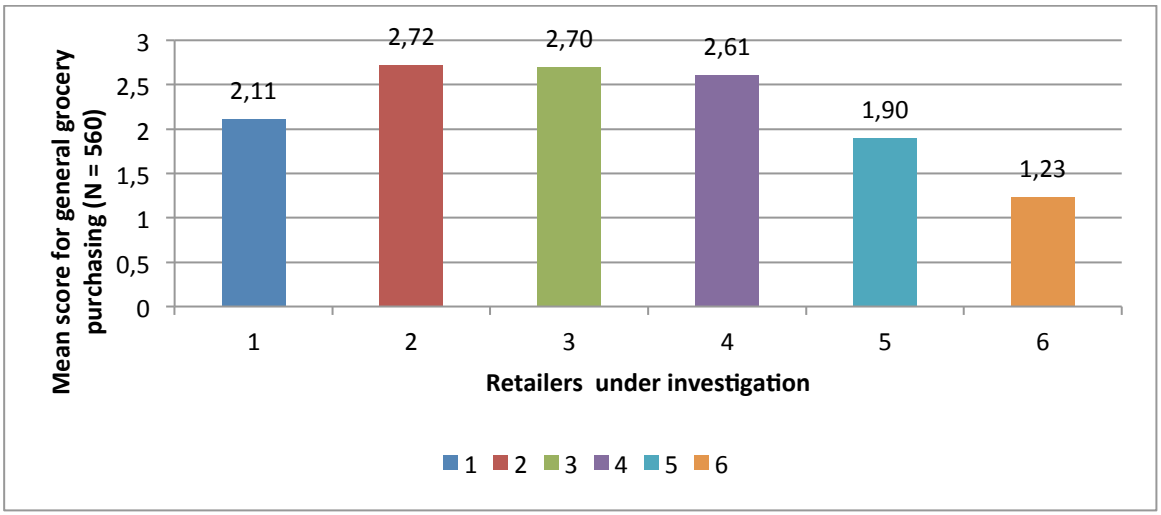


FIGURE 6.5: CONSUMERS' PATRONAGE OF FOOD AND GROCERY RETAILERS FOR THE PURPOSE OF BUYING GROCERIES

Consumers' patronage in terms of fresh produce purchasing in particular is illustrated in Figure 6.6.

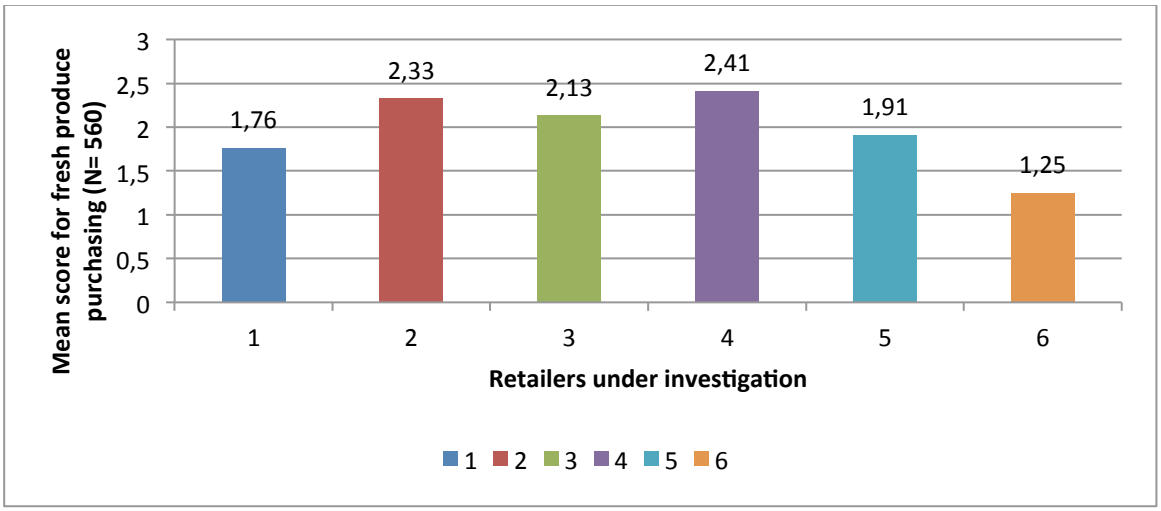


FIGURE 6.6: CONSUMERS' PATRONAGE OF FOOD AND GROCERY RETAILERS FOR THE PURPOSE OF BUYING FRESH PRODUCE

From the findings presented in Figure 6.6 it seems clear that retailers are not necessarily attracting equal portions of the market in terms of fresh produce purchases. Results again indicated that retailers 2, 3 and 4 were more likely to be patronised by respondents for the purpose of fresh produce purchasing, with retailer 4 being the favourite. Retailer 6 seems to be the least preferred in terms of fresh produce purchasing. This was somewhat disappointing because compared to the other retailers, retailer 6 is known for being environmentally sensitive in its practices.

Figure 6.7 illustrates how respondents rated the quality of the fresh produce as well as respondents' perceptions of the respective retailers' environmental friendliness. In terms of fresh produce quality,

© University of Pretoria

Means ≥3.1 indicate that respondents perceive the quality of fresh produce as good. One retailer's (Retailer 4) product quality was rated as excellent (M = 4.62). This specific retailer was also identified as the most preferred in terms of fresh produce purchases (see Figure 6.6). Concerning retailers' perceived environmental friendliness, the same retailer (Retailer 4) also outperformed the rest (M = 4.25).

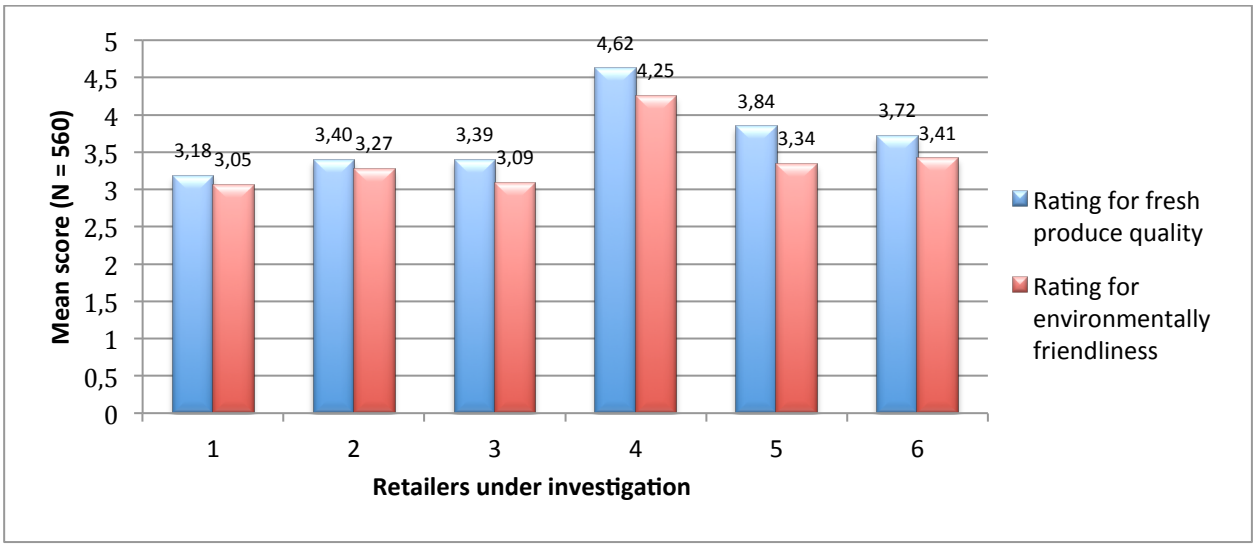


FIGURE 6.7: CONSUMERS' PERCEPTION OF RETAILERS' FRESH PRODUCE AND ENVIRONMENTALLY FRIENDLINESS

6.2.1.4 Consumers' preference of packaging formats for fresh produce

The format in which fresh produce is packaged may be indicative of consumers' planning of fresh produce purchases and may also influence the amount of fresh produce that is wasted, therefore respondents were asked to indicate the format they preferred when purchasing fresh produce. Table 6.5 presents the findings.

TABLE 6.5: RESPONDENTS' PREFERENCE OF THE FORMAT OF FRESH PRODUCE PACKAGING (N = 560)

	Bulk format		Loose format		Preserved format*	
	n	%	n	%	n	%
Agree	390	69.64	253	45.18	265	47.32
Disagree	141	25.17	268	47.86	265	47.32
Missing	29	5.17	39	6.96	30	5.36

*Preserved format refers to produce that have been bottled, tinned, dried and or frozen to inter-alia prolong the shelf life.

The majority of respondents (n = 390/ 69.64%) agreed that they preferred purchasing fresh produce in bulk packs, i.e. the so-called economy packs or family packs. This could be attributed to the average size of the respondents' households. Buying in bulk was later (in question 24) disclosed as one of the reasons for unnecessary wastage because fresh produce is consumed slower than expected. Fresh produce

© University of Pretoria

preparation is therefore not planned in accordance with the fresh produce that is available in the home. In another question (question 18.8) respondents admitted that fresh produce is wasted because of slow consumption. A notable percentage of the respondents (n = 253/ 45.18%) apparently often purchased fresh produce in loose format, which is comforting as the majority of respondents later on (question 24) agreed that purchasing fresh produce in loose format would promote sustainable fresh produce consumption as it reduces household waste. Uncertainty about the consequences of using preserved fruit and vegetables in terms of sustainability issues were confirmed by the fact that 265 respondents (47.32%) were in favour of preserved fruit and vegetables and the same percentage thought it was not advisable to do so. When asked to make suggestions (question 24), respondents, however, indicated that it would be acceptable to purchase preserved foods when the products are needed/ wanted are "out of season".

6.2.2 Drivers of consumers' fresh produce purchasing behaviour (Objective 3.1.2)

In order to understand the possible influence that personal characteristics, specifically consumers' status consciousness, may exert on their fresh produce purchasing and consumption behaviour, respondents had to respond to a combination of eleven questions of which four questions were taken from Kilsheimers' status consumption scale (1993), four status items were extracted from Richins and Dawsons'(1992) materialism scale while three questions were self designed. Questions were slightly adapted to reflect on the topic of investigation, i.e. instead of merely investigating their status consciousness in general, respondents were asked to reflect on their fresh produce purchase behaviour. A four point Likert-type agreement scale was used. A higher mean score was interpreted as a positive indication that respondents' fresh produce purchasing was positively influenced by their status consciousness (a personal characteristic), and that they, therefore, were more liable to purchase fresh produce irresponsibly/ conspicuously. Means were interpreted as follows: Mean $\geq$3: very status consciousness; means >2.5 - <3: moderately status consciousness; means $\geq$1.5 - <2.5: low status consciousness; means < 1.5: very low status consciousness. Cronbach Alphas (presented in Table 6.6) for the individual items varied between 0.789 and 0.844, confirming the internal consistency of consumers' responses and indicating that the measuring instrument can be considered reliable.

© University of Pretoria

TABLE 6.6: FRESH PRODUCE CONSUMPTION REFLECTING STATUS CONSCIOUSNESS (ADAPTED FROM KILSHEIMER, 1993 AND RICHINS & DAWSON, 1992)

Items	Cronbach Alpha	Mean*	% Agreed
We place a lot of emphasis on the type of fresh produce when making a purchase decision	.823	2.82	75.61
We work very hard and therefore deserve that only the best fruit and vegetables are made available in the stores that we visit	.813	2.76	67.10
We try to purchase only the most basic or simplest types of fresh produce**	.844	2.63	59.96
We would pay more for fresh produce that has a superior appearance	.820	2.59	61.08
We admire people who display fresh produce attractively in their kitchens	.806	2.36	49.66
The type and quality of fresh produce that we purchase signifies how well we are doing in life	.803	2.06	29.05
We believe that an attractive bowl brimming with top quality fruit is an essential part of our kitchen and will impress our family	.793	1.99	26.17
We believe that an attractive bowl brimming with top quality fruit is an essential part of our kitchen and will impress our friends	.789	1.94	21.23
We are always on the lookout for exotic and imported fresh produce because we believe it is of superior quality	.809	1.78	15.80
Fresh produce that is imported is more attractive to us because it is admired by the people	.797	1.65	11.36
We prefer to purchase imported products because they tend to have more status	.803	1.63	11.40
Total	-	2.20	38.95

*Mean maximum = 4; **Reverse coded items; Shaded items distinguish different levels of status consciousness; Percentage agreed: respondents who agreed / strongly agreed to the statements

Findings in Table 6.6 are presented in descending order. An overall mean (M = 2.20) suggests that respondents are somewhat status conscious when purchasing fresh produce. In terms of the individual scale items means > 2.5 suggest that respondents are moderately status conscious when purchasing fresh produce. The means of five items varied between 2.36 and 2.82, which warrant concern about respondents' purchase behaviour in terms of certain purchase activities namely concern about the fact that the majority of respondents agreed that the type of fresh produce that is purchased is important to them. These consumers would for example typically purchase avocados even though they are imported or expensive because they have little inclination to choose a substitute if they have a specific product in mind. Most respondents furthermore felt that they deserved to get only the best fresh produce as a form of reward for their hard work, while a notable percentage confirmed that they would pay more for fresh produce that are visually appealing. The relevance of the attractive visual appeal of fresh produce was confirmed by the fact that near half (n = 278) of the sample admitted that they admired people who displayed fresh produce attractively in their kitchens. Even fresh produce can therefore be used intentionally to win the admiration of others, and in so-doing, the best quality produce is purchased with personal gain in mind rather than to demonstrate concern about environmental issues.

Almost 30% of respondents agreed that the type of fresh produce one buys signifies how well one is doing in life and some respondents furthermore admitted that they displayed top quality fresh produce visually

© University of Pretoria

in their kitchens to impress family and friends - an indication of the conspicuous use of a basic commodity such as fresh produce as a status symbol.

Focus group discussions later confirmed that consumers are indeed status conscious when purchasing fresh produce. Participants explained that they do feel that the type, and especially the quality of fresh produce convey a message about one's lifestyle:

"When I buy fresh produce I only select the best, I will not take something that is bruised or have marks or is packed in a broken packet… let's take - over ripe tomatoes [for example] I will not buy it because I deserve better"(F2:2)

"I enjoy buying imported produce, it might be more expensive, but if I feel like having it and I can afford it, I will buy it, why can't I?"(F2:2).

Further analysis of the data included the calculation of means for the various demographic sets of the sample. This was followed by one way analysis of variance (ANOVA) to seek significant differences across the age, education level and income level categories. T – tests were performed to investigate possible significant differences between gender, as well as the two population categories of the sample. In cases where evidence of significant differences surfaced, relevant post-hoc tests were done to identify where the significant differences existed. Table 6.6 reflects the results for respondents' fresh produce consumption behaviour based on respondents' status consciousness per demographic category.

Findings (Table 6.7) reveal that overall means per demographic group varied between 2.20 and 2.26 (Maximum = 4), which indicates that overall, respondents' fresh produce purchases are not dominated by status consciousness despite the foregoing discussion about certain aspects of fresh produce consumption. Fresh produce as a product category compared to other products in consumers' minds, is probably viewed as an everyday household product that is not as socially significant to the extent that products such as clothes and furniture are. In essence, fresh produce is therefore apparently not characterized as a product that is purchased or consumed for status related purposes. Sonnenberg, Erasmus and Donoghue (2011) state that consumers often intentionally purchase products like household appliances to acquire status. This is apparently not the case with fresh produce as a product category.

© University of Pretoria

TABLE 6.7: FRESH PRODUCE CONSUMPTION IN TERMS OF STATUS CONSCIOUSNESS PER DEMOGRAPHIC CATEGORY (N = 560)

Gender	n	Mean**	SEM
Male	130	2.19	0.039
Female	407	2.22	0.025
Total	537	2.21	-
p-value (t-test)			0.550
Age	**n**	**Mean****	**SEM**
20 - <30	223	2.20	0.033
30 - <50	208	2.22	0.034
50+	102	2.16	0.051
Total	533	2.20	0.021
p-value (ANOVA)			0.576
Education	**n**	**Mean****	**SEM**
Lower than Grade 12	8	2.84	0.237
Grade 12	215	2.26	0.032
Grade 12 plus a degree or a diploma	315	2.15	0.027
Total	538	2.21	0.021
p-value (ANOVA)			**0.000***
Income	**n**	**Mean****	**SEM**
R0 - R10000	172	2.33	0.040
>R10000 - R25000	106	2.22	0.049
>R25000 - R45000	111	2.11	0.046
> R45000	84	2.11	0.050
Total	473	2.21	0.023
p-value (ANOVA)			**0.000***
Population group	**n**	**Mean****	**SEM**
Other	111	2.36	0.052
White	427	2.16	0.023
Total	538	2.26	-
p-value (t-test)			**0.000***

The means differ significantly ($p \leq 0.05$); ** Mean Maximum = 4; **SEM:** Standard error of the mean

Within certain demographic groups, however, specifically the lower education group (M = 2.84), means >2.5 suggest that those subsets of the sample agreed with most of the scale items and therefore tend to purchase fresh produce for status related reasons. Also of importance are the significant differences that were disclosed among certain demographic groups (specifically level of education, population and income groups). Post-hoc tests were done to identify where significant differences were within the different groups: Tables 6.8, 6.9 and 6.10 present the relevant information.

6.2.2.1 Fresh produce status consumption of different gender and age groups

In terms of consumers' fresh produce consumption for status related reasons, no significant differences could be confirmed within the gender (p = 0.550) or age (p = 0.576) categories. Even though females (M = 2.22) were slightly more inclined to purchase fresh produce for status related reasons than males (M = 2.19), the difference is not significant. Neither could significant differences be confirmed among the different age categories. It is, however, interesting to note that the middle age group (30 - <50 years; M =

© University of Pretoria

2.22) tend to be slightly more status conscious when purchasing fresh produce compared to young or older consumers. According to this study, neither gender nor age can therefore be considered as possible signifiers of status consumption in terms of fresh produce.

6.2.2.2 Fresh produce status consumption of different level of education groups

Consumers' consumption of fresh produce was investigated further to determine possible significant differences among consumers with different education levels. Three education levels were distinguished for this investigation.

TABLE 6.8: FRESH PRODUCE STATUS CONSUMPTION IN TERMS OF EDUCATION

Level of Education	Education category	Mean**	Mean Difference	SEM	p - value
Lower than Grade 12 (M = 2.84)	**Grade 12**	2.26	.577*	.175	**0.003**
	Grade 12 plus a Degree or Diploma	2.15	.690*	.134	**0.000**
Grade 12 (M = 2.26)	**Grade 12 plus a Degree or Diploma**	2.15	.113*	.043	**0.026**

*The mean difference is significant ($p = \leq 0.05$); **Bolded** p – values indicate significant differences; **$Mean_{Maximum} = 4$; SEM: Standard error of the mean.

Following the means presented in Table 6.7, Table 6.8 presents the findings of the post-hoc Bonferroni test, which indicates that all the education groups differ significantly from each other. Findings in particular suggest that the lowest level of education group (< grade 12) is significantly more status conscious (M = 2.84) than consumers with higher education levels. Similarly the middle education level category, i.e. consumers that have completed secondary school up to Grade 12 (M = 2.26), seems significantly more status conscious than the highest level of education group, i.e. consumers with a post secondary school diploma or a degree. Lower educated consumers therefore seem to be significantly more status conscious and would therefore be more inclined to purchase fresh produce conspicuously. Patchen (2006) explains that consumer behaviour is often reinforced by the post-purchase emotion of consumers. In terms of status consumption, consumers often experience an emotional high due to peer appreciation whereas sustainable consumption is less conspicuous and is appreciated to a lesser extent amongst fellow citizens.

6.2.2.3 Fresh produce status consumption of different household income groups

Income theoretically determines spending power, but does not necessarily reflect status consumption (O'Cass & McEwen, 2006). Differences in status consciousness in terms of the consumption of fresh produce were investigated to determine possible significant differences among the three income categories that were distinguished in this study. Findings are presented in Table 6.10.Analysis of variance (ANOVA), indicated significant differences among the income categories (p = 0.001). A subsequent post-hoc Bonferroni test revealed that the lowest income group (M = 2.33) was significantly more inclined to purchase fresh produce for status related reasons than the two higher income groups (M = 2.11 and M = 2.11 respectively). This could be ascribed to lower income consumers' social aspirations. A study done by

© University of Pretoria

Belk (1988) confirmed that the consumption behaviour of lower income consumers in particular, is often driven by status and or materialistic ideals, and that they often consume conspicuously and even irrationally. According to literature, 'saving the planet' is a higher order need, which is not necessarily a priority for low-income consumers (Nair, 2011).

TABLE 6.9: FRESH PRODUCE STATUS CONSUMPTION IN TERMS OF INCOME

Income	Income category	Mean**	Mean Difference	SEM	p - value
R0 - R10000 (M = 2.33)	**>R10000 - R25000**	2.22	1137	.062	0.398
	>R25000 - R45000	2.11	.2205*	.061	**0.002**
	> R45000	2.11	.2203*	.067	**0.006**
>R10000 - R25000 (M = 2.22)	**R0 - R10000**	2.33	-.1137	.062	0.398
	>R25000 - R45000	2.11	.1068	.068	0.700
	>R45000	2.11	.1065	.073	0.875
>R25000 - R45000 (M = 2.11)	**R0 - R10000**	2.33	-.2205*	.061	**0.002**
	>R10000 - R25000	2.22	-.1068	.068	0.700
	>R45000	2.11	-.0003	.072	1.000
>R45000 (M = 2.11)	**R0 - R10000**	2.33	-.2203*	.067	**0.006**
	>R10000 - R25000	2.22	-.1065	.073	0.875
	>R25000 - R45000	2.11	.0003	.072	1.000

*The mean difference is significant (p = ≤ 0.05); **$Mean_{Maximum}$ = 4; SEM: Standard error of the mean; **Bolded** p – values indicate a significant differences

6.2.2.4 Fresh produce status consumption of different population groups

Consumers' status consumption of fresh produce was further investigated in terms of differences between the two population categories that were distinguished in this study, i.e. Whites and "Other" populations groups that included Blacks, Asian, Indian and Coloureds.

TABLE 6.10: FRESH PRODUCE STATUS CONSUMPTION IN TERMS OF POPULATION GROUP

Population Group	n	Mean**	SEM
Other	111	2.36	0.052
White	427	2.16	0.023
Total	538	2.26	-
p-value (t-test)			**0.000***

* The mean difference is significant (p =≤ 0.05); **$Mean_{Maximum}$ = 4; **SEM:** Standard error of the mean

A t-test indicated that the population groups other than Whites consume fresh produce significantly more for status related reasons than Whites. This should be explored in a more representative study to determine reasons for the phenomenon.

6.2.2.5 Summary of consumers status consciousness when purchasing fresh produce

Findings revealed purchase and consumption behaviour of fresh produce that is indicative of status conscious consumption practices, for example consumers feel entitled to superior fresh produce, specifically in terms of the visual appearance of products because some feel that they have earned the privilege through hard work and therefore like to display aesthetically appealing fruit and vegetables to impress others. Overall means for the status consumption scale did, however, not reveal strong status related consumption practices for this product category. No significant differences could be detected

© University of Pretoria

within the gender and age categories, which indicate that gender and age are not reliable predictors of status consciousness in this product category. However, post-hoc tests exposed significant differences within the education category, between the population groups as well as among income groups. Although the means, which ranged between 2.11 and 2.36 for the various demographic groups, did not indicate a strong tendency to consume fresh produce for status related reasons (M_{Max} = 4), certain demographic subsets of the sample were significantly more status conscious compared to their counterparts, for example, the lowest education level group (M = 2.84) and the lowest income group (M = 2.33). White consumers, higher educated and middle-income consumers seem less likely to base fresh produce purchases on status related reasons.

6.2.3 Waste created as a result of consumers' fresh produce consumption practices (Objective 3.1.3)

Evidence confirms that indiscriminate consumption behaviour and inappropriate waste management on the part of individuals, households, societies and industries cause current climate problems. The topic of climate change can therefore be associated with elevated consumption of consumer goods, which in turn, contributes to consumers' excessive consumption of the world's resources (Darley & Johnson, 1993; McGregor, 2000; Cahill, 2001; Shove & Warde, 2002:230; Wilk, 2002; McGregor, 2006; Nahman, de Lange, Oelofse & Godfrey, 2012; WWF-Report, 2012). The following section investigates consumers' fresh produce consumption practices and ultimate waste management. Findings present general fresh produce practices with an interpretation of influencing factors and/ or possible reasons for produce selection, purchase behaviour and waste disposal.

6.2.3.1 Consumers' fresh produce consumption practices and waste management

Inevitably consumers' fresh produce purchasing and consumption practices could result in unnecessary waste with financial implications as well as unfortunate implications for the environment. Responses to a few basic questions that might indicate unacceptable purchasing practices are presented in Figure 6.8.

Over purchasing of fresh produce coupled with slow consumption often lead to unnecessary wastage. From the findings, however, 66.54% (n = 372) of the respondents indicated that they do plan fresh produce purchases in advance in terms of what they need in the short term. Respondents' purchase behaviour therefore seems frugal and indicates that the majority of consumers guard against over consumption of fresh produce. This also transpired in their answers relating to specific reasons for overconsumption, because only 39.20% (n = 219) of the respondents admitted that they over purchase when products are cheap and only 33.77% (n = 184) confessed that attractive displays lure them into over purchasing. Possibly the biggest concern is that almost half of the sample (43.10%/ n = 268) indicated that they tend to over purchase due to the belief that fresh produce is healthy. Often retailers and health care

© University of Pretoria

providers advocate the benefits of the 'Five - a – Day' principle (which is part of the South African healthy eating campaign). Concern about healthy eating may therefore instigate excessive purchases and this is a very difficult issue to address responsibly. It may be unrealistic to think that no household is supposed to have fresh produce waste and therefore respondents were asked to indicate how they dispose of, or manage fresh produce that they (for whatever reason) need to dispose of. Results are presented in Figure 6.9.

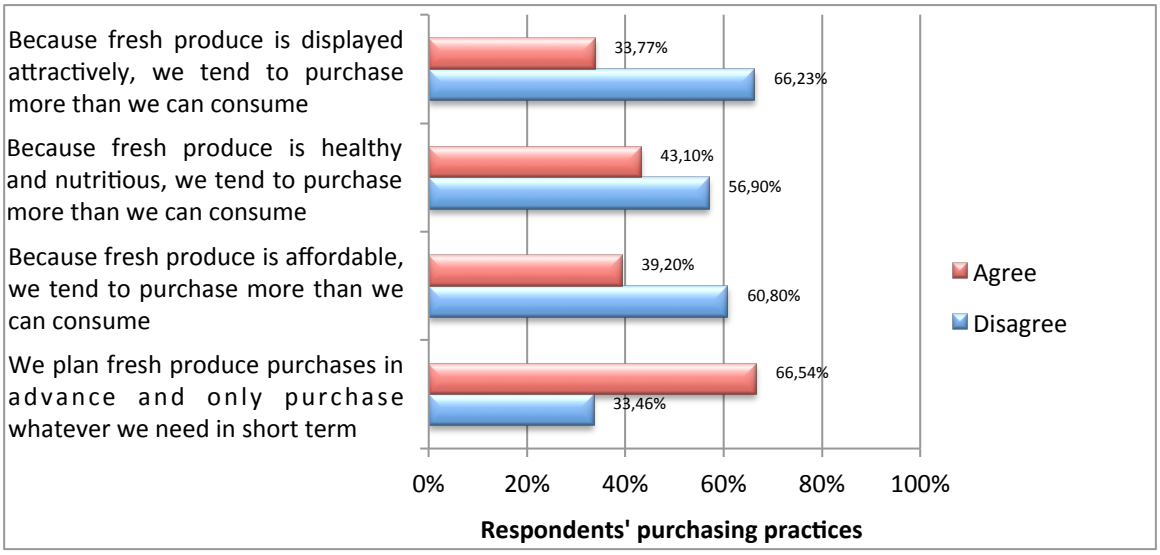


FIGURE 6.8: CONSUMERS' FRESH PRODUCE PURCHASING PRACTICES

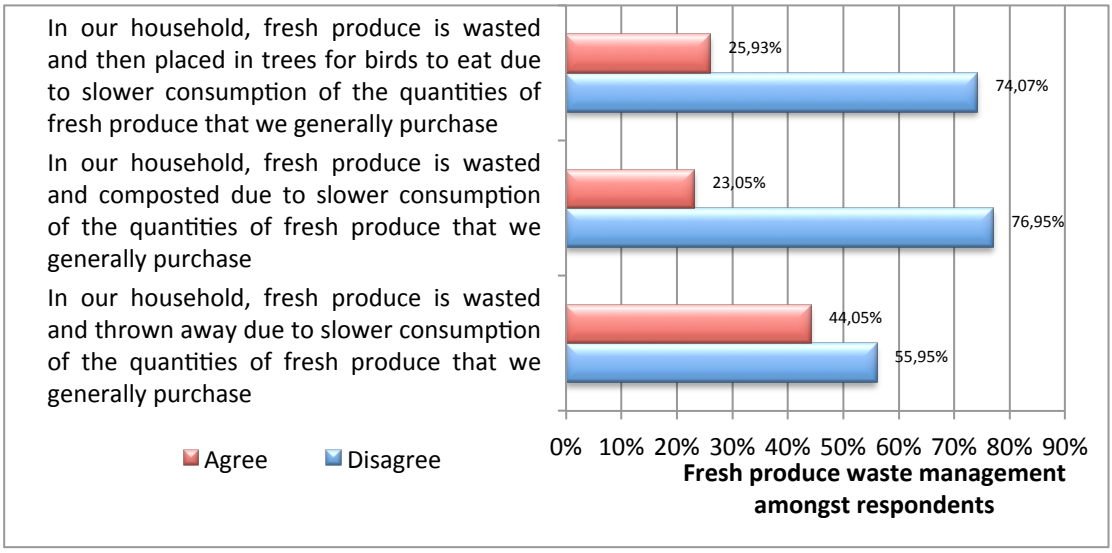


FIGURE 6.9: CONSUMERS' FRESH PRODUCE WASTE DISPOSAL PRACTICES

Findings indicated that much could be done to educate consumers to dispose of unwanted fresh produce in a more sustainable manner. Although 44.05% of the respondents admitted that fresh produce is thrown away due to slow consumption, an unacceptable low percentage of the sample disposed of fresh produce waste in a sustainable manner, i.e. to recycle via composting (23.05%), or to reuse as animal feed (25.39%).

© University of Pretoria

6.2.3.2 The relevance of product attributes in consumers' quality expectations and eventual fresh produce wastage

Consumers' often portray an unrealistic sense of entitlement by demanding perfect high quality fresh produce, which contribute significantly towards the unnecessary wastage of unwanted fresh produce at retail and household level (Madevu, Louw & Ndanga, 2009; Yu & Nagurney, 2011; Marshak, 2012).In order to investigate consumers' quality expectations of fresh produce and the influence it may have on their fresh produce consumption, respondents were asked to respond to a combination of twelve self-designed scale items. Items were grouped in terms of two prominent dimensions pertaining to quality, namely appearance and date-code usage, which reflect product maturity. A four point Likert-type agreement scale was used to investigate respondents' prioritisation of aspects that relate to good quality i.e. appearance and/ or date-codes. Unrealistic demands pertaining to quality attributes i.e. appearance and product date codes is concerning because it not only exacerbates wastage but also impedes the mitigation of more sustainable fresh produce consumption practices (Tsiros & Heilman, 2005; Marshak, 2011).

Findings presented in Table 6.11 reveal that most respondents (up to 68.0%) across all demographic categories agreed that quality in terms of appearance is indicative of nutritional value. An overwhelming majority (up to 96.3%) of respondents furthermore agreed that stores should only stock good quality produce and that slightly bruised fresh produce is not only poor quality but that buying bruised and/ or deformed produce is poor value for money. Almost half of the respondents also agreed that serving imperfect produce to either family members and/ or friends signals negligence. Findings in terms of quality expectations based on date-codes revealed that more than 90% of the respondents, irrespective of the demographic category, indicated that using sell-by-dates when purchasing fresh produce is important. Near 80% of the respondents confirmed that they do not buy fresh produce of which the sell-by-dates have expired because such produce are considered inferior. More than 70% of the respondents furthermore admitted that they select fresh produce from the back of refrigerator shelves and food displays to ensure that they get the best quality even though they might be using those products soon. Although less than 40% indicated that they discard fresh produce that are past their sell-by-dates, it is nevertheless a wasteful practice because those products are mostly still fit for human consumption. Almost 60.0% indicated that they discard fresh produce of which the use-by-dates have expired, which is commendable although still wasteful.

Results that are presented in Table 6.11 indicate that consumers perceive good quality fresh produce as those that are visually attractive, almost perfect and of which the present date-codes have not yet expired. The fact that most consumers select produce from the back of displays indicates that they have

© University of Pretoria

caught on to the FIFO merchandising principle (first in – first out, where the freshest produce are placed at the back of the display). This is probably because consumers feel entitled to get the best produce and do not consider, or are unaware of the consequences of their behaviour. Fresh produce that fail to comply with consumers' quality expectations are often discarded without further consideration.

Currently the global ratio between actual consumption and wastage for fruit and vegetables in particular is estimated at 52% wasted versus 48% consumed (Gunders, 2012). In terms of the total amount of food produced globally for human consumption, it is estimated that one-third is wasted and disposed of in an unsustainable manner, which not only contributes to escalating greenhouse gas emissions but also means that enormous amounts of resources that are used in food production are used in vain (Gustavsson, 2011). A recent global study indicates that on a per-capita basis, food wastage in developed and high-income countries is much more alarming compared to similar figures for developing/ low-income countries (Gustavsson, 2011). It is furthermore explained that the majority of food waste created in developed countries originates at household level whereas food wastage in developing countries is mostly the result of logistical problems during production and retailing (FAO, 2011).

Food waste in South Africa is considered to be a more complex problem, and findings from this study indicate that because of South Africa's emerging economy unnecessary food losses not only occur due to logistical issues during production, but are also attributed to irresponsible consumer behaviour. It is suggested that raising awareness amongst retailers and consumers can reduce food wastage. Important topics to consider should reflect on the irrationality of rejecting fresh produce based on imperfect appearance and/ or expired date codes. It is furthermore important to raise awareness about the consequences that undesirable practices may have for the environment, for example how poor purchase planning, irrational produce selection practices and the belief that one is entitled to waste if you can afford to do so, contribute to excessive waste and depletion of our natural resources. Addressing food wastage is not only crucial in terms of efforts to curb climate change, but from a South African perspective it is essential in terms of establishing food security. Reflecting on the tremendous amount of food that is wasted globally and in South Africa, it is worrisome that calls have to be made to increase food production radically in order to meet and sustain the demand of populations while so much food is wasted for several illogical reasons and therefore produced in vain.

© University of Pretoria

TABLE 6.11: CONSUMERS' QUALITY EXPECTATIONS AND EVENTUAL FRESH PRODUCE WASTAGE EXPRESSED IN PERCENTAGE (N = 560)

	Quality expectation in terms of product **appearance**														Quality expectation in terms of **date-codes (reflecting product maturity)**									
	The quality of FP is a true indication of its nutritional value		Stores should only stock good quality FP		I regard slightly bruised FP as poor quality		I regard slightly deformed FP as poor quality		Bruised and deformed FP is poor value for money		One neglects ones guests when serving FP that is not perfect		One neglects ones family when serving FP that is not perfect		Taking note of the sell-by date when buying FP is important		I do not buy FP of which the sell by date has expired because it is inferior quality		I select FP from the back of refrigerator shelves and displays to ensure that I get the best quality		At home I discard FP that is past its sell by date		At home I discard FP that is past its use-by date	
	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree
GENDER	**n=531/%**		**n=535/%**		**n=532/%**		**n=531/%**		**n=523/%**		**n=533/%**		**n=531/%**		**n=558/%**		**n=534/%**		**n=533/%**		**n=534/%**		**n=533/%**	
Sample	**67.8**	**32.2**	**96.3**	**3.7**	**62.2**	**37.8**	**46.7**	**53.3**	**72.8**	**27.2**	**49.3**	**50.7**	**46.0**	**54.0**	**91.9**	**8.1**	**78.7**	**21.3**	**71.9**	**28.1**	**37.8**	**62.2**	**60.0**	**40.0**
Male	66.4	33.6	94.6	5.4	60.6	39.4	44.5	55.5	57.9	42.1	49.2	50.8	45.3	54.7	85.9	14.1	78.1	21.9	67.2	32.8	43.8	56.3	65.6	34.4
Female	68.2	31.8	96.8	3.2	62.7	37.3	47.4	52.6	77.6	22.4	49.4	50.6	46.2	53.8	93.8	6.2	78.8	21.2	73.3	26.7	36.0	64.0	58.3	41.7
p-value		.699		.246		.672		.572		**.000**		.974		.868		**.004**		.868		.178		.113		.139
AGE	**n= 527/%**		**n=531/%**		**n=528/%**		**n=527/%**		**n=558/%**		**n=529/%**		**n=527/%**		**n=558/%**		**n= 530 %**		**n=558/%**		**n=530/%**		**n=529/%**	
Sample	**67.9**	**32.1**	**96.2**	**3.8**	**61.9**	**38.1**	**58.0**	**53.3**	**72.8**	**27.2**	**48.6**	**54.4**	**45.2**	**54.8**	**91.9**	**8.1**	**78.9**	**21.1**	**72.0**	**28.0**	**37.5**	**62.5**	**59.7**	**40.3**
20 - <30	65.0	35.0	97.8	2.2	57.0	43.0	45.9	54.1	71.7	28.3	42.6	57.4	38.7	61.3	91.9	8.1	81.2	18.8	73.1	26.9	35.4	64.6	63.2	36.8
30 - <50	69.9	30.1	93.7	6.3	64.4	35.6	49.8	50.2	73.4	26.6	50.7	49.3	51.0	49.0	90.2	9.8	76.7	23.3	72.2	27.8	40.3	59.7	62.1	37.9
50+	70.4	29.6	98.0	2.0	68.0	32.0	42.0	58.0	74.2	25.8	57.4	42.6	47.5	52.5	95.1	4.9	78.2	21.8	69.3	30.7	36.6	63.4	47.0	53.0
p-value		.470		.052		.109		.426		.872		**.034**		**.035**		.341		.519		.779		.570		**.015**
EDUCATION	**n=467/%**		**n=536/%**		**n=533/%**		**n=532/%**		**n=524/%**		**n=534/%**		**n=532/%**		**n=535/%**		**n=535/%**		**n=534/%**		**n=535/%**		**n=534/%**	
Sample	**68.0**	**32.0**	**96.3**	**3.7**	**62.1**	**37.9**	**46.4**	**53.6**	**72.9**	**27.1**	**49.1**	**50.9**	**45.7**	**54.3**	**92.0**	**8.0**	**78.9**	**21.1**	**72.1**	**27.9**	**37.8**	**62.2**	**42.8**	**40.3**
Lower than Grade 12	87.5	12.5	100.0	0.0	62.5	37.5	62.5	37.5	87.5	12.5	87.5	12.5	87.5	12.5	87.5	12.5	87.5	12.5	75.0	25.0	50.0	50.0	62.5	37.5
Grade 12	71.4	28.6	97.2	2.8	61.8	38.2	47.2	52.8	77.4	22.6	49.1	50.9	44.1	55.9	93.0	7.0	79.9	20.1	75.6	24.4	39.4	60.6	63.4	36.6
Grade 12 plus a Degree or Diploma	65.4	34.7	95.5	4.5	62.3	37.7	45.5	54.5	69.5	30.5	48.1	51.9	45.7	54.3	91.4	8.6	78.0	22.0	69.6	30.4	36.3	63.7	57.2	42.8
p-value		.168		.526		.993		.612		.090		.088		.054		.716		.722		.324		.592		.359
INCOME	**n=467/%**		**n=471/%**		**n=468/%**		**n=467/%**		**n=461/%**		**n=470/%**		**n=468/%**		**n=470/%**		**n=558/%**		**n=558/%**		**n=470/%**		**n=469/%**	
Sample	**67.0**	**33.0**	**95.8**	**4.2**	**60.0**	**40.0**	**45.2**	**54.8**	**71.6**	**28.4**	**47.9**	**52.1**	**44.9**	**55.1**	**92.1**	**7.9**	**77.7**	**22.3**	**71.9**	**28.1**	**37.0**	**63.0**	**58.8**	**41.2**
R0 - R10000	73.7	26.3	97.1	2.9	61.2	38.8	51.8	48.2	77.4	22.6	50.0	50.0	46.2	53.8	94.8	5.2	85.5	14.5	78.9	21.1	43.3	56.7	64.3	35.7
>R10000 - R25000	75.0	25.0	97.1	2.9	63.5	36.5	45.6	54.8	75.5	24.5	50.0	50.0	50.0	50.0	91.4	8.6	76.9	23.1	67.3	32.7	37.1	62.9	62.9	37.1
>R25000 - R45000	55.5	44.5	95.5	4.5	56.8	43.2	33.3	66.7	64.8	35.2	45.9	54.1	42.7	57.3	91.8	8.2	72.1	27.9	70.3	29.7	27.0	73.0	49.5	50.5
>R45000	58.5	41.5	91.6	8.4	57.8	42.2	47.6	52.4	63.9	36.1	43.4	56.6	38.6	61.4	88.0	12.0	69.9	30.1	65.1	34.9	37.7	62.7	54.9	45.1
p-value		**.001**		.185		.737		**.024**		**.038**		.720		.428		.292		**.012**		.062		.054		.063
POPULATION	**n=532/%**		**n=536/%**		**n=533/%**		**n=532/%**		**n=524/%**		**n=534/%**		**n=533/%**		**n=535/%**		**n=558/%**		**n=534/%**		**n=535/%**		**n=534/%**	
Sample	**68.0**	**32.0**	**96.3**	**3.7**	**62.3**	**37.7**	**46.6**	**53.4**	**73.1**	**26.9**	**49.3**	**50.7**	**57.8**	**54.0**	**92.1**	**7.9**	**79.3**	**20.7**	**72.1**	**27.9**	**38.1**	**61.9**	**60.3**	**39.7**
Other	83.8	16.2	98.2	1.8	67.3	32.7	67.3	32.7	82.2	17.8	50.9	49.1	60.6	39.4	96.4	3.6	90.1	9.9	70.9	29.1	59.1	40.9	73.9	26.1
White	63.9	36.1	95.8	4.2	61.0	39.0	41.2	58.8	70.7	29.3	48.8	51.2	42.2	57.8	91.0	9.0	76.4	23.6	72.4	27.6	32.7	67.3	56.7	43.3
p-value		**.000**		.228		.226		**.000**		**.017**		.696		**.001**		.062		**.002**		.755		**.000**		**.001**

Bolded p – values indicate significant differences (p = <0.05)

© University of Pretoria

In order to determine significant differences within demographic groups, Pearsons Chi-Square tests were done and the following section will reflect on this investigation.

Gender differences: Significant differences in the quality expectations of males and females were revealed in two of the twelve scale items of which one related to the appearance of fresh produce and the other to the usage of date-codes. Table 6.11 indicates a significant difference between males and females with regard to the way that they perceive bruised and deformed fresh produce ($p = 0.001$). Overall, females (77.6%) (compared to 57.9% of the males) were more inclined to reject bruised and deformed produce. A significant difference was also revealed ($p = 0.004$) with regard to the importance that is placed on the usage of sell-by-dates: 93.8% of females versus 85.9% of males agreed that taking note of the sell-by dates when buying fresh produce is important. The fact that women tend to be more concerned about the appearance and maturity of fresh produce is concerning as literature suggest that women are prominent socializing agents in terms of the mitigation of unsustainable consumption behaviour (Grønhøj, 2006).

Age differences: Significant differences among the different age groups with regard to three particular scale items are presented in Table 6.11 ($p = 0.034$; $p = 0.035$; $p = 0.015$ respectively). Results indicate that in terms of quality expectations that are based on the appearance of fresh produce, the two older age groups (compared to the young consumers) are significantly more inclined to view the use of slightly imperfect fresh produce as a form of disregard for your guests or family. Interestingly, 57.4% of the oldest age (50+ years) group indicated that it is a sign of neglect when serving imperfect fresh produce to one's guests, while only 47.5% of the same age group agreed that this is also true when serving imperfect fresh produce to family members. The need to make an impression on others, or to treat them, is typical of status consciousness, which is somewhat troubling.

In terms of the waste of fresh produce based on consumers' interpretation of date codes, significant differences ($p= 0.015$) were determined between the two younger age groups and the oldest age group: 63.2% of the youngest age group (20 -<30 years), and 62.1% of the middle age group (30 - <50 years) indicated that they discard fresh produce that is past its use-by-date, compared to 47.0% the oldest age group (50+ years), which is more sustainable than discarding produce past their sell-by-date but is still not totally environmentally benign. All consumers, but especially younger consumers therefore need to be educated about the proper interpretation of date codes and the appraisal of fresh produce before simply discarding it.

Level of education differences: Consumers' education level does not seem to be a good predictor of significant differences in consumers' quality expectations. Although not statistically significant in terms of the means that were calculated across all the scale items, it is, however, worth mentioning that 87.5%

© University of Pretoria

of the respondents in the lowest education level category admitted that they regard it as a form of neglect when serving imperfect fresh produce to guests and/ or family members, compared to 48.1%, and 49.1% who held the same belief in the two higher level of education categories.

Income level differences: Significant differences among the income groups came to the fore in four of the twelve scale items of which three items related to quality expectations in terms of the appearance of fresh produce (p - values varying between p = 0.001 to p = 0.038), and one item related to quality expectations in terms of date-code usage (p = 0.012). In terms of the appearance of fresh produce, results revealed that significantly more respondents (75.0%) in the >R10000-R25000 income category agreed that product quality is a true indication of nutritional value compared to 55% and 58.5% in the two higher income categories (>R25000 – R45000; >R45000). With regard to slight deformities in fresh produce, 51.8% of the lowest income group indicated that deformity signals poor quality compared to 33.3% of the >R25000 – R45000 income group. The same trend was evident in terms of the slightly bruised and deformed produce.

With regard to consumers' appraisal of date–codes, particularly sell-by-dates, findings revealed that significantly more respondents in the lowest income group (85.5%) agreed that they do not buy fresh produce of which the sell-by-dates have expired because they view it as inferior quality. Findings in Table 6.11 therefore reveal that the lower income groups are more concerned about the quality attributes of fresh produce compared to the higher income groups. This could result in unnecessary wastage and therefore it is important that these groups that form a sizeable percentage of the South African population, are educated and encouraged to adopt more sustainable fresh produce selection practices to reduce food waste in the country.

Population group differences: Across all the items, the population groups other than Whites were more likely to prioritise quality attributes when purchasing fresh produce. Significant differences between the two population categories (i.e. the mean for the population group other than Whites was significantly higher than the mean for the White population group), were reflected in seven of the twelve scale items of which four items related to quality expectations in terms of the appearance of fresh produce (p - values varying between p = 0.000 to p = 0.017), and three items related to quality expectations in terms of date-code usage (p-values varying between p = 0.000 to p = 0.002). Results presented in Table 6.11 indicate that significantly more of the 'Other' population category (83.8%) compared to Whites (63.9%) agreed that good quality produce is an indication of nutritional value. Similarly, significantly more of the 'Other' population category (compared to Whites) agreed that deformed produce is not only an indication of poor quality but also poor value for money: 67.3% of the 'Other' population category agreed that deformed fresh produce indicate poor quality, and 82.2% indicated that buying deformed

© University of Pretoria

produce is unwise because it is poor value for money. Of the White population category, only 41.2% agreed that deformed produce reflects poor quality, although 70.7% agreed that buying deformed produce is poor value for money. Although these figures are statistically significantly lower than that of the 'Other' population category, the findings are nevertheless alarming and suggest that much can be done to educate all consumers. Compared to Whites, significantly more respondents in the 'Other' population category (60.6%) agreed that it is inappropriate to serve imperfect fresh produce to family members.

Findings furthermore revealed that the population category other than Whites is significantly more inclined than their White counterpart to reject fresh produce that have expired their sell-by-dates: 90.1% of the 'Other' population category compared to 76.9% Whites indicated that they *do not purchase fresh produce* of which the sell-by-date has expired because the products are of inferior quality. Similar findings came to the fore for *discarding fresh produce* with expired date-codes. Findings summarized in Table 6.11 therefore indicate that respondents in the 'Other' population category are more concerned about quality attributes, i.e. the visual appearance of fresh produce and date codes. Unrealistic expectations about the quality of fresh produce often result in unnecessary wastage. The fact that the Black population group, (which constituted a majority segment of the 'Other' population group in this study) is one of the fastest growing consumer groups in South Africa means that if all Black consumers continue to demonstrate wasteful behaviour as disclosed in Table 6.11, unnecessary wastage of fresh produce should be regarded as a major concern that needs to be addressed swiftly.

6.2.3.3 Summary of consumers' quality expectation and eventual fresh produce wastage

Findings indicate that respondents, irrespective of the demographic category, tend to highly appraise quality attributes namely the appearance and date-codes of fresh produce and that this in itself needs attention because it could contribute to unnecessary fresh produce waste if it is not correctly understood. However, specific areas of concern were identified in terms of certain sub-sets of the sample, specifically young consumers, Black and other population groups (excluding Whites), as well as consumers from lower income groups. These groups in particular revealed behaviour that could be interpreted as misguided and/ even irrational. Education in terms of more sustainable selection of fresh produce as well as proper usage and interpretation of date codes can benefit all consumers but especially these groups who, in particular, admitted negligent behaviour through their responses to everyday decision and consumption practices.

© University of Pretoria

6.2.4 Consumers' knowledge of climate change and possible mitigating actions that could curb unsustainable consumption practices

Much has been said in recent years, about the sustainability of the world's resources. Along with these debates concepts such as pollution, waste, greenhouse gases, climate change and food security have come to the fore. Although this topic and these concepts are discussed and used abundantly, it is not clear whether South African consumers and retailers fully grasp the problem, and whether they are aware of why and how they could contribute towards positive change. Statistics show that currently, many households and retailers waste an enormous amount of fresh produce annually (Gustavsson, 2011), probably because both consumer and retailer lack the required explicit and/ or tacit knowledge to firstly grasp the consequences of their behaviour and secondly to address the problem through means and ways that reflect the principles of sustainable consumption.

Consumers' knowledge about climate change was investigated in two separate sections of the questionnaire to identify the specific shortcomings in their knowledge frameworks. The first part of the results will disclose findings regarding consumers' explicit knowledge, i.e. consumers' general insight and understanding about climate change. The second part of the results will disclose findings regarding consumers' tacit knowledge, i.e. consumers' awareness of mitigating strategies that reflect sustainable consumption practices.

6.2.4.1 Consumers' explicit knowledge of issues pertaining to climate change as reflected by their purchasing and consumption of fresh produce (Objective 3.2.1)

Environmental knowledge is defined as one's ability to recognize environmental problems, their causes and the eventual consequences of such problems. This knowledge encompasses all relevant concepts and facts necessary for complete understanding (Haron et al., 2005:429). Some authors argue that factual information about issues such as climate change is insufficient in terms of altering ingrained behaviour (Nickols, 2010). Consumers' level of explicit knowledge in terms of climate change can nevertheless provide a good indication of consumers' concern about the problem and can even indicate possible reasons for unsustainable practices. It can furthermore also indicate consumers' willingness to adapt current unsustainable behavioural practices to reflect more sustainable practices. Consumers' explicit knowledge of climate change was investigated through 17 True/ False questions that were drawn from existing scales (Antil &Bennet, 1979: Social responsible consumption scale (2 items); Stone, Barnes & Montgomery, 1995: Eco Scale(8 items); Dos Santos, 2011 (1 item). Six additional questions were self-designed to reflect on the topic of investigation.

© University of Pretoria

Responses were summated, followed by a calculation of respondent's individual total means expressed in terms of a percentage value. Means for the explicit knowledge test ($M_{maximum}$ = 100) were interpreted as follows: <50%: poor; 50 to <60 %: average; 60 to <70%: above average; 70 - <80%: good; 80 – <90%: very good; ≥90%: excellent. Results of the knowledge presented in Table 6.12 indicate that consumers' overall explicit knowledge of climate change is *above average*. With regard to the specific scale items, results revealed that respondents' explicit knowledge was *excellent* with regard to their understanding of the strain that a growing South African population exerts on the country's natural resources and that saving electricity contributes to saving the planet. Respondents' explicit knowledge was *very good* about issues relating to pollution, and the potential impact of environmental problems on the South African economy. Respondents' explicit knowledge was *good* about the infinity of the earths' natural resources, as well as how their current household consumption and purchase decisions compromise natural resources and stock volumes. Respondents' explicit knowledge was *above average* in terms of who should be held responsible for climate change, who the major culprits are, how climate change impacts their personal lives, as well as common emitters (i.e. industrial equipment and cars) of greenhouse gasses. However, it is important to note that although more than 60% of respondents answered these particular questions correctly, more than 30% of the respondents still failed to do so, which suggest that much can be done to educate consumers about this critical issue. Consumers' lack of explicit knowledge was evident in terms of the contribution of organic materials and compost heaps towards the emission of green houses gasses; the relevance of the hole in the ozone layer as well as the presence of greenhouse gasses in terms of climate change. These are highly theoretically issues that need to be explained in more simplistic terms to the general public.

© University of Pretoria

TABLE 6.12: CONSUMERS' EXPLICIT KNOWLEDGE OF CLIMATE CHANGE

Knowledge	Item	% Correct**	% Incorrect**
Excellent: M = >90%	An increase in the SA population will put further strain on our natural resources	91.19	8.81
	Saving electricity in our everyday living will contribute to saving the planet	90.20	9.80
Very good:	Environmental pollution taking place in China does not have any impact on SA	88.32	11.68
M = 80 - <90%	Pollution is currently one of the most critical problems in terms of the sustainability of SA's natural resources	87.68	12.32
	All locally produced products are environmentally friendly	81.70	18.30
	The economic growth of SA is not influenced by environmental problems	80.54	19.46
Good:	The earth's resources are infinite and should be used to the fullest to increase	75.05	24.95
M = 70 - <80%	the standard of living of all SA citizens		
	The amount of energy used by my household does not have a significant impact on the environment	74.90	25.10
	Global warming is mostly caused by the sun radiating more heat	72.58	27.42
	My current purchases decisions will have consequences for product availability of future generations	72.38	27.62
Above average:	The average citizen can do very little to reduce climate change	69.98	30.02
M = 60 - <70%	Pollution does not affect me personally to the same extent that it affects fellow citizens in SA	68.16	31.84
	The USA is the biggest producer of gasses that contribute to air pollution	67.10	32.90
	Methane, which is largely responsible for the damage to the environment, is only emitted by industrial equipment and cars which are powered by fossil fuels	66.90	33.10
Poor: M = <50%	Organic materials like grass, food scraps and compost heaps do not emit green house gasses that are harmful to the environment	45.79	54.21
	Climate change is a direct consequence of the hole in the ozone layer	26.04	73.96
	Climate change is caused by the presence of green house gasses in the air	11.80	88.20
	Total for sample (N = 560)	**68.84**	**31.16**

**$Mean_{Maximum}$ of 100; Shaded items are areas of concern

Focus group discussions confirmed the findings presented in Table 6.12. In terms of the areas of concern (Table 6.12), focus group participants confirmed a limited understanding about how organic matter contributes to climate change, the role of the ozone layer and the general logic with regard to greenhouse gasses and/ the greenhouse effect. Participants seemed unaware about the contribution of organic waste towards climate change as participants believed that organic waste had no harmful effect on the natural environment. Remarks were for example:

"aerosols and deodorants that we use, that release gasses contribute to climate change…I cannot see that fruit and vegetables can have the same effect, its all natural is it not?" (F3: 4).

Most participants seemed quite anxious about the hole in the ozone layer, e.g.:

"the hole in the ozone layer… if the hole gets bigger, temperature will rise to extreme heights" (F3:3).

Participants seemed quite naïve or very arrogant about climate change, e.g.:

"In SA, there is nothing that really contributes to global warming" (F3: 7);

"I know nothing about global warming, nobody is attempting to inform me, and I am definitely not going to spend my one or two free hours a day researching global warming" (F2: 12).

© University of Pretoria

In terms of defining the process of climate change only one participant (the youngest among all focus group participants) eventually (after some coaxing) stated that he thinks that:

"if you take a car, and drive it, it releases Carbon Dioxide, which stays in the air and when the sun hits the Carbon Dioxide it insulates it – it keeps everything warm. So the earth doesn't cool down quick enough and that causes global warming" (F3: 7).

Although focus group discussions that were later held to explicate quantitative findings indicate some understanding of climate change, the latter was still the best explanation that emerged during the focus group discussions, which is concerning because consumers that lack explicit knowledge about this issue are highly likely to continue with unsustainable purchasing and consumption practices. One-way analysis of variance (ANOVA) was done to seek significant differences within the age, education level and income level categories, while T – tests were performed to investigate possible significant differences between the groups in the gender and population group categories. In cases where evidence of significant differences was evident, post-hoc tests were done to identify where the differences were. Findings are presented in terms of the different demographic categories in Table 6.13.

Mean percentages presented in Table 6.13 ranged between 54.97% and 69.81%, i.e. respondents' explicit knowledge of climate change seemed average to above average. The mean of the population category other than Whites was significantly lower than their White counterpart, which in the context of this study may reflect on their consumer socialization. Due to the previous socio political dispensation in South Africa, the majority of consumers (other than Whites) in the country are referred to as 'previously disadvantaged' because of their poor upbringing, their asset deficit and limited access to formal education prior to 1994 (Fiske & Ladd, 2004:xi). This may be why these population groups' explicit knowledge about the causes for climate change is poor. The highest mean scores were obtained by the two higher income groups, which may have some association with education level or access to information sources.

© University of Pretoria

TABLE 6.13: CONSUMERS' EXPLICIT KNOWLEDGE OF CLIMATE CHANGE ACROSS DEMOGRAPHIC CATEGORIES

Gender	n	Mean**	SEM
Male	127	64.61	1.595
Female	406	63.26	0.878
Total	533	63.94	
p-value (t-test)	0.453		
Age	**n**	**Mean****	**SEM**
20 - <30	223	64.25	1.145
30 - <50	206	63.42	1.302
50+	100	62.48	1.788
Total	529	63.38	0.770
p-value (ANOVA)	0.911		
Education	**n**	**Mean****	**SEM**
Lower than Grade 12	8	58.82	2.486
Grade 12	214	61.63	1.278
Grade 12 plus a degree or a diploma	312	64.86	.971
Total	534	63.47	0.768
p-value (ANOVA)	0.092		
Income	**n**	**Mean****	**SEM**
R0 - R10000	172	60.70	1.344
>R10000 - R25000	103	59.85	1.767
>R25000 - R45000	111	68.73	1.611
>R45000	83	69.81	1.587
Total	469	64.02	0.809
p-value (ANOVA)	**0.000***		
Population Group	**n**	**Mean****	**SEM**
Other	110	54.97	1.557
White	424	65.84	0.841
Total	534	60.41	
p-value (t-test)	**0.000***		

***Means differ significantly (p≤ 0.05); **Bolded** p – values: significant differences; ****Mean**$_{Maximum}$ = 4; **SEM**: Standard error of the mean

Gender differences: No significant difference (p = 0.453) could be confirmed between males' and females' explicit knowledge of climate change although literature suggest that females tend to have a better knowledge of climate change (Poortinga, Spence, Whitmarsh, Capstick & Pidgeon, 2011). Results in terms of the respective means revealed that Males' (M = 62.61) explicit knowledge was slightly higher than females'(M = 63.26) although not statistically significantly.

Age differences: No significant difference (p = 0.911) with regard to consumers' explicit knowledge of climate change could be confirmed by this study among the age groups. Although not statistically significant, the youngest age groups' knowledge was the highest (M = 64.25) and the oldest age group was the lowest (M = 62.48). This could be attributed to the fact that young people nowadays have easy access to sources of explicit knowledge via the Internet and social media interfaces. Literature suggest that young individuals often have a better knowledge of climate change (Patchen, 2006) because issues relating to climate change are often highlighted by particular media sources, opinion leaders and even celebrities which target young individuals because they are viewed as the future decision makers who potentially have the power to amend unsustainable consumption practices. It is also said that the youth of today tend to be more knowledgeable about issues relating to climate change because they are the

© University of Pretoria

first generation reared in times of climate change and are therefore constantly reminded about the problem (Boykoff & Goodman, 2009; Coren, 2009; O'Neill & Boykoff, 2010). These findings are also supported by the findings obtained through the focus group discussions (as presented on p178) where the youngest participant was the only individual that was knowledgeable about the actual process and consequences of climate change.

Level of education differences: Although the lowest education level category scored the lowest (M = 58.82) in the knowledge test, statistically no significant differences could be confirmed among the different education level categories. Unfortunately the lowest level of education group was not well represented in the sample, which may have influenced the outcome. According to this study ones' level of education is therefore not a useful predictor of a person's **explicit** knowledge about climate change.

Income level differences: A recent study suggested that increasing consumers' awareness about the consequences of unsustainable consumption could motivate them to spend their money on sustainable products even though they might be more expensive (Salazar, et al., 2012). This would obviously be difficult to convey to price sensitive consumers (that may form a large percentage of the poorer South African population).

TABLE 6.14: CONSUMERS' EXPLICIT KNOWLEDGE OF CLIMATE CHANGE IN TERMS OF INCOME

Income	Income category	Mean **	Mean Difference	SEM	p-value
R0 - R10000 (M = 60.70)	**R10000 - R25000**	59.85	.853	2.121	1.000
	>R25000 - R45000	68.73	-8.029*	2.073	**0.001**
	>R45000	69.81	-9.104*	2.276	**0.000**
>R10000 - R25000 (M = 59.85)	**R0 - R10000**	60.70	-.853	2.121	1.000
	>R25000 - R45000	68.73	-8.881*	2.330	**0.001**
	>R45000	69.81	-9.957*	2.512	**0.001**
>R25000 - R45000 (M = 68.73)	**R0 - R10000**	60.70	8.029*	2.073	**0.001**
	>R10000 - R25000	59.85	8.881*	2.330	**0.001**
	>R45000	69.81	-1.075	2.471	1.000
>R45000 (M = 69.81)	**R0 - R10000**	60.70	9.104*	2.276	**0.000**
	>R10000 - R25000	59.85	9.957*	2.512	**0.001**
	>R25000 - R45000	68.73	1.075	2.471	1.000

***The mean difference is significant (p≤ 0.05); **Bolded** p – values indicates significant differences; ****Mean$_{Maximum}$ = 4; **SEM**: Standard error of the mean

By means of ANOVA significant differences among the four income groups (p = 0.000) were identified (see in Table 6.14). A post-hoc Bonferroni test indicated that the two lower income groups (R0 – R10000 and >R10000 – R25 000) did not differ significantly from each other. Their knowledge was significantly lower than both of the higher income level groups (>R2500-R45000 and R45 000+). Although the highest income group out performed all the other income categories, (M = 69.81) in terms of their explicit knowledge of climate change, much room for improvement of their knowledge is still evident (M = <70%). Possible reasons for higher income consumers' higher scores could be that these consumers

© University of Pretoria

have better access to sources that convey factual information about climate change, for example the Internet.

Population group differences: Different population groups inevitably mean that culture differences and differences in norms and values should be acknowledged, in terms of consumers' recognition and concern about climate change (Patchen, 2006).

TABLE 6.15: EXPLICIT KNOWLEDGE OF CLIMATE CHANGE IN TERMS OF POPULATION GROUP

Population group	n	Mean**	SEM
Other	110	54.97	1.557
White	424	65.84	.841
Total	534	60.41	-
p-value (t-test)			**0.000***

***The mean difference is significant (p≤ 0.05); **Bolded** means indicate significant difference; ****Mean$_{Maximum}$ = 4; **SEM**: Standard error of the mean

A significant difference between the two population groups was disclosed through a t-test (p = 0.000). The White population category (M = 65.84) obtained a significantly higher score than the 'Other' population category (M = 54.97). Little evidence could be found to explain these particular findings. Possibly the political history of South Africa, which left many of the population groups (excluding Whites) poorly educated, could be blamed and henceforth would have influenced their consumer socialization (Fiske & Ladd, 2004:xi). Currently many South Africans – predominantly Blacks, are still viewed as part of a previously disadvantaged people in South Africa (Mda, 2011; Makwiramiti, 2011) that strive to better their lifestyle although they often still struggle to fulfil even their basic needs, i.e. housing, food and clean water, due to troublesome social circumstances and limited job opportunities (Bourne, Lambert & Steyn, 2002). In South Africa, the Black population group is also the fastest growing economic segment (Ndanga, Louw & Van Rooyen, 2008), which is worrisome if their lack of knowledge of sustainable consumption is taken into consideration. At present, South Africa's greenhouse gas emission rate is already estimated to be on par with that of developed countries like the UK (Nahman & Oelofse, 2012).

In conclusion, findings revealed that, although the majority of respondents' explicit knowledge of climate change was above average, there is much room for improvement. Areas of concern that were identified included consumers' lack of knowledge about the role of greenhouse gasses in intensifying the effects of climate change, ignorance about the causes of hole in the ozone layer and its contribution towards climate change; and the role of organic matter like grass, food scraps and compost heaps in terms of climate change. Consumers that seem most vulnerable in terms of lack of explicit knowledge about climate change are Black and other population groups, (excluding Whites) as well as lower income groups.

© University of Pretoria

6.2.4.2 Consumers' tacit knowledge of issues pertaining to climate change in relation to sustainable purchasing and consumption of fresh produce (Objective 3.2.2)

Irrespective of the product category or topic, consumers' knowledge is seldom complete or errorless. This is therefore also true for issues relating to climate change (Alba & Hutchinson, 2000). Nikols (2010) explains that individuals often 'know about' an issue, but often do not 'know-how' to address the problem. In other words, consumers often have *explicit knowledge* about an issue like fresh produce wastage and how it contributes to climate change, but lack the *tacit knowledge* (skills) to mitigate unsustainable consumption practices.

In order to investigate consumers' tacit knowledge of the subject, respondents were subjected to a pool of 24 self-designed questions that reflected on possible skills and avenues that could be adopted to abide to the principles of sustainable consumption practices. A four point Likert-type agreement scale, with increments ranging from *Strongly Disagree* to *Strongly Agree* was used. Means for the individual scale items >2.5 were considered as a positive reflection of respondents' tacit knowledge. To summarise and reduce the items in terms of coherent constructs, exploratory factor analysis specifically Principal Axis Factoring was performed. Using a Varimax rotation with Kaizer normalisation and with Eigen values >1, five factors, which retained 21 of the 24 original scale items were identified. Three items were omitted because of low communalities and because this did not load on any of the respective factors in a logical manner. The total variance explained among the final factors was almost 51%, which was interpreted as a good fit as the accepted norm is set at >30% (Mazzocchi, 2008:222). Cronbach alphas for four of the five factors ranged between 0.624 and 0.748, which was considered acceptable. The Cronbach alpha for Factor 5 was 0.452 and despite a repeated investigation it was decided to retain the factor as is, because further rotations did not produce a better result. The internal consistency of consumers' responses was thus low amongst scale items in Factor five.

Of the five factors, one contained two items, which raised some concern in terms of the accuracy of subsequent analysis. Because the general principle is that factors should include at least three measurable variables (Mazzocchi, 2008:224) it was decided to do a Pearson correlation test to investigate whether the two items correlated well. A correlation of 1 or -1 means that the two variables are perfectly correlated, meaning that you can predict the values of one variable from the values of the other variable with perfect accuracy (Mazzocchi, 2008:173). Results obtained from this test indicated a value of 1, which indicated a positive correlation between the two items. Secondly, it was decided to subject these two items to a Pearson Chi-Square test, which allowed for the disclosure of possible significant differences in terms of different demographic categories. All other factors were subjected to standard ANOVA or t-tests.

© University of Pretoria

Table 6.16 presents the content of the five factors and the relevant statistical values. A thorough investigation of the five factors and their respective items allowed the identification of suitable factor labels, namely:

Factor 1: **Sustainable buying behaviour**, which reflects possible ways of amending fresh produce purchasing i.e. buying local;

Factor 2: **Sustainable household behaviour**, which reflects possible skills in terms of sustainable household activities;

Factor 3: **Sustainable consumer demands**; which reflect possible manners to adapt idealistic/ irrational fresh produce demands.

Factor 4: **Awareness of unsustainable retailing practices**, which reflects consumers' concern about the sustainability of their fresh produce suppliers;

Factor 5: **Awareness of sustainable waste management**, which reflects possible scenarios that could reduce the negative outcomes caused by fresh produce waste.

The respective factor means revealed that respondents mostly agreed with the content of Factor 1 (Sustainable buying behavior); Factor 2 (Sustainable household behavior); Factor 3 (Sustainable consumer demands) and Factor 5 (Awareness of sustainable waste management) (Means $\geq$2.67 to 2.86; $M_{maximum}$ = 4). Most respondents therefore possess ample tacit knowledge to take action to mitigate unsustainable consumption behaviour. However, with regard to Factor 4 (Awareness of unsustainable retailing practices: Mean = 2.28) consumers' tacit knowledge seems limited. Consumers are ignorant about unsustainable retail practices, which is currently considered as one of the main reasons for escalating fresh produce waste (Gunders, 2012; Gustavsson, 2011).

© University of Pretoria

TABLE 6.16: FACTORS REPRESENTING THE DIMENSIONS OF CONSUMERS' TACIT KNOWLEDGE

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	Sustainable buying behaviour	Sustainable household behaviour	Sustainable consumer demands	Awareness of unsustainable retail practices	Awareness of sustainable waste management
South African retailers should only sell fresh produce that is produced locally	.582	.032	.089	-.004	.075
Purchasing imported produce has consequences that contribute to climate change	.477	.148	.177	.244	-.163
Purchasing imported produce is negative for the economy of South Africa	.623	.059	-.028	.010	.026
Purchasing loose fruit without extra packaging signifies environmentally friendly behaviour	.411	.079	.040	.041	.083
We as consumers should not demand imported fresh produce in order to demonstrate that we care about the environment	.542	.036	.282	.172	-.033
Retailers could make more effort to keep consumers informed about the environmental consequences of their purchases	.308	.195	.247	-.087	-.044
Consumers need to purchase locally produced fresh produce rather than imported fresh produce	.662	.098	.208	-.102	.039
If one is really concerned about the environment, one should buy locally produced fresh produce irrespective of the price	.383	.167	.215	.279	.156
Purchasing pre-cut / pre-prepared fresh produce is recommended because it reduces waste in general	-.053	.316	.023	.235	.070
Growing a personal vegetable garden indicates that one is concerned about the environment	.175	.753	.135	-.008	.055
All consumers who have their own compost heaps are environmentally conscious	.129	.745	.114	-.016	.133
Limiting my household's fresh produce waste can make a noteworthy difference in saving our planet	.218	.512	.223	.054	-.090
Fresh produce wastage is a neglected topic in our country	.235	.110	.329	-.113	-.041
We as consumers need to tolerate lower stock volumes in stores to limit fresh produce waste	.162	.122	.689	-.072	-.051
We as consumers need to tolerate a smaller variety of fresh produce in stores to demonstrate that we care about our environment	.023	.141	.688	.213	.054
We as consumers need to tolerate fresh produce of a slightly lower quality to demonstrate that we care about the environment	.209	.084	.415	.248	-.027
The surplus fresh produce at retailers is incinerated	-.047	.011	.025	.676	.033
The surplus fresh produce at retailers goes to landfills	.111	.024	.034	.432	.010
The surplus fresh produce at retailers is put to good use by distributing it to charity organisations	.176	.107	.067	-.065	.414
The surplus fresh produce at retailers is converted into useful compost	-.061	.076	-.105	.242	.562
Fresh produce waste is not harmful to the environment	.008	-.028	-.027	-.017	.508
n	**539**	**539**	**534**	**514**	**534**
Mean	**2.78**	**2.81**	**2.67**	**2.28**	**2.86**
Standard Deviation	**.547**	**.554**	**.489**	**.587**	**.442**
% Variance explained	**20.32**	**8.66**	**7.83**	**7.55**	**5.99**
Cronbach Alpha	**.748**	**.699**	**.624**	**-**	**.452**
Pearson correlation coefficient	**-**	**-**	**-**	**1**	**-**

Table 6.17 presents the means per factor across the different demographic categories. Overall means indicate that respondents mostly agreed with the scale items in Factors 1, 2, 3 and 5, which suggests that their tacit knowledge of the respective factors is fairly good.

© University of Pretoria

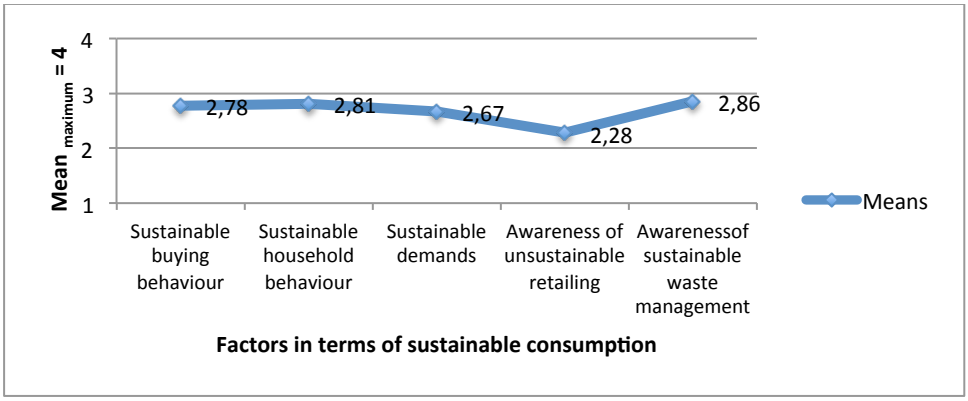


FIGURE 6.10: FACTOR MEANS FOR THE DIMENSIONS OF CONSUMERS' TACIT KNOWLEDGE

Because Factor 4 only contained two scale items further analysis of Factor 4 differed from the procedures applied to determine results for the other factors. For each of the respective scale items in Factor 4, responses reflecting agreement was summated followed by a calculation of individual scores per demographic category and relevant subsets. Results were expressed in terms of a percentage values. With regard to unsustainable retailing, a score <50% was interpreted as a poor reflection of tacit knowledge; 50 to >60%: average; 60 to >70%: above average; 70 to >80%: good; 80 to>90%: very good, and ≥90%: excellent. Percentage values for Factor 4 varied between 46.9 and 48.4%, which is suggests that respondents' tacit knowledge concerning sustainable retail practices is unacceptably low. Means for the tacit knowledge investigation are also expressed in Table 6.17 for the five factors across the different demographic categories.

One-way analysis of variance (ANOVA) was used to seek significant differences across the age, education level and income categories, while t-tests were performed to investigate possible significant differences within the gender and population categories. In cases where evidence of significant differences occurred, post-hoc test were done to specify the differences explicitly. Post-hoc test results are presented in Tables 6.18 to 6.22, i.e. in terms of the respective factors and in terms of the demographic categories. For Factor 4, possible significant differences were disclosed by means of a Pearson Chi-Square test of which the results are presented in Tables 6.23 and 6.24.

© University of Pretoria

TABLE 6.17: CONSUMERS' TACIT KNOWLEDGE ACROSS THE VARIOUS DEMOGRAPHIC CATEGORIES

	Factor 1 (Sustainable Buying behaviour)			Factor 2 (Sustainable household behaviour)			Factor 3 (Sustainable demands)			Factor 4 (Awareness of unsustainable retail practices) Chi- Square Test				Factor 5 (Awareness of sustainable waste management)		
GENDER	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**	**n**	**M***	**SEM**
Male	128	2.77	.042	128	2.64	.047	128	2.59	.046	125	48.8	124	25.8	128	2.73	.045
Female	407	2.89	.020	407	2.86	.027	407	2.69	.024	384	46.4	373	25.2	402	2.81	.027
Total	535	2.83	-	535	2.75	-	535	2.64	-	509	46.9	497	25.3	530	2.77	-
p-value			**0.005**			**0.000**			**0.044**		0.704		0.674			0.184
AGE	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**	**n**	**M***	**SEM**
20 - <30	223	2.85	.029	223	2.78	.036	223	2.67	.031	219	49.7	215	27.9	222	2.83	.037
30 - <50	207	2.85	.032	207	2.81	.038	203	2.63	.035	192	44.2	187	21.4	204	2.73	.038
50+	101	2.89	.041	101	2.83	.057	100	2.73	.051	94	48.9	92	26.1	100	2.81	.051
Total	531	2.86	.019	531	2.80	.024	526	2.66	.022	505	47.6	494	25.1	526	2.79	.024
p-value			0.693			0.725			0.210		0.797		**0.034**			0.190
EDUCATION	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**	**n**	**M***	**SEM**
Lower than Grade 12	8	3.05	.140	8	3.46	.238	8	3.03	.252	8	37.5	7	57.1	8	2.69	.119
Grade 12	214	2.87	.027	214	2.86	.036	213	2.67	.031	204	53.9	199	28.1	210	2.84	.037
Grade 12 plus a Degree or Diploma	314	2.84	.026	314	2.74	.030	310	2.66	.028	298	43.3	292	22.6	313	2.76	.031
Total	536	2.85	.019	536	2.80	.023	531	2.66	.021	510	47.4	498	25.3	531	2.79	.024
p-value			0.291			**0.000**			0.099		0.249		0.086			0.214
INCOME	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**	**n**	**M***	**SEM**
R0 - R10000	172	2.84	.033	172	2.87	.045	169	2.67	.038	164	54.3	162	35.2	170	2.84	.046
>R10000 - R25000	105	2.92	.041	105	2.84	.051	104	2.70	.045	100	45.0	99	26.3	102	2.79	.055
>R25000 - R45000	111	2.81	.036	111	2.72	.052	110	2.68	.046	102	40.2	98	18.3	111	2.71	.051
>R45000	83	2.89	.052	83	2.72	.062	83	2.64	.064	81	51.8	79	17.7	83	2.43	.050
Total	471	2.86	.443	471	2.80	.026	466	2.67	.023	447	48.4	438	26.2	466	2.77	.026
p-value			0.311			0.072			0.856		0.044		0.069			0.210
POPULATION	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n**	**M***	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**	**n**	**M***	**SEM**
Other	111	2.84	.043	111	3.06	.049	108	2.68	.048	105	51.5	104	33.6	111	2.85	.056
White	425	2.86	.021	425	2.73	.026	423	2.66	.024	405	46.7	394	23.4	420	2.77	.026
Total	536	2.85	-	536	2.89	-	531	2.67	-	510	47.6	498	25.5	531	2.81	-
p-value			0.619			**0.000**			0.765		0.372		0.145			0.217

Bolded p – values indicate significant differences, ($p \leq 0.05$); * $Mean_{Maximum} = 4$; **SEM**: Standard error of the mean

Factor 1: Sustainable buying behaviour

Gender: A t-test indicated a significant difference between males' and females' tacit knowledge about sustainable buying behaviour (p = 0.005). Females' tacit knowledge about sustainable buying behaviour is statistically significantly better than that of their male counterpart. These findings are in accordance with extant literature (O'Connor, Bord & Fisher, 1999).

© University of Pretoria

TABLE 6.18: SUSTAINABLE BUYING BEHAVIOUR PER GENDER GROUP

Gender	n	Mean**	SEM
Male	128	2.77	0.042
Female	407	2.89	0.020
Total	535	2.83	-
p-value (t-test)	**0.005***		

***The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; ****Mean$_{Maximum}$ = 4; **SEM**: Standard error of the mean

Age: Means varied between 2.85 and 2.89 for the different age groups and no significant differences could be confirmed among the different age groups (p = 0.693). Age therefore does not seem to be a useful signifier of differences in consumers' tacit knowledge concerning sustainable buying behaviour.

Education level: Means varied between 2.84 and 3.05 for the different level of education groups and ANOVA could not confirm any significant differences among the different groups (p = 0.291). Contrary to expectations, level of education therefore does not seem to be a useful predictor of significant differences in consumers' tacit knowledge concerning sustainable buying behaviour.

Income: Means varied between 2.81 and 2.92 for the different income groups and ANOVA disclosed no significant differences among the different groups (p = 0.311). Income therefore does not seem to be a useful predictor of significant differences in consumers' tacit knowledge concerning sustainable buying behaviour.

Population groups: Means of the two population groups were 2.84 ('Other' population group) and 2.86 for the Whites respectively, which was not statistically significant according to the results derived from the t-test performed (p = 0.619). Population group therefore does not seem to be a useful predictor of significant differences in consumers' tacit knowledge concerning sustainable buying behaviour.

Factor 2: Sustainable household behaviour

Gender: A t-test indicated that females' tacit knowledge about sustainable household behaviour is significantly higher than that of their male counterparts (p = 0.0001), as indicated in Table 6.19.

TABLE 6.19: SUSTAINABLE HOUSEHOLD BEHAVIOUR PER GENDER GROUP

Gender	n	Mean**	SEM
Male	128	2.64	0.047
Female	407	2.86	0.027
Total	535	2.75	-
p-value (t-test)	**0.000***		

***The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; ****Mean$_{Maximum}$ = 4; **SEM**: Standard error of the mean

These findings are supported by literature that explain that women are inclined to demonstrate more sustainable consumption practices due to their nurturing instinct (O'Connor, Bord & Fisher, 1999).

© University of Pretoria

Nelson (2011) is of the opinion that women in Africa should be viewed as powerful agents of change because they are firstly prominent socializing agents within their own households, and secondly account for almost 80% of the agricultural sector. They could therefore potentially have a wide and far-reaching influence to encourage positive change.

Age: Means for the different age groups varied between 2.78 and 2.83 but ANOVA could not confirm significant differences among the different age groups (p = 0.725). Age is therefore not a useful signifier of lack of tacit knowledge concerning sustainable household behaviour.

Education level: Findings derived after an ANOVA was performed are presented in Table 6.20. Findings indicate significant differences among different level of education groups' tacit knowledge about sustainable household consumption behaviour (p = 0.044).

TABLE 6.20: SUSTAINABLE HOUSEHOLD BEHAVIOUR PER EDUCATION LEVEL CATEGORY

Education	Education category	Mean	Mean Difference	SEM	p - value
Lower than Grade 12 (M = 3.46)	**Grade 12**	2.86	.604*	.196	**0.006**
	Grade 12 plus a Degree or Diploma	2.74	.721*	.195	**0.001**
Grade 12 (M = 2.86)	**Lower than grade 12**	3.46	-.604*	.196	**0.006**
	Grade 12 plus a Degree or Diploma	2.74	.116	.048	**0.049**
Grade 12 plus a Degree or Diploma (M = 2.74)	**Lower than grade 12**	3.46	-.721*	.195	**0.001**
	Grade 12	2.86	-.116	.048	**0.049**

***The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; ****Mean Maximum of 4; **SEM**: Standard error of the mean

The post-hoc Bonferroni test that was subsequently done, revealed that the lowest level of education groups' tacit knowledge of sustainable household behaviour is significantly higher than the higher educated consumers. These findings are especially interesting, because the contrary was found in a study that was done in America (Patchen, 2006). This finding deserves further investigation because the argument that lower educated consumers who generally also earn lower incomes, may be more cautious about waste because they cannot afford to waste resources that are limited, is rejected in the following finding about differences among different income levels.

Income level: Means for the different income level groups varied between 2.72 and 2.87, but no significant difference (p = 0.072) by means of ANOVA could be confirmed among the four groups. Income therefore does not seem to be a useful predictor of lack of tacit knowledge concerning sustainable household behaviour.

Population group: A t-test revealed a significant difference between the two population categories with respect to sustainable household behaviour. Findings presented in Table 6.21 show that Whites' tacit knowledge was significantly lower than the 'Other' population category. This is contrary to the findings of a study done among American citizens, which indicated that population group is not indicative of consumers' tacit knowledge concerning the mitigation of unsustainable household consumption

© University of Pretoria

practices (Centre for Climate Change Communication, 2009). In a South African context one possible explanation could be that so-called 'other' population groups may be more experienced in terms of measures to curb household waste because of their historical socio-political background that required of them to adopt behaviours that would preserve limited resources in their households.

TABLE 6.21: SUSTAINABLE HOUSEHOLD BEHAVIOUR PER POPULATION GROUP

Population Group	n	Mean**	SEM
Other	111	3.05	0.049
White	425	2.73	0.026
Total	536	2.89	-
p-value (t-test)	**0.000***		

***The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; ** $Mean_{Maximum}$ = 4; **SEM**: Standard error of the mean

Factor 3: Sustainable consumer demands

Gender: Table 6.22 reflect findings of the samples' tacit knowledge in terms of sustainable consumer demands. A t-test once again indicated that females are better informed compared to males (p = 0.044). Social and cultural contexts often determine gender roles in society, which not only regulates access to information sources but also influence subsequent consumer demands and behaviour (Salazar, Oerlemans & Stroe-Biezen, 2012). Females are probably better informed because they are still more involved in food purchasing and consumption practices in South African households and are therefore the primary socialisation agents in this regard (as reported previously).

TABLE 6.22: SUSTAINABLE CONSUMER DEMANDS PER GENDER GROUP

Gender	n	Mean**	SEM
Male	128	2.59	0.046
Female	407	2.69	0.024
Total	535	2.64	-
p-value (t-test)	**0.044***		

* The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; **$Mean_{Maximum}$ = 4; **SEM**: Standard error of the mean

Age: Means for the different age groups in the sample varied between 2.63 and 2.73, and ANOVA could not confirm significant differences among the scores of the different age groups (p = 0.210). Therefore, age cannot be considered as a significant predictor of consumers' tacit knowledge concerning sustainable household demands in this product category.

Education level: Means for the different education level groups varied between 2.72 and 2.87, and as is the case with the former age investigation, ANOVA did not disclose noteworthy differences (p = 0.099) among the different education level groups. Contrary to expectations based on the contribution of

© University of Pretoria

education in terms of the expansion of consumers' knowledge, education level is not a predictor of consumers' tacit knowledge concerning sustainable demands in the context of this study.

Income level: Means for the different income categories varied between 2.64 and 2.70 but the difference among the means of the different income level groups, are not statistically significant (p = 0.856). Income is therefore not a useful predictor of consumers' tacit knowledge concerning sustainable household demands for fresh produce.

Population groups: The means for the two population groups are 2.68 and 2.66 respectively. The t-test indicated that the difference is not statistically significant (p = 0.765). Population group is therefore not a useful predictor of consumers' tacit knowledge with regard to sustainable household demand although it can predict consumers' tacit knowledge concerning sustainable household consumption practices (Factor 2).

Factor 4: Awareness of unsustainable retailing

As Factor 4 unfortunately only contained two scale items, a Pearson correlation coefficient test was performed to investigate the correlation between the two scale items. A p-value of 1 confirmed a positive correlation and possible significant differences among the different demographic categories were subsequently determined by means of a Pearson Chi-Square test. Results are presented per demographic category. With regard to consumers' tacit knowledge about sustainable retailing practices, scores were interpreted as follows: <50%: poor; 50 to <60%: average; 60 to <70%: above average; 70 to <80%: good; 80 to <90%: very good; ≥90%: excellent.

Gender: Differences between the scale items did not differ significantly between males and females (p = 0.704; p = 0.674). Gender is therefore not considered as a signifier of particular lack of tacit knowledge concerning retailers' unsustainable waste disposal practices. Although both gender groups were slightly better informed about retailers' disposal of fresh produce waste through landfilling (Males: 48.8%; Females: 46.4%) compared to their knowledge about retailers' disposal of fresh produce waste through incineration (Males: 25.8%; Females: 25.2%) the scores were low, suggesting that both males and females are ill informed about retailers' unsustainable disposal practices.

Age: The Pearson Chi-Square-test did not reveal significant differences among the percentage values of different age groups for item 1, i.e. retailers' dumping of fresh produce waste at landfills (p = 0.797). Statistically significant differences were, however, confirmed for item 2, i.e. retailers' incineration of fresh produce waste (p = 0.034).

© University of Pretoria

TABLE 6.23: AWARENESS OF UNSUSTAINABLE RETAILING PRACTICES PER AGE GROUP

Awareness of unsustainable retailing: *The surplus fresh produce at retailers is incinerated*			
Age group	**n**	**% Agreed**	**Interpretation in terms of tacit knowledge**
20 - <30	215	27.9	Tacit knowledge is poor
30 - <50	187	21.4	Tacit knowledge is poor
50+	92	26.1	Tacit knowledge is poor
p-value (Chi-Square test)	**0.034***		

*The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences

Findings presented in Table 6.23 show that the middle age groups' (30 - <50) tacit knowledge about unsustainable retailing practices, in particular the incineration of surplus fresh produce was significantly lower than the other two groups (p =<0.05). This is worrisome because this particular age group constitutes a large segment of South Africa's consumer market due to their noteworthy spending power during that life stage. It is therefore crucial that consumers in the middle age group are better informed in order for them to be more discerning about retail practices so that they could voice their concerns.

Education level: No significant differences in terms of respondents' tacit knowledge were identified among the different level of education groups (p = 0.249; p = 0.086). Results, however, indicated that consumers are poorly informed in terms of both items (scores varied between 37.5% and 53.9% for item 1, and between 21.4% and 27.9% for item 2). Irrespective of consumers' level of education, their tacit knowledge of this particular phenomenon is alarmingly insufficient/ low.

Income level: The Pearson Chi-Square-test revealed a significant difference among the different income groups for item 1, i.e. the lowest income groups' (>R0 – R10000) tacit knowledge about unsustainable retailing particularly for the dumping of excessive waste at landfills was significantly higher than the scores of the other three income groups (p = 0.034) although all the values were actually low and reflected that consumers are poorly informed about the issue. Values for the income level groups for item 2 did not differ significantly (p = 0.069). Findings presented in Table 6.24 reflect the results for item one.

TABLE 6.24: AWARENESS OF UNSUSTAINABLE RETAILING PRACTICES PER INCOME CATEGORY

Awareness of unsustainable retailing: *The surplus fresh produce at retailers goes to landfills*			
Income category	**n**	**% Agreed**	**Interpretation in terms of tacit knowledge**
R0 - R10000	164	54.3	Tacit knowledge is average
>R10000 - R25000	100	45.0	Tacit knowledge is poor
>R25000 - R45000	102	40.2	Tacit knowledge is poor
> R45000	81	51.8	Tacit knowledge is average
p-value (Chi-Square Test)	**0.044***		

'The mean difference is significant (p≤ 0.05); **Bolded** p-values indicate significant differences

Population groups: Results for the "disposal of fresh produce at landfills" were correctly answered by 46.7% of the Whites and 51.5% of the 'Other' population groups, which is interpreted as poor, however,

© University of Pretoria

the values were not statistically significantly different (p = 0.372). Similarly, responses for "retailers' disposal of waste through incineration" revealed that only 33.6% of the whites and 23.4% of the other population groups could answer it correctly, which indicate a poor knowledge. No statistical difference could be identified between the two population groups.

In conclusion, findings for factor 4, i.e. awareness of unsustainable retailing practices revealed that the consumers' tacit knowledge about retail practices concerning the disposal of fresh produce waste is unsatisfactory as it is poor. Findings were confirmed during the focus group discussions, held later on: participants admitted that they knew little about on-going retail practices:

"We don't put in the effort to find out what or how our retailers do or don't do to stop these climate problems" (F1: 4);

"I know too little to give my opinion"(F3: 4).

Participants actually indicated that they do not care, and some even mentioned that they are certain that retailers do not purposely waste fresh produce because they regularly donate produce to charities. Participants showed little concern when actual waste figures were revealed to them.

"I am not really interested to hear that [fresh produce waste figures]...currently it does not have an impact on me' (F3: 12)

"No I don't worry and no I don't feel responsible… it is a problem for retail to sort out" (F3: 3).

Factor 5: Awareness of sustainable waste management

Gender: Concerning respondents' awareness of sustainable waste management practices, means for males (M = 2.73) and females (M = 2.81), are not statistically significantly different (p = 0.184). Gender is therefore not a useful predictor of consumers' tacit knowledge concerning sustainable waste management practices.

Age: Means for the age groups varied between 2.73 and 2.83, and were not significantly different (p = 0.190). Therefore, age cannot be considered as useful predictor of consumers' tacit knowledge concerning sustainable waste management.

Education level: Means for the level of education groups varied between 2.69 and 2.84, which are not significantly different (p = 0.214). Similar to the gender and the age investigations, consumers' level of education is therefore not a useful predictor of consumers' tacit knowledge concerning sustainable waste management practices.

© University of Pretoria

Income level: Means that range from 2.43 to 2.84 for the different income level groups are not significantly different (p = 0.210), which means that income does not confidently signify differences in consumers' tacit knowledge concerning sustainable waste management practices. Interestingly the lowest income group (<R10000) obtained the highest mean score although the difference is not statistically significant.

Population group: Even population group does not seem to be a viable predictor of significant differences in consumers' tacit knowledge concerning sustainable waste management practices. Means for whites (M = 2.85) and other population groups (M = 2.77) are not significantly different (p = 0.217) according to the t - test.

In conclusion, results indicate that for Factors 1, 2, 3 and 5, respondents' tacit knowledge is average at its best, and therefore consumers may struggle to demonstrate more sustainable consumption practices. Consumer groups that seem somewhat more vulnerable in terms of their tacit knowledge about sustainable consumption practices, include men, younger consumers, higher educated and the high-income consumers. It is suggested that these groups are further investigated because results indicate that they often have shortcomings in more than one of the dimensions of sustainable consumption practices. Across all five factors identified (i.e. the dimensions of sustainable consumption namely Sustainable buying behaviour; Sustainable household behaviour; Sustainable demands; Awareness of unsustainable retail practices and Awareness of sustainable waste management), consumers' tacit knowledge seems inadequate. A concerted attempt by all role players is therefore required to facilitate change. These findings confirm concerns of Gustavsson (2011), that better educated and affluent consumer are often more guilty of thoughtless consumption (referring to fresh produce) simply because financially, they can 'afford' to do so.

6.2.5 The influence of underlying personal and social values on consumers' potential to abide to the principles of sustainable consumption (Objective 3.3)

It is well documented that unsustainable consumption patterns of present day societies have serious consequences for the future. There is general consensus that climate change is real and that it is fuelled by human activities, more specifically consumers' irrational (irresponsible and conspicuous) consumption practices (Shove & Warde, 2002:230; Boykoff & Goodman, 2009; Morales, 2010). Consumer lifestyles have changed tremendously over the past decade. From a historical perspective urbanisation and industrialisation have enabled access to an array of new goods and experiences, while simultaneously permeating the core of society, i.e. the family and extending interdependencies (Zukin & Maguire, 2004; Xu, 2007; McGregor, 2008). Today the acquisition of consumer goods has become very

© University of Pretoria

important and many consumers will go out of their way to select, purchase and consume only the best from what is offered out there because it is viewed as one of the strongest measures of social success and achievement (O'Cass & McEwen, 2006; Eastman & Eastman, 2011). There is general consensus that consumers today strive to improve their social status through the consumption of consumer products (O'Cass & McEwen, 2006; Sivanathan & Pettit, 2010). Such behaviour is unfortunately conducive for excessive consumption and often also leads to the creation of unnecessary wastage and even the destruction of essential natural resources.

The following section presents the influence of underlying values that have been identified in literature as being conducive towards irrational/ irresponsible consumption behaviour.

6.2.5.1 The relevance of consumers' materialistic and status consciousness in terms of rational and sustainable decision making (Objectives, 3.3.1 and 3.3.2)

Modern marketing and media strategies promote a culture of consumption, and although some may argue that marketing managers merely respond to consumers' wants (O'Shaughnessy & O'Shaughnessy, 2002; Erasmus in Mpinganjira & Dos Santos, 2013:343), a simple way of living is seldom advocated (Heath & Chatzidakis, 2011). Fuelled by powerful marketing campaigns, consumers' status related needs and materialism have become a growing concern among authors across diverse academic fields. In order to understand the possible influence that personal characteristics, specifically status consciousness and materialism may exert on consumers' general purchasing and consumption behaviour, respondents had to respond to a pool of 35 questions that were drawn from three existing scales that have proven to be successful in measuring specific constructs. Although the composite reliability of the original scales was above 0.71, Cronbach alphas were recalculated to verify the internal consistency of the measuring instrument. The following scales were included:

Richins and Dawsons' (1992) 'Materialism scale' (α = 0.79), of which 17 of the 18 original items were included. According to Richins and Dawson (1992) materialism can be defined as a set of centrally held beliefs about the importance of possessions in one's life.

Compulsive buying is defined by Edwards (1993) as a chronic tendency to purchase products far in excess of a person's actual needs and available resources. All 13 items of Edwards' (1993) 'Compulsive buying scale' (α = 0.91), were included in the questionnaire.

Kilsheimers' (1993) five-item scale (α = 0.71) was also included to measure status consumption. Kilsheimer (1993) defines status consumption as the motivational process by which individuals strive to improve their social standing through conspicuous consumption of consumer products.

© University of Pretoria

No changes were made to any of the scale items and only one item from the original Richins and Dawson (1992) scale was omitted due to similarities with items presented in Kilsheimers' (1993) status consumption scale. A four point Likert-type agreement scale was used, with increments varying from *Strongly Disagree* to *Strongly Agree*. A mean >2.5 was interpreted as a positive indication of status consciousness and/ or materialism, which is also associated with conspicuous and irresponsible consumer behaviour, which is not conducive to sustainable consumption (Assadourian, 2011).

To summarize and reduce the items into coherent constructs exploratory factor analysis, specifically Principal Axis Factoring was performed. Using Varimax rotation with Eigen values >1.5, three factors emerged. Initially the communality extraction revealed 7 items with lower communality scores, of which three items shared no communality with either of the factors. After repeated investigation, all seven items were omitted from the model, resulting in a total variance explained among the final factors of 44%. The internal consistency of consumers' responses was confirmed by acceptable (Cronbach alphas: >0.70), indicating that the measuring instrument could be considered reliable.

A thorough investigation of the three identified factors and their respective items allowed the identification of suitable factor labels, namely: Factor 1: Compulsivity; Factor 2: Status consciousness; and Factor 3: Materialism. Table 6.25 discloses the content of the factors and present their respective descriptive statistics. The factor means suggest that respondents mostly disagreed with items pertaining to Factor 1: Compulsivity (M = 2.11), and Factor 2: Status (M = 2.07).

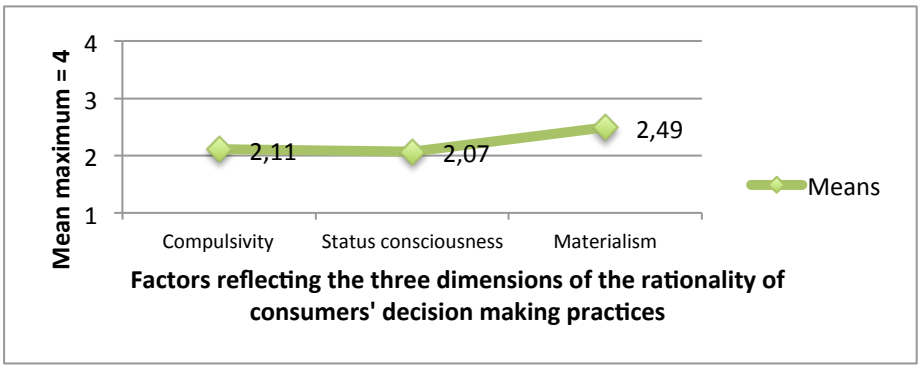


FIGURE 6.11: FACTOR MEANS RESPRESENTING THE DIMENSIONS OF THE RATIONALITY OF CONSUMERS' DECISION PRACTICES

© University of Pretoria

TABLE 6.25: THE RATIONALITY OF CONSUMERS' DECISION PRACTICES

Items	Factor 1	Factor 2	Factor 3
	Compulsivity	Status consciousness	Materialism
I worry about my spending habits but nevertheless still go out, shop and spend money	.729	.266	.233
I buy things even though I cannot afford them	.726	.373	.136
I go on a buying binge/ shopping spree when I am upset, disappointed, depressed or angry	.720	.211	.314
I buy things even when I do not need anything	.699	.275	.412
I buy things that I do not need or will not use	.696	.376	.166
I sometimes feel compelled to go shopping	.695	.344	.204
I feel "high" when I go on a buying binge / shopping spree	.669	.334	.377
I go on buying binges / shopping sprees	.649	.250	.268
I feel anxious after I have gone on a buying binge	.625	.094	.015
I feel guilty or ashamed after I go on a buying binge	.609	.134	.048
I feel driven to shop, Even when I do not have the time or the money	.590	.511	.398
I admire people who own expensive homes, cars and clothes	.244	.716	.280
I like to own things that impress people	.276	.694	.279
Some of the most important achievements in life include acquiring material possessions	.197	.691	.218
I would pay more for a product if it has status	.486	.631	.286
I would buy a product just because it has status	.558	.625	.250
I am interested in new products with status	.487	.611	.361
I like lots of luxury in my life	.268	.593	.472
The things I own say a lot about how well I am doing in life	.097	.575	.250
A product is more valuable to me if it has some snob appeal	.494	.539	.158
My life would be better if I owned certain things that I do not already have	.132	.478	.285
I receive little or no pleasure from shopping	.118	.202	.719
I hate to go shopping	.108	.207	.661
Buying things give me a lot of pleasure	.267	.459	.653
I try to keep my life simple as far as possessions are concerned*	.207	.304	.560
The possessions I own are not that important to me*	.085	.302	.457
I usually only buy things I need	.265	.205	.448
I enjoy spending money on things that are not necessary / practical	.332	.319	.368
n	**530**	**533**	**534**
Mean	**2.11**	**2.07**	**2.49**
Standard Deviation	**.406**	**.510**	**.484**
% Variance Explained	**29.40**	**8.91**	**5.38**
Cronbach Alpha	**.720**	**.865**	**.762**

** Items that were reverse coded*

Keeping the original scales in mind, the following resulted from the factor analysis procedure:

- Edwards' (1993) original compulsive buying scale was designed to measure one construct only (compulsivity). During factor analysis none of the original scale items were omitted, while 11 of the 13 original scale items loaded on to Factor 1, which was labelled 'Compulsivity'.
- Richins and Dawsons' (1992) materialism scale was designed to measure three main constructs, namely materialism, status and centrality. In this factor analysis procedure this categorisation was confirmed as scale items associated with materialism and status consciousness loaded onto the relevant constructs. Six items loaded onto Factor 2, i.e. Status, while five items loaded onto Factor 3, i.e. Materialism. The remaining five of the original 17 scale items, which pertained to

© University of Pretoria

'Centrality' in the original scale, showed no communality with either of the factors and was omitted.

- All but one item (which was discarded) of Kilsheimers' (1993) status consumption scale loaded onto Factor 2, i.e. Status consciousness.

In the context of this study results illustrated in Figure 6.11 suggests that the majority of consumers do not demonstrate compulsive and/ or status related conspicuous consumption behaviour. However, Factor 3, i.e. Materialism (M = 2.49) suggests that a tendency towards materialistic behaviour does exist i.e. that consumers purchase more than they need to and find pleasure in doing so. Means per factor across the different demographic categories are presented in Table 6.26.

Overall means for factors 1 and 2 suggest that respondents mostly disagreed with the scale items associated with 'Compulsivity' and 'Status'. In terms of Factor 3, 'Materialism', means for the youngest age group (M = 2.61), consumers who have not progressed further than secondary school at the grade 12 level (M = 2.61), 'Other' population groups (excluding Whites: M=2.53) as well as the lowest income category (M = 2.55) suggest that these groups are more materialistic. Materialism is associated with excessive consumption, which means that these consumer groups may be more inclined to purchase and consume irrationally.

One-way ANOVA was used to seek significant differences within the age, education level and income categories. T – tests were performed to investigate possible significant differences within the gender and population categories. In cases where evidence of significant differences occurred, post-hoc tests were done to specify the nature of the differences more explicitly. Post-hoc test results are presented in Tables 6.27 to 6.35.

© University of Pretoria

TABLE 6.26: A COMPARISON OF THE MEANS FOR THE THREE FACTORS PER DEMOGRAPHIC CATEGORY

	Factor 1 (Compulsivity)			Factor 2 (Status)			Factor 3 (Materialism)		
GENDER	**n**	**Mean***	**SEM**	**n**	**Mean***	**SEM**	**n**	**Mean***	**SEM**
Male	123	2.06	.039	125	2.16	.051	126	2.48	.045
Female	403	2.12	.019	404	2.04	.024	404	2.49	.023
Total	526	2.09	-	529	2.10	-	530	2.48	-
p-value			0.153			**0.018**			0.796
AGE	**n**	**Mean***	**SEM**	**n**	**Mean***	**SEM**	**n**	**Mean***	**SEM**
20 - <30	218	2.17	.026	219	2.14	.034	219	2.61	.031
30 - <50	205	2.12	.028	206	2.08	.036	206	2.48	.032
50+	99	1.95	.040	100	1.89	.044	101	2.28	.049
Total	522	2.11	.017	525	2.07	.022	526	2.49	.021
p-value			**0.000**			**0.000**			**0.000**
EDUCATION	**n**	**Mean***	**SEM**	**n**	**Mean***	**SEM**	**n**	**Mean***	**SEM**
Lower than Grade 12	7	2.22	.120	8	2.09	.182	8	2.10	.274
Grade 12	212	2.16	.026	213	2.16	.033	213	2.53	.033
Grade 12 plus a Degree or Diploma	308	2.07	.023	309	2.00	.029	310	2.47	.026
Total	527	2.11	.0177	530	2.07	.022	531	2.49	.021
p-value			0.061			**0.002**			**0.031**
INCOME	**n**	**Mean***	**SEM***	**n**	**Mean***	**SEM**	**n**	**Mean***	**SEM**
R0 - R10000	169	2.17	.029	171	2.21	.042	171	2.55	.038
>R10000 - R25000	102	2.08	.043	102	2.03	.047	103	2.42	.045
>R25000 - R45000	109	2.09	.034	109	1.99	.040	109	2.47	.041
> R45000	82	2.04	.045	83	1.95	.059	83	2.47	.057
Total	462	2.11	.018	465	2.08	.024	466	2.49	.022
p-value			**0.046**			**0.000**			0.140
POPULATION	**n**	**Mean***	**SEM**	**n**	**Mean***	**SEM**	**n**	**Mean***	**SEM**
Other	109	2.14	.040	110	2.20	.054	110	2.52	.045
White	418	2.10	.019	420	2.03	.023	421	2.48	.023
Total	527	2.12	-	530	2.11	-	531	2.50	-
p-value			0.312			**0.003**			0.411

Bolded p – values indicates significant differences (p≤ 0.05); *$Mean_{Maximum}$ = 4; **SEM**: Standard error of the mean

The following section attends to the three factors in terms of possible significant differences within the different demographic categories.

Factor 1: Compulsivity

The overall mean (M = 2.11), suggests that compulsivity is not a major problem as respondents are apparently not inclined to purchase compulsively. The following section investigates the phenomenon for specific demographic groups of the sample:

Gender: A t-test revealed that males and females do not differ significantly in terms of compulsive behaviour (p = 0.153) and that gender can therefore not be used to predict compulsive purchase and consumption behaviour. Means <2.5 (Males: 2.06; Females: 2.12) reject the probability of compulsive consumption behaviour as a prominent reason for wasteful consumption.

© University of Pretoria

Age: Significant differences came to the fore when investigating the means for factor 1 by means of ANOVA per age category (p = 0.000).

TABLE 6.27: COMPULSIVITY PER AGE CATEGORY

Age	Education category	Mean**	Mean Difference	SEM	p – value
20 - <30 (M = 2.17)	**30 - <50**	2.12	.045	.038	0.734
	50+	1.95	.217*	.048	**0.000**
30 - <50 (M = 2.12)	**20 - <30**	2.17	-.045	.038	0.734
	50+	1.95	.172*	.048	**0.001**
50+ (M = 1.95)	**20 - <30**	2.17	-.217*	.048	**0.000**
	30 - <50	2.12	-.172*	.048	**0.001**

***The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; ****Mean**$_{Maximum}$ = 4; **SEM**: Standard error of the mean

The post-hoc Bonferroni test revealed that the oldest age group was significantly less inclined to demonstrate compulsive consumption behaviour compared to the two younger age groups. Findings confirm extant literature namely that consumer spending, but more specifically compulsive consumption behaviour declines with age (IMB, 2012).

Education level: Means for the different level of education groups varied between 2.07 and 2.22, and did not differ statistically significantly (p = 0.061). Compulsive buying and consumption behaviour can therefore not be predicted successfully in terms of consumers' education level.

Income level: According to the findings presented in Table 2.28, income level is a more valid predictor of consumers' potential to consume compulsively. Results from the ANOVA disclosed a significant difference in terms of compulsivity among the different income groups (p = 0.046).

TABLE 6.28: COMPULSIVITY IN TERMS OF INCOME

Income	Income category	Mean**	Mean Difference	SEM	p-value
R0 - R10000 (M = 2.17)	**>R10000 - R25000**	2.08	.089*	.049	0.449
	>R25000 - R45000	2.09	.086*	.049	0.473
	>R45000	2.04	.139*	.053	**0.057**
>R10000 - R25000 (M = 2.08)	**R0 - R10000**	2.17	-.089*	.049	0.449
	>R25000 - R45000	2.09	-.003	0.54	1.000
	>R45000	2.04	.050	.059	1.000
>R25000 - R45000 (M = 2.09)	**R0 - R10000**	2.17	086*	.048	0.473
	>R10000 - R25000	2.08	.003	.054	1.000
	>R45000	2.04	.053	.058	1.000
> R45000 (M = 2.04)	**R0 - R10000**	2.17	-.139*	.053	**0.057**
	>R10000 - R25000	2.08	-.050	.059	1.000
	>R25000 - R45000	2.09	-.053	.058	1.000

***The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; ****Mean**$_{Maximum}$ = 4; **SEM**: Standard error of the mean

The post-hoc Bonferroni test revealed that the lowest income level group is significantly more inclined towards compulsive consumption although all the means are relatively low (M = <2.17), which suggests that compulsive consumption is the exception rather than the rule. According to literature, lower income groups actually tend to be more cautious because of the financial risk involved (Patchen, 2006).

© University of Pretoria

Population groups: Respondents' propensity to consume compulsively in terms of different population groups does not differ significantly (p = 0.312). Means <2.2 suggest that for the majority, compulsive behaviour is unlikely.

Factor 2: Status consciousness

The overall mean for factor 2 (M = 2.07) suggests that status consumption is not a major determinant of consumers' fresh produce purchasing behaviour. The following section investigates the phenomenon for specific demographic groups of the sample.

Gender: Although the means for males and females do not reflect strong status consciousness, a t-test revealed that males are significantly more status conscious than females (p = 0.018). Details are presented in Table 2.29.

TABLE 6.29: STATUS CONSIOUSNESS IN TERMS OF GENDER

Gender	n	Mean**	SEM
Male	125	2.16	0.051
Female	404	2.04	0.024
Total	529	2.10	-
p-value (t-test)	**0.018***		

*The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; **$Mean_{Maximum}$ = 4; **SEM**: Standard error of the mean

According to Lens, Driesmans, Pandelaere and Janssens (2012) the propensity of males (in the UK) to be more status conscious is typical of 'necessary – instinctual' behaviour. They explain that females admire status conscious men who consume conspicuously. These findings were confirmed by a similar study done by Kruger (2008) in the USA.

Age: Findings presented in Table 6.30 reflect on different age groups' status consciousness. ANOVA revealed significant differences among the different age groups (p = 0.000).

TABLE 6.30: STATUS CONSCIOUSNESSIN TERMS OF AGE

Age	Education category	Mean **	Mean Difference	SEM	p-value
20 - <30 (M = 2.14)	**30 - <50**	2.08	.051	.049	0.891
	50+	1.89	.241*	.061	**0.000**
30 - <50 (M = 2.08)	**20 - <30**	2.14	-.051	.049	0.891
	50+	1.89	.189*	.061	**0.007**

*The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; **$Mean_{Maximum}$ = 4; **SEM**: Standard error of the mean

Although the means of all three age groups (M = <2.14) indicate that none are particularly status conscious, the post-hoc Bonferroni test nonetheless indicated that consumers older than 50 years of age are significantly less status conscious than their younger counterparts. O'Cass and McEwen (2006) argue that status conscious consumers often focus on social relationship formation that evolve around

© University of Pretoria

interpersonal influence and self-monitoring of status. Young consumers are generally more concerned with maintaining their social stance and appearance, they are more sensitive to interpersonal influences, hence the importance they place on status (O'Cass & McEwen, 2006). The findings seem consistent in view of the escalating use and the importance that young consumers attach to interaction media such as social media platforms like Face book were they can convey their social status with ease (Wong, 2012). Young consumers in particular are not only extremely aware of their social status, but would go to great lengths to share or reveal it to peers and other interested parties (IMB, 2012). Young consumers have been characterised as being media and Internet savvy, fashion trendsetters and receptive to new products. They have also been described as expecting immediate gratification, consuming conspicuously and being guilty of spendthrift (Xu, 2007). In the foregoing discussion, young consumers are also identified as significantly more compulsive.

Education level: ANOVA revealed significant differences among the level of education groups exist (p = 0.002). Findings of the Bonferroni test presented in Table 6.31 indicate that lower educated, i.e. the two consumer groups that have not progressed further than secondary school education are significantly more status conscious than individuals with post-secondary qualifications such as a degree or a diploma.

Status consumption is positively related to materialism and 'attention to social comparison information', or paying attention to others and what they feel and think (Eastman & Eastman, 2011). The lower education group (Grade 12) might therefore be more status conscious because psychologically they might have the need to prove themselves through conspicuous consumption to gain the admiration of others or to 'fit in'. More educated consumers might be less status consciousness (Patchen, 2006) because – in the context of this study - they are more concerned about environmental issues.

TABLE 6.31: STATUS CONSCIOUSNESS IN TERMS OF EDUCATION LEVEL

Education	Education category	Mean**	Mean Difference	SEM	p-value
Lower than Grade 12 (M = 2.09)	**Grade 12**	2.16	-.070	.182	1.000
	Grade 12 plus a Degree or Diploma	2.00	.090	.181	1.000
Grade 12 (M = 2.16)	**Lower than grade 12**	2.09	.070	.182	1.000
	Grade 12 plus a Degree or Diploma	2.00	161*	.045	**0.001**
Grade 12 plus a Degree or Diploma (M = 2.00)	**Lower than grade 12**	2.09	-.090	.181	1.000
	Grade 12	2.16	-.161*	.045	**0.001**

*The mean difference is significant (p≤ 0.05); **Bolded** p – values indicate significant differences; **$Mean_{Maximum}$ = 4; **SEM**: Standard error of the mean

Income level: The status consciousness of different income category groups is summarised in Table 6.32. ANOVA revealed significant differences among the different income categories (p = 0.000). The post-hoc Bonferroni test that was subsequently done revealed that the lowest income group is significantly more status consciousness compared to the other income groups.

© University of Pretoria

TABLE 6.32: STATUS CONSCIOUSNESS IN TERMS OF INCOME LEVEL

Income	Income category	Mean**	Mean Difference	SEM	p-value
R0 - R10000 (M = 2.21)	**>R10000 - R25000**	2.03	.176*	.063	**0.034**
	>R25000 - R45000	1.99	.215*	.062	**0.003**
	>R45000	1.95	.253*	.067	**0.001**
>R10000 - R25000 (M = 2.03)	**R0 - R10000**	2.21	-.176*	.063	**0.034**
	>R25000 - R45000	1.99	.039	.069	1.000
	>R45000	1.95	.076	.075	1.000
>R25000 - R45000 (M = 1.99)	**R0 - R10000**	2.21	-.215*	.062	**0.003**
	>R10000 - R25000	2.03	-.039	.069	1.000
	>R45000	1.95	.037	.073	1.000
> R45000 (M = 1.95)	**R0 - R10000**	2.21	-.253*	.067	**0.001**
	>R10000 - R25000	2.03	-.076	.075	1.000
	>R25000 - R45000	1.99	-.037	.073	1.000

Bolded p – values indicate significant differences; ***The mean difference is significant (p≤ 0.05); ****Mean$_{Maximum}$ = 4; **SEM**: Standard error of the mean

Lower income consumers' (<R10 000) elevated status consciousness could be attributed to their aspirational needs. Belk (1988) argues that even in Third-world countries people often indulge and consume conspicuously before they agonize about basic needs such as having adequate food, clothing and shelter. Similarly a study done by Levine and Feldman (1997) indicates that consumers from all social affiliations have an innate desire to consume for status related reasons: "…many children from the ghettos would rather have a Rolex than a home". Status consumption is said to assist in creating individual identity and provides a sense of achievement (O'Cass & McEwen, 2006).

Population: A t-test revealed that Whites are significantly less status conscious than the other population groups (p = 0.003). Results are presented in Table 6.33.

TABLE 6.33: STATUS CONSCIOUSNESS IN TERMS OF POPULATION GROUP

Population group	n	Mean**	SEM
Other	110	2.20*	0.054
White	420	2.03	0.023
Total	530	2.11	-
p-value (t-test)			**0.003***

***The mean difference is significant (p≤ 0.05); ****Mean$_{Maximum}$ = 4; **SEM**: Standard error of the mean

According to Griffin, Babin and Christensen (2004), status consciousness and related consumption behaviour differ between cultures depending on their underlying social norms and values. They explain that cultures that have a Calvinistic background tend to consume less conspicuously and more frugal. In a South African context the results could be further explained in that many Blacks (a so-called 'previously disadvantaged' group) aspire to better their social identity and are therefore inclined to be more status conscious to decrease their asset deficit and to gain the admiration of others

© University of Pretoria

Factor 3: Materialism

Compared to the other two factors (M <2.11), the mean for factor 3 is higher (M = 2.49), which suggests that materialism exerts a stronger influence on consumers' purchasing and consumption behaviour than compulsiveness or status consciousness.

Gender: According to results from the performed t- test, males (M = 2.48) and females (M = 2.49) do not differ significantly (p = 0.796) in terms of the influence of underlying materialistic needs. Gender is therefore not a useful predictor of materialistic consumption.

Age: ANOVA exposed significant differences among different age groups' propensity to be driven by materialistic needs (p = 0.000).

TABLE 6.34: MATERIALISM IN TERMS OF AGE

Age	Education category	Mean**	Mean Difference	SEM	p - value
20 - <30 (M = 2.61)	**30 - <50**	2.48	.131*	.045	**0.012**
	50+	2.28	.323*	.056	**0.000**
30 - <50 (M = 2.48)	**20 - <30**	2.61	-.131*	.045	**0.012**
	50+	2.28	.191*	.057	**0.003**
50+ (M = 2.28)	**20 - <30**	2.61	-.323*	.056	**0.000**
	30 - <50	2.48	-.191*	.057	**0.003**

Bolded p – values indicate significant differences; ***The mean difference is significant (p≤ 0.05); **** $Mean_{Maximum}$ = 4; **SEM**: Standard error of the mean

The post-hoc Bonferroni test revealed that the younger consumer groups are significantly more materialistic compared to their respective older counterparts. The prevalence of materialistic consumption patterns among young consumers can be attributed to increased exposure to various sources of marketing and advertising media, which aim to stimulate desires for new products and to stimulate an awareness of emotional fulfilment that can be gained from buying consumer products (Jobber, 2010:186). Younger consumers would inevitably therefore be more susceptible to over consumption and waste and therefore efforts to reduce waste should be targeted at younger consumer groups because of the important role that young individuals fulfil as future consumers and socializing agents.

Education level: Through ANOVA, significant differences (p = 0.031) among the level of education groups' propensity to consume for materialistic reasons came to the fore (Table 6.35).

© University of Pretoria

TABLE 6.35: MATERIALISM IN TERMS OF EDUCATION

Age	Education category	Mean**	Mean Difference	SEM	p - value
Lower than Grade 12 (M = 2.10)	**Grade 12**	2.35	-.430*	.173	.041
	Grade 12 plus a Degree or Diploma	2.47	-.374	.172	.092
Grade 12 (M = 2.35)	**Lower than grade 12**	2.10	.430*	.173	.041
	Grade 12 plus a Degree or Diploma	2.47	.055	.042	.595
Grade 12 plus a Degree or Diploma (M = 2.47)	**Lower than grade 12**	2.10	.374	.172	.092
	Grade 12	2.35	-.055	.042	.595

Bolded p – values indicate significant differences; ***The mean difference is significant** ($p \leq 0.05$); ****Mean**$_{Maximum}$ = 4; **SEM**: Standard error of the mean

Means indicate that the higher the education level, the more materialistic consumers are. The post-hoc Bonferroni test revealed that the two higher levels of education categories are significantly more materialistic than the lowest level of education group. In terms of the topic of investigation, this is unfortunate, as one would have hoped that better educated consumers would be less wasteful. Level of education can therefore serve as a predictor of materialism, specifically, the higher the education level, the more materialistic.

Income level: ANOVA indicated no significant differences among the different income level categories (p = 0.140). Income level does not seem to be a good predictor of materialism as the means for the different income level categories did not differ statistically significantly (M = 2.42 - 2.55).

Population group: Contrary to what was reported for the other two factors, population group does not seem to be a good predictor of materialism as a driver of consumers' consumption practices (M = 2.48, 2.50; p = 0.411).

6.2.5.2Conclusive remarks regarding the rationality of consumers' consumption behaviour

Although, this study could not confirm strong compulsive buying behaviour among respondents (M = 2.11), literature still proposes that consumers are steadily displaying an increased tendency to act compulsively in the market place (Manolis & Roberts, 2008; WHICH, 2013), probably due to clever and highly persuasive marketing techniques and advertising (WHICH, 2013). Compulsive buying behaviour can be thought of as a chronic tendency to purchase consumables to the extent that it exceeds consumers' personal needs and even their financial resources (Edwards, 1993). A closer investigation of the findings does nonetheless indicate that females, young, lower educated, low income as well as population groups other than Whites are significantly more inclined to purchase compulsively compared to their counterparts. Some of these demographic subsets, such as the low income and lower educated consumers are more vulnerable in terms of their resources and cannot afford to shop compulsively. A study done buy Roberts (1998) indicated that females but in particular young consumers generally tend to be more compulsive because they spend more free time in shopping centres and are also more

© University of Pretoria

exposed to television and other media sources which promote materialistic ideals. Jobber (2010:131) states that young consumers have always been prime targets for marketers because of their capacity to spend, which is driven by aspirational needs. Compulsive buying is said to be an under researched topic that deserves more attention because it potentially has multiple negative outcomes, for example an inclination towards indiscriminate, excessive consumption (which increases waste, which is not commendable in terms of the conservation of our resources) while it is also a form of dysfunctional consumer behaviour that can lead to considerable psychological distress (Xu, 2007).

Previous research suggests that individuals' status consciousness is positively related to materialism and compulsive buying behaviour (Roberts, 1998; Xu 2007). Although this study did not confirm a noteworthy status consciousness (M = 2.07) among respondents, status consumption among the young, lower income and population groups other than Whites was significantly higher compared to their respective counter parts. These findings could be attributed to their need to enhance their social standing in the community they find themselves in. Status consumption is often viewed as a process by which individuals either establish or improve their social identity through the acquisition of material goods (O'Cass & McEwen, 2006). This supports the notion that 'you are what you buy' (Todd, 2012). It is said that consumption is intimately tied to the creation and production of a sense of self. It is virtually impossible for consumers not to find a product today that is not embedded with some symbol of status. Recognizing this, it is possible to conclude that consumption is a way to create a sense of self that has an immediate effect and which could compromise consumers' willingness to adapt more sustainable consumption behaviour, which is a long-term commitment.

In terms of Factor 3 (Materialism) findings were particular worrisome (M = 2.49). Currently being materialistic is a global phenomenon, which is pursued increasingly (Killbourne & Picket, 2007). Materialism is viewed as an ethical concern (Jobber, 2010:186) and marketing is judged for promoting materialistic ideals by overemphasizing the importance of material possessions (Heath et al., 2011). In combination with the younger generation's inclination to not only be more compulsive and status conscious but also significantly materialistically inclined, one could understand the concern in times of climate change. Excessive consumption with the purpose to adopt a specific lifestyle often leads to an inordinate attachment to material possessions. This materialistic inclination occurs at a great expense to consumers, society and natural environment (McGregor, 2007). Jobber (2010:186) states that marketing managers tend to place the short-term needs and interests of consumers before society's long-term needs/ interests. It is becoming very clear that the well-being of the human race depends on the quality of the natural environment and for this reason one should publicly condemn materialism especially the

© University of Pretoria

materialistic behaviour of young consumers who need to play an important role in socializing the consumers of the future.

The consumption behaviour of the sample is neither compulsive nor status driven, which is considered as amiable and therefore a very positive finding especially in terms of promoting sustainable consumption. However, materialism seems to be a noteworthy influence, which is not conducive towards sustainable consumption and therefore detrimental towards the fight against climate change. It is suggested that avenues are sought to educate consumers regarding their role in revising their personal consumption practices. Retailers could for example provide in-store information sessions, or dedicate a monthly column in their respective magazines to the issue. The popular press/ media (e.g. South African Master Chef and South African KykNet - Kokkedoor) could also contribute by encouraging thoughtful consumption practices to educate consumers in terms of sustainable fresh produce consumption, for example selecting and preparing smaller portions to reduce waste).

6.2.6 Consumers' sense of social responsibility and implications for sustainable fresh produce consumption practices (Objectives 3.3.3 and 3.3.4)

The term social responsibility is defined in different ways. The primary underlying assumption, however, involves a moral obligation towards society as a whole, which goes beyond meeting only individualistic consumer needs. The term social responsibility is often interchangeably used to refer to sustainability and/ or sustainable consumption (Singh, 2009) while some are of the opinion that it should rather be viewed as a prerequisite and/ or precursor for sustainable consumption. This argument is based on the review of critical societal problems that involve various aspects such as the moral norms and values within societies (Wilson, 2011). Sustainability/ sustainable consumption refers to a set of principles that could be employed to address unsustainable consumption behaviour in terms of natural resources as well as to reflect on consumption behaviour that is frugal because it considers future consumer needs.

The following section reflects on the objectives of the study that aimed to understand consumers' sense of compliance with the characteristics associated with a socially responsible citizen, as well as the aim to interpret consumers' willingness to accept and abide to the principles of sustainable consumption, i.e. socially responsible behaviour.

© University of Pretoria

6.2.6.1 Consumers' sense of social responsibility

Since the late 1970's there has been considerable interest – especially from a marketing perspective - in the importance and stimulation of consumers' individualistic needs. For some, this is detrimental to the underlying basic value system of society and it may very well become the major social issue of the present century (Wilson, 2001; Mayer & Frantz, 2004).

In order to investigate the possible influence that consumers' sense of social responsibility may exert on their fresh produce consumption practices, respondents had to respond to a pool of 27 questions that were drawn from two existing scales that have proven to be successful in measuring constructs that were relevant to this investigation. The composite reliability of the original scales was 0.72 and 0.84 respectively. All 14 scale items of the Connectedness to Nature Scale (CNS) of Mayer and Frantz (2004) were included to measure consumers' sense of responsibility in terms of the natural environment. The authors of the original scale identified only one factor through factor analysis, which formed the 14 items used in this study (α = 0.84). The construct was simply referred to as CNS (Connectedness to Nature). The second part of the question attended to consumers' sense of social responsibility towards co-citizens or society as a whole and included a selection of 13 (of the original 35) scale items drawn from Cohen's (1967) Interpersonal Orientation - CAD Scale. Cohen's original scale (1967), distinguished three factors, namely: Factor 1: Compliance (10 items); Factor 2: Aggression (15 items), and Factor 3: Detachment (10 items). Because part of the scale was used, Cronbach alpha was used to verify the internal consistency of the items, which were measured in terms of a 4-point Likert-type agreement scale. Means calculated for the individual scale items that were above 2.5 were considered as a positive reflection in terms of respondents' level/ sense of social responsibility, which could be interpreted that these respondents are more likely to embrace the principles of sustainability and less liable to irrational (irresponsible/ conspicuous) consumer behaviour. An exception was made in terms of scale items that measured consumers' level of Competitiveness and/ or Detachment. Means calculated for these respective scale items that were above 2.5 were considered as a negative reflection in terms of respondents' level/ sense of sustainability and is therefore more liable to irrational consumer behaviour, which are proven to intensify unnecessary fresh produce waste and ultimate climate change.

To summarise and reduce the items in terms of coherent constructs, Exploratory factor analysis - specifically Principal Axis Factoring was performed using a Varimax rotation with Kaizer normalisation and with Eigen values >1. Four factors, which retained 24 of the 27 original scale items, were identified. Three items were omitted because of low communalities: they did not load on any of the respective factors in a logical manner. The total variance explained among the final factors was 47.46%, which was

© University of Pretoria

interpreted as a good fit considering the acceptable norm of >30% (Mazzocchi, 2008:222). Cronbach α for two of the four factors were considered acceptable (α>0.7). However, Cronbach's α for Factors 3 and 4 were less favourable (α<0.5). After repeated investigation it was decided to retain both the factors, because further rotations did unfortunately not produce better results. No obvious reason apart from the fact that the questionnaire may have been somewhat lengthy can be offered. The instrument was pre-tested before the final data collection procedure and there were no indications of possible misunderstanding or any other problems that should have been addressed.

Of the four factors identified, three included the acceptable minimum of at least three scale items (Mazzocchi, 2008:224). Factor 4 contained only two items, which was unfortunate. A Pearson correlation coefficient was calculated to determine whether the two items correlated well. A correlation of -1 or 1 means that the two variables are perfectly correlated, i.e. that you can predict the values of one variable from the value of the other variable with fair accuracy (Mazzocchi, 2008:173). Results obtained from this test indicated a value of 1, which was acceptable. Secondly, it was decided to subject these two items to a Pearson Chi-Square test, which allowed for the disclosure of possible significant differences within the different demographic categories. All other factors were subjected to standard ANOVA or t-tests. Findings presented in Table 6.36 disclose the content of the four factors and their initial descriptive analyses.

© University of Pretoria

TABLE 6.36: CONSUMERS' SENSE OF SOCIAL RESPONSIBILITY

Items	Factor 1	Factor 2	Factor 3	Factor 4
	Centrality	Competitiveness	Altruism	Detachment
I feel as though I belong to the Earth as equally as it belongs to me	.767	-.029	.097	-.069
Like a tree can be part of a forest, I fell rooted within the broader natural world	.763	-.071	.001	-.118
I often feel that I have a kinship/ connection with plants and animals	.679	-.071	.016	.099
When I think of my life, I imagine myself to be part of a larger cyclical process of living	.673	-.013	-.011	-.046
I often feel part of the web of life	.665	-.074	.097	-.036
I think of the natural world as a community to which I belong	.634	-.055	.120	.271
I feel that all inhabitants of Earth, human and non-human, share a common life force	.612	-.107	.070	-.059
I have a deep understanding of how my actions affect the natural world	.572	-.096	.178	-.093
I recognize and appreciate the intelligence of other living organisms	.547	-.203	.175	.175
I often feel a sense of "oneness" with the natural world around me	.515	-.032	.115	.402
I enjoy knowing that others are somewhat envious of me	.004	.676	.124	-.193
I enjoy being able to won an item before most of my friends are able to buy it	-.100	.625	.281	-.124
I would enjoy being able to spot and exploit the weakness of others	-.080	.592	-.149	-.043
I do not like to be considerate to the needs and feelings of others	-.028	.543	-.207	.146
I would like to have the ability to blame others for their mistakes	-.094	.533	-.128	.068
I enjoy not having to worry about others	-.157	.457	-.040	-.059
I would prefer to be free of any social obligations	-.038	.400	-.001	.021
I do not like to be fair to people who do things which I consider to be wrong	.041	.305	.092	.252
I retrieve a great deal of satisfaction out of caring for others	.028	-.424	.582	.078
I enjoy giving assistance to the poor and under-privileged	.128	-.401	.528	.072
Defending my rights is very important to me*	-.158	.006	-.323	.118
I do not like to be influenced by others*	-.037	-.076	-.264	.022
When I think of my place on earth, I think of myself as being at the top of the hierarchy that exists in nature	-.175	-.072	-.116	.443
I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass, birds or other animals*	.213	.004	-.056	.236
n	533	532	532	533
Mean**	2.76	2.02	3.05	2.68
Standard Deviation	.468	.448	.605	.379
% Variance Explained	22.52	12.55	6.64	5.75
Cronbach Alpha	.877	.735	.318	.491
Pearson Correlation Coefficient	-	-	-	1

**Reverse coded items;* ******Mean Maximum of 4

A thorough investigation of the four factors and their respective items allowed the identification of suitable factor labels in accordance with literature, namely Factor 1: Centrality; Factor 2: Competitiveness; Factor 3: Altruism; Factor 4: Detachment.

Factor 1, Centrality, refers to the extent to which an individual includes nature within his/her cognitive representation of their 'self', i.e. the level of attachment to nature. A mean >2.5 is interpreted as positive attachment with an encouraging sense of social responsibility.

Factor 2, Competitiveness, is similar to Cohens' (1967) 'Aggression' dimension, which literally means that someone opposes members in society. A mean >2.5 is interpreted as an indication that consumers

© University of Pretoria

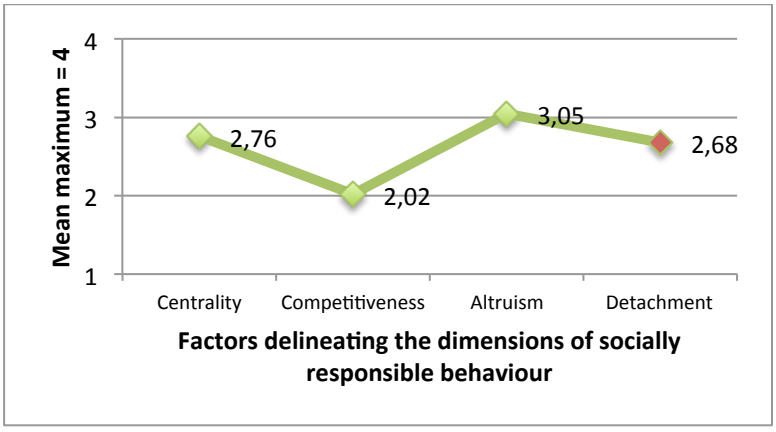
would demonstrate a low sense of social responsibility. A mean of 2.02 indicates that consumers are not competitive which is a positive sign.

Factor 3, Altruism, is similar to Cohens' (1967) 'Compliance' dimension, which suggests cooperation with societal members. A mean >2.5 is interpreted as altruistic behaviour, which reflects a positive sense of social responsibility.

Factor 4 is similar to Cohens' (1969) third construct, namely 'Detachment', which indicates an unsympathetic approach to other societal members and nature. A mean score >2.5 indicate that consumers are inclined to distance themselves from societal members and/ or nature and are more individualistic, i.e. a poor sense of social responsibility.

Compared to the original scales, the following differences came to the fore with respect to the four factors and their content:

- Connectedness with nature scale (Mayer and Frantz, 2004): 2 of the original 14 items were omitted through factor analysis. Of the remaining 12 items, 10 loaded onto Factor 1 and the remaining 2 loaded on to Factor 4.
- Interpersonal orientation, CAD scale (Cohen, 1969): 12 of the initial 13 scale items were retained. The majority of the items (8) loaded on to Factor 2 and the rest of the items loaded on to Factor 3. None of the original scale items grouped coherently as in the original scale and despite multiple efforts, a better fit could not be obtained.



Means indicated in red is interpreted as areas of concern i.e. high levels of detachment is not conducive towards social responsible behaviour

FIGURE 6.12: FACTORS MEANS DELINEATING THE DIMENSIONS OF SOCIALLY RESPONSIBLE BEHAVIOUR

Factor means (Table: 6.36) for factors 1, 2 and 3 vary between (2.02 and 3.05), which suggest some sense of social responsibility which is positive although not impressive. On the contrary the mean for

© University of Pretoria

Factor 4, Detachment (M = 2.68) indicates the contrary. Three of the four factors therefore indicate that consumers do accept/ acknowledge some form of social responsibility by associating with nature (Factor 1: M = 2.76); being fairly altruistic (Factor 3: 3.05) and by not being competitive/ aggressive (Factor 3: M = 2.02) about social issues. Factor 4 (M = 2.68), however, confirms individualistic needs that may jeopardise the way in which consumers accept, or are willing to be socially responsible. Literature suggests that consumers today tend to be detached from the social and natural environment, which contribute to ignorance about where, how, and how much effort and/ or resources are required for the production of food (Gustavsson, 2011). In this study, findings regarding respondents' ignorance in terms of retailers' unsustainable practices as presented in Table 6.23 and 6.24, supports the findings pertaining to detachment. Findings for the four factors in terms of selected demographic characteristics of the sample are presented in Table 6.37.

TABLE 6.37: CONSUMERS' SENSE OF SOCIAL RESPONSIBILITY PER DEMOGRAPHIC CATEGORY

	Factor 1 (Centrality)			Factor 2 (Competitiveness)			Factor 3 (Altruism)			Factor 4 (Detachment) : Chi- Square Test			
GENDER	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
Male	126	2.79	.040	126	2.17	.043	126	2.97	.037	122	57.4	124	52.4
Female	403	2.75	.023	402	1.97	.021	403	3.08	.021	396	50.0	396	51.2
Total	529	2.77	-	527	2.07	-	529	3.02	-	518	51.8	520	51.5
p-value			.358			**.000**			**.011**		.426		.687
AGE	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
20 - <30	217	2.74	.032	218	2.05	.029	218	3.09	.029	215	53.5	212	56.6
30 - <50	206	2.75	.032	206	1.98	.031	207	3.03	.030	202	46.5	204	49.5
50+	102	2.82	.044	100	2.00	.044	100	3.01	.038	97	58.7	100	47.0
Total	525	2.76	.020	524	2.01	.019	525	3.05	.018	514	51.8	516	51.9
p-value			.344			.254			.246		.506		.704
EDUCATION	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
Lower than Grade 12	8	2.93	.149	8	1.98	.079	8	3.12	.105	8	25.0	8	62.5
Grade 12	212	2.74	.030	213	2.07	.031	213	3.05	.027	211	51.2	207	49.7
Grade 12 + Degree or Diploma	310	2.77	.027	308	1.98	.025	309	3.05	.025	300	53.3	306	52.7
Total	530	2.76	.020	529	2.01	.019	530	3.05	.018	519	52.1	521	51.6
p-value			.421			.092			.891		.345		.138
INCOME	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
R0 - R10000	169	2.76	.036	171	2.08	.037	171	3.09	.348	166	54.8	167	55.1
>R10000 - R25000	102	2.77	.047	101	1.99	.044	102	3.08	.042	100	54.0	99	52.6
>R25000 - R45000	112	2.77	.043	109	2.00	.039	109	2.98	.036	106	50.0	110	47.3
> R45000	82	2.79	.042	83	1.95	.048	83	3.09	.051	82	46.3	83	46.9
Total	465	2.77	.021	464	2.02	.021	465	3.06	.020	454	52.0	459	51.2
p-value			.982			.123			.216		.417		.066
POPULATION	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
Other	109	2.80	.044	110	2.05	.044	110	3.10	.045	108	65.8	108	60.1
White	421	2.75	.022	419	2.01	.021	420	3.04	.020	411	48.4	413	49.1
Total	530	2.77	-	529	2.03	-	530	3.07	-	519	52.1	521	51.4
p-value			.354			.355			.214		**.007**		**.040**

Bolded p – values indicates significant differences; ***The mean difference is significant (p≤ 0.05)

Table 6.37 presents the results of the One-way Analysis of variance (ANOVA) test, which was performed on Factor 1, 2 and 3 in order to seek significant differences within the age, education and income categories. Means for the four factors varied between 2.76 and 2.77 indicating that respondents mostly

© University of Pretoria

agreed with the scale items. For Factor 1: Centrality, it seems that, irrespective of the demographic characteristic that is investigated, consumers do regard nature as a part of their self-concept. In terms Factor 2: Competitiveness, means across demographic groups varied between 2.01 and 2.07, indicating that consumers are not overly negative with regard to issues of social concern. The means, however, do not show that consumers are particularly positive in terms of concern about social issues either. Means in fact indicate that consumers are fairly blasé about the matter in general. Consumers do, however, seem more altruistic (Factor 4: M = 3.02 to 3.07), which shows some compassion for people.

Because Factor 4 (Detachment), only contained two scale items, its statistical analysis differed from the analyses of the other factors. For each item in Factor 4, responses were summated followed by the calculation of individual scores per demographic category and their respective subsets. Results are presented as percentage values, and values >50% are considered as confirmation of detachment/ lack of involvement. To determine significant differences among demographic groups for Factor 4, a Pearson Chi- Square test was performed. The only significant difference disclosed, was between the two population groups. Details are presented in Table 6.37.

T-tests were performed to investigate possible significant differences within the gender and population group categories. In the event where significant differences were identified, post-hoc tests were performed to specify the differences explicitly. Significant differences came to the fore between the gender groups in terms of *Competitiveness* and *Altruism*. Post-hoc test results are presented in Table 6.38 and 6.39.

Factor 1: Centrality

Centrality refers to the extent to which an individual includes nature as part of his/ her cognitive representation of their self. Literature suggest that consumers who appreciate nature and perceive themselves as part of nature will show greater concern about nature and would be more willing to change behaviour that reflects so-called unsustainable practices. Figures in Table 6.37 reflect the samples' social responsibility in terms of this construct for the different demographic groups. Based on p-values >0.05, no significant differences between the gender and population groups, or among the age, level of education or income groups were confirmed. All the means exceed 2.74, which indicate a positive association with nature. None of the demographic categories can, however, be used to predict significant differences in consumers' association of nature as part of their 'selves'.

© University of Pretoria

Factor 2: Competitiveness

Competitiveness refers to consumer behaviour that elevates an individual's personal interest and personal welfare at the expense of society. The following findings reflect the various demographic categories' social responsibility in terms of this construct.

Gender: A t-test (Table 6.38) revealed that males are significantly more competitive than females (p = 0.000).

TABLE 6.38: COMPETITIVENESS IN TERMS OF GENDER

Gender	n	Mean	SEM
Males	126	2.17	.043
Females	402	1.97	.021
Total	527	2.07	-
p-value (t-test)	**0.000***		

Bolded p – values indicates significant differences; ***The mean difference is significant (p≤ 0.05)**

According Patchen (2006), men are more competitive in nature and often purchase consumables conspicuously for the purpose of displaying a superior image notwithstanding the consequences of their purchases for others. Because females are more nurturing and caring, they tend to be naturally equipped to adopt sustainable consumption practices.

Age, Education level, Income level, Population group: Based on the findings of this study, neither age, education level, income or population group, can be used as a useful predictor of a person's competitiveness (p = >0.05) but overall, the means suggest that consumers are neither competitive nor submissive. It may indicate cautiousness or hesitance to adopt a firm view.

Factor 3: Altruism

The following findings reflect the samples' social responsibility in terms of altruistic behaviour, which refers to a consumer's compassion and care about the needs of fellow citizens.

Gender: Table 6.39 reveals the findings of the t-test, which indicates that females are significantly more altruistic than males (p = 0.011) although both are fairly altruistic (M => 2.5).

TABLE 6.39: ALTRUISM IN TERMS OF GENDER

Gender	n	Mean	SEM
Males	126	2.97	.037
Females	403	3.08	.021
Total	529	3.02	-
p-value (t-test)	**0.011***		

Bolded p – values indicates significant differences;***=** The mean difference is significant (p≤ 0.05)

© University of Pretoria

Findings concur with the previous findings that indicate that men are significantly more competitive and therefore significantly less concerned about social issues than females. Doncaster, Jackson and Watson (2013) report that altruistic behaviour is undermined by a competitive nature. Altruism consequently reflects a strong kinship between individuals and allows others to benefit even at the expense of oneself. Literature furthermore supports these findings by identifying women as more sustainable consumers because of their nurturing nature (O'Connor, Bord & Fisher, 1999).

Age, Education level, Income, Population group: Similar to Factor 2, Competitiveness, neither the age, education level, income nor population group that a consumer belongs to, can be used as a useful predictor of a person's altruistic nature ($p = >0.05$). For this factor, however, means were fairly high ($M= \geq 3$), which suggests concern about other people's well—being. This could be capitalised in terms of efforts to promote more sustainable consumption practices.

Factor 4: Detachment

Because Factor 4 only contained two scale items, a Pearson correlation coefficient was calculated. A p-value = 1 confirmed a positive correlation between the two scale items. Possible significant differences within the different demographic categories were determined by means of a Pearson Chi-Square test. Results for the respective items are presented according to the different demographic categories and will reflect p-values and relevant percentage values. Percentage values >50% confirm evidence of detachment, i.e. lack of involvement. During the discussion of the results, reference is made to item 1 and item 2, i.e.:

Item 1: When I think of my place on earth, I think of myself as being at the top of the hierarchy that exists in nature.

Item 2: I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass, birds or other animals (reverse coded).*

Gender, Age, Level of education, Income: No significant differences could be confirmed for either of the two scale items within the gender, age, level of education or income categories and therefore these demographic categories cannot be used to predict consumers' sense of detachment ($p >0.05$).

Population group: The Pearson Chi square test revealed significant differences between the two population categories (Table 6.40). Other population groups (excluding Whites) seem significantly less engaged (>65%) with nature compared to Whites, which suggest that Whites might be more aware of their role in the preservation of nature.

© University of Pretoria

TABLE 6.40: DETACHMENT IN TERMS OF POPULATION GROUP

Item N = 494	Population group	n	% Agreed	Interpretation in terms of Sustainability	p-Value (Chi-Square test)
When I think of my place on earth, I think of myself as being at the top of the hierarchy that exists in nature.	Other	108	65.8*	Detachment is a major concern	
	White	411	48.4	Detachment is a concern	**0.007***
I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass, birds or other animals (reverse coded)	Other	108	60.1	Detachment is a major concern	
	White	413	49.1*	Detachment is a concern	**0.040***

Bolded p – values indicate significant differences; ***The mean difference is significant (p≤ 0.05)

Findings presented in table 6.40 revealed that detachment among the White population group is significantly lower compared to the other population groups.

Within the South African context the results could be further explained by the growing tendency amongst most consumers especially consumers other than Whites who aspire to better their social identity and are therefore inclined to be more conspicuous and less socially responsible (Kimani & Kombo, 2010).

6.2.6.2 Conclusive remarks about consumers' sense of citizenship and social responsibility

Findings from this study suggest that consumers are socially responsible to a certain extent (M >2.5). However, means are not particularly high, which indicates much room for improvement, i.e. encouragement is needed to regard nature as part of the 'self', being more altruistic and appreciating nature as part of consumers' well-being. The relatively strong sense of detachment could be interpreted that consumers distance themselves not only from fellow citizens but also from nature, which is typical of individualistic societies. This confirms previous research, which indicated that current marketing and retailing strategies numbed the once active public citizen into a docile-passive consumer (Bush, 2008; Curtis, 2009), who shows little concern about society and/ or the environment.

Findings of the focus group discussions held later on confirmed the fact that almost 50% of the sample was blasé about the consequences of their consumption, for example:

> *"I am not interested in hearing how much my demand contributes towards the retailers wastage or climate change, I work very hard and feel entitled to blemish free bananas" (F3: 12);*

© University of Pretoria

"You are welcome to explain to me what climate change entails but once I'm in the store and I feel like buying something, even if I don't need it or like you say it is unsustainable I will still buy it because in the end I want it" (F3: 3).

Most of the participants indicated that they do not care, and some even mentioned that they work very hard and therefore expect retailers to source and present only the best fresh produce by whatever means possible. Detachment from nature therefore seems a valid concern that needs to be attended to. More specifically it is suggested that males are encouraged to be more attentive because they seem significantly more competitive than females, while also being significantly less altruistic – both factors that are not contributing to sustainable consumption practices in the long term.

6.2.6.3 Consumers' willingness to accept and adopt sustainable consumption practices

Sustainable food consumption has become a matter of urgency and is viewed as an important aspect of sustainable development (Verain, Bartels, Dagevos, Sijtsema, Onwezen & Antonides, 2012). The problem, however, is that the process of adopting a more sustainable food lifestyle is often too complex and as a result not only deters consumers' willingness and commitment but ultimately influences the mitigation of climate change (Berk & Fovell, 1999; Sing, 2009).

In order to investigate consumers' willingness to accept the principles of socially responsible behaviour and to adopt sustainable consumption practices in order to mitigate climate change, respondents had to respond to a pool of 21 questions, which included the use of existing scale items as well as three additional self designed items. Of the 21 items, 18 questions were drawn from Antil and Bennets'(1979) 40-item, Socially Responsible Consumption Behaviour Scale (SRCB). Previous studies indicate that SRCB is successful in measuring consumers' willingness to act in a socially responsible fashion. The statistical analysis done by Antil and Bennet (1979) included factor analysis, where all the scale items loaded onto one factor only (Cronbach's $\alpha = 0.93$). The authors did not label the factor and the construct was simply referred to SRCB (Socially Responsible Consumer Behaviour).

In this investigation, respondents were asked to respond to the individual scale items by means of a 4 point Likert-type agreement scale ranging from *Strongly disagree* (1) to *Strongly agree* (4). Means >2.5 were regarded as a positive reflection of consumers' willingness to act in a socially responsible and sustainable manner, i.e. a likelihood that they would embrace the principles of sustainability and be less irrational/ irresponsible in order to curb fresh produce waste as a contribution to reduce contributors to climate change.

© University of Pretoria

To summarise and reduce the items in terms of coherent constructs, Exploratory factor analysis, specifically Principal Axis Factoring was performed. Using a Varimax rotation with Kaizer normalisation and with Eigen values >1, five factors, which retained all of the original scale items were identified. The total variance explained among the final factors was 56.76%, which indicated a good fit in terms of the accepted norm of >30% (Mazzocchi, 2008:222). Cronbach's α for three of the five factors were >0.75. However, Cronbach's α for Factor 4 and 5 were lower but still >0.57. After repeated investigation it was decided to retain both as is because further rotation did not produce a better result. The internal consistency of consumers' responses to the individual scale items in Factors 4 and 5 is therefore somewhat lower than the ideal.

A thorough investigation of the five factors and their respective items allowed the identification of suitable factor labels, namely Factor 1: Activism; Factor 2: Personal effort; Factor 3: Personal sacrifice; Factor 4: Financial investment and Factor 5: Apathy. All but one of these constructs indicates some sort of practice that reflects, and is defined in theory as an indication of socially responsible and sustainable behaviour. The construct Apathy, however, reflects on behaviour that is indicative of an unwillingness towards sustainable and socially responsible/ conscious consumer behaviour. Results presented in Table 6.41 disclose the content of the five factors and the respective descriptive statistics.

© University of Pretoria

TABLE 6.41: CONSUMERS' WILLINGNESS TO ADOPT SUSTAINABLE CONSUMPTION PRACTICES

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	Activism	Personal effort	Personal sacrifice	Financial investment	Apathy
Consumers should be forced to pay higher prices for products that pollute the environment	.612	.065	.091	.280	.056
Non-returnable bottles and cans for soft drinks and beer should be banned by law	.595	.068	.160	.097	.006
Products that use or pollute the environment during their manufacturing should be heavily taxed by government	.569	.058	.170	.192	.078
The government should provide each consumer with a list of organisations and retailers that could assist consumers in contributing to the sustainability of the world's resources	.543	.105	.303	.043	.159
I would be willing to sign a petition or demonstrate for an environmental cause	.490	.099	.341	.086	.175
I think that a person should urge his/ her friends to discontinue the use of products that pollute or harm the environment	.479	.110	.332	.134	.114
I have often thought that if we could just get be with a little less there would be more left for future generations	.456	.177	.218	.221	.158
In my opinion we are not doing enough to save scarce natural resources from being depleted	.403	.126	.115	-.057	.125
The government should subsidise research on technology for recycling waste products	.369	.137	.275	-.069	.199
Government should either keep consistent, or reduce their consumption of products so that our resources will last longer	.123	.891	.095	.007	.099
Industry should either keep consistent, or reduce their consumption of products so that our resources will last longer	.145	.878	.059	-.055	.084
Every person should either keep consistent, or reduce their consumption of products so that our resources will last longer	.193	.678	.177	.121	.155
I would be willing to stop buying products from companies that are guilty of polluting the environment even though it might be inconvenient to me	.312	.089	.648	.198	.147
I would be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results may no seem significant	.311	.114	.637	.217	.139
Our public schools should require all learners to take a course dealing with environmental and conservation issues	.371	.154	.452	.064	.120
I would prefer to devote some of my personal time to a community project even if it impedes on my free time	.278	.063	.445	.186	-.005
I am willing to pay tax on all my fresh produce purchases	.109	-.061	.028	.597	.024
I would be willing to donate a week's pay to an organisation to help improve the environment	.152	-.002	.127	.591	.109
I would prefer to contribute to a community project financially	.035	.095	.177	.425	-.051
The whole pollution issue has never upset me too much since I feel it is somewhat over-rated	-.132	-.107	-.116	-.127	-.766
The benefits of modern consumer products are more important that the pollution that results from their production	-.187	-.136	-.099	.034	-.545
n	535	532	533	532	530
Mean	3.09	3.21	3.05	2.36	1.99
Standard Deviation	.423	.551	.473	.568	.620
% Variance Explained	29.12	9.95	6.88	2.77	5.03
Cronbach Alpha	.818	.879	.758	.571	.629
Pearson correlation coefficient	-	-	-	-	1

Factors in Table 6.41 differ from the original findings of Antil and Bennet (1979) in the following ways:

- Of the selected 18 items taken the SRCB scale, nine items loaded onto Factor 1 three onto Factor 2, four onto Factor 3 and the remaining two items loaded onto Factor 5.
- All of the self-designed questions loaded onto Factor 4.

© University of Pretoria

Of the five factors, four included the acceptable minimum of at least three scale items. Factor 5 contained only two items, which raised some concern in terms of the accuracy of subsequent statistical procedures. This resulted in the decision to firstly do a Pearson correlation coefficient test to investigate whether the two items correlated well. A correlation of -1 or 1 implies that the two variables are well correlated, i.e. that you can predict the values of one variable from the values of the other variable fairly accurately (Mazzocchi, 2008:173). Results obtained from this test indicated a value of 1, which indicated a positive correlation between the two items. Secondly, it was decided to subject both items in Factor 5 to a Pearson Chi-Square test, which allowed for the disclosure of possible significant differences within the different demographic categories. All other factors were subjected to standard ANOVA or t-tests.

The respective factor means (Table 6.41) reveal that respondents mostly agreed with the contents of Factor 1,2 and 3 (Means varied between 3.05 and 3.21; Mean $_{maximum}$= 4).

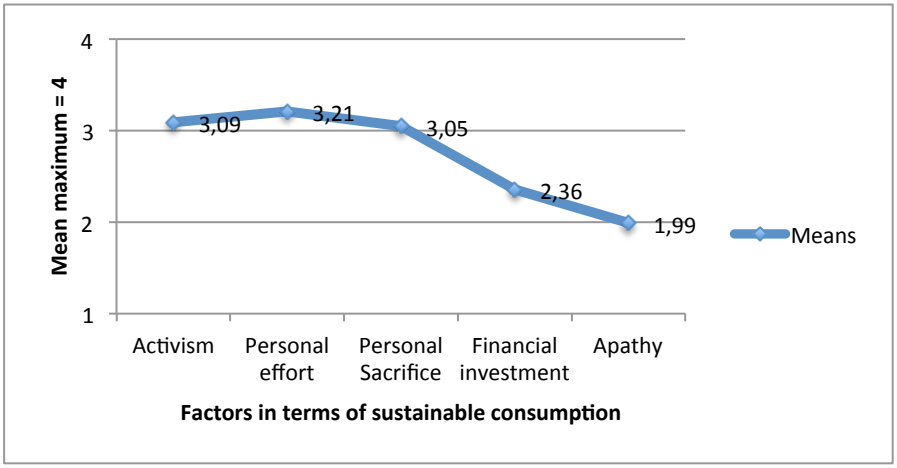


FIGURE 6.13: FACTORS MEANS DELINEATING THE DIMENSIONS OF SUSTAINABLE CONSUMPTION

However, with regard to Factor 4 (Financial investment) and Factor 5 (Apathy) the respective means of 2.36 and 1.99 indicate that respondents mostly disagreed with the items contained in these factors. A low mean for Factor 5 is encouraging as it shows that consumers are concerned. Overall the findings indicate a willingness amongst respondents to adopt lifestyle changes that would allow for more sustainable consumption in the future. Findings for the respective factors in terms of different demographic categories are presented in Table 6.42.

Table 6.42 presents the means per factor across and within the different demographic categories.

© University of Pretoria

TABLE 6.42: CONSUMERS' WILLINGNESS TO ADOPT SUSTAINABLE CONSUMPTION PRACTICES

	Factor 1 (Activism)			Factor 2 (Personal effort)			Factor 3 (Personal Sacrifice)			Factor 4 (Financial investment)			Factor 5 (Apathy) Chi- Square Test			
GENDER	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
Male	128	2.99	.034	125	3.26	.052	127	3.00	.047	126	2.37	.055	124	16.1	125	24.8
Female	403	3.12	.021	403	3.20	.026	402	3.06	.022	402	2.36	.027	400	18.5	398	19.9
Total	531	3.05	-	528	3.23	-	529	3.03	-	527	2.36	-	524	17.9	523	21.0
p-value			**.003**			.272			.223			.869		.508		.128
AGE	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
20 - <30	218	3.06	.028	218	3.19	.039	218	2.99	.030	218	2.31	.038	218	18.4	218	24.3
30 - <50	207	3.10	.031	206	3.20	.037	207	3.05	.035	206	2.41	.039	203	18.7	203	19.7
50+	102	3.11	.037	100	3.28	.053	100	3.08	.043	100	2.37	.058	99	17.2	98	16.4
Total	257	3.09	.018	524	3.21	.024	525	3.05	.020	524	2.36	.024	520	18.3	519	21.0
p-value			.561			.395			.103			.209		.609		.329
EDUCATION	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
< Grade 12	8	3.45	.196	8	3.29	.159	8	3.25	.141	8	2.41	.224	8	50.0	8	37.5
Grade 12	213	3.06	.028	213	3.18	.037	213	2.99	.032	213	2.36	.040	213	20.6	212	25.5
Grade 12 +Degree or Diploma	311	3.09	.024	308	3.23	.031	309	3.07	.026	308	2.37	.031	304	15.8	304	17.5
Total	532	3.08	.018	529	3.21	.024	530	3.04	.020	529	2.37	.024	525	18.2	524	21.0
p-value			**.035**			.526			.084			.973		**.027**		.089
INCOME	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
R0 - R10000	171	3.09	.033	171	3.14	.044	171	301	.038	171	2.35	.045	169	20.2	170	27.0
>R10000 - R25000	102	3.04	.044	101	3.22	.058	102	300	.051	101	2.30	.053	100	18.0	100	33.0
>R25000 - R45000	111	3.09	.037	109	3.26	.046	109	308	.039	109	2.33	.052	108	13.0	107	12.1
> R45000	83	3.15	.048	83	3.32	.056	83	3.14	.048	83	2.56	.063	83	16.8	83	12.0
Total	467	3.09	.019	464	3.22	.025	465	3.05	.022	646	2.37	.026	460	17.4	460	20.0
p-value			.427			.078			.136			**.012**		.323		**.000**
POPULATION	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n**	**Mean**	**SEM**	**n1**	**% Agree**	**n2**	**% Agree**
Other	110	3.04	.040	110	3.16	.057	110	3.06	.046	110	2.44	.056	109	28.5	109	29.3
White	422	3.09	.020	419	3.22	.026	420	3.04	.022	419	2.35	.027	416	15.7	415	18.3
Total	532	3.06	-	529	3.19	-	530	3.05	-	529	2.39	-	525	18.2	524	20.6
p-value			.217			.297			.753			.142		**.007**		**.001**

Bolded p – values indicates significant differences/***=** The mean difference is significant (p≤ 0.05)

In terms of the individual factors the following are noteworthy:

Means for **Factor 1** (Activism) range between 3.04 and 3.09, which indicate that most respondents agree about the merit of activism. Most demographic categories' means are >2.5, i.e. in favour of activism as a means to promote sustainable consumption practices.

Means for **Factor 2** (Personal effort) range between 3.19 and 3.23, i.e. mostly consumers agree that personal effort is required and personal responsibility should be taken for one's actions to curb unsustainable consumption practices. Means >3.0 are positive in terms of willingness to adopt sustainable consumption practices.

© University of Pretoria

Factor 3 (Personal sacrifice): Means ranged between 3.03 and 3.05, i.e. consumers mostly agreed about the need to make personal sacrifices in order to become more socially responsible. Means >3.0 are encouraging in terms of the future.

For **Factor 4** (Financial investment), means ranged between 2.36 and 2.39, i.e. <2.5 although not necessarily disheartening because the mitigation of unsustainable behaviour should not necessarily make demands on one's purse. Other contributions may be more worthwhile in the long run.

Table 6.43 reveals the results of the One-way Analysis of variance (ANOVA, which was performed on Factors 1, 2, 3 and 4 in order to seek significant differences across the age, education and income level categories. T-tests were performed to investigate possible significant differences between gender and population categories. In cases where significant differences were detected, post-hoc tests were performed to identify and define the differences more specifically. No significant differences were identified for Factors 2 and 3. In Factor 1: Activism, significant differences were confirmed within gender category and among the different education level categories. For Factor 4: Financial investment, significant differences were located among the different income groups. Post-hoc test results are presented in Tables 6.43 - 6.45.

The analyses of **Factor 5** (Apathy) differed from the former factors as it contains only two scale items. For each item responses were summated followed by the calculation of individual scores per demographic category and their respective subsets. A value >50% was interpreted as an indication that most respondents agreed with the contents, i.e. confirmation of lack of concern. To determine significant differences among demographic groups for Factor 5, a Pearson Chi- Square test was performed. Significant differences were disclosed for the income categories as well as the population category. Findings are presented in Tables 6.43 – 6.45.

Factor 1: Activism

The following findings reflect the samples' willingness to consume sustainably by becoming activists for the cause. Activism refers to consumers' willingness to support and or partake in social campaigns in order to bring about social change.

Gender: Table 6.43 presents the results of the t-test, which reveals that females are significantly more willing to become activists for the cause than men ($p = 0.003$).

© University of Pretoria

TABLE 6.43: ACTIVISM PER GENDER GROUP

Gender	n	Mean	SEM
Male	128	2.99	.034
Female	403	3.12	.021
Total	531	3.05	-
p-value (t-test)	**0.003***		

Bolded p – values indicates significant differences; *The mean difference is significant (p≤ 0.05)

Literature support the notion that women are more inclined to actively promote sustainable behaviour and for that reason women are nominated as prominent agents of change. It is been said that the move towards sustainability can be hastened by identifying those consumers that have a natural nurturing nature. Women are known to frontier such endeavours (Ott, 2004; Patchen, 2006).

Age: No significant differences (p = 0.561) were disclosed among the different age groups. The respective means for the different age groups varied between 3.06 and 3.11. According to this study, age is not a significant indicator for activism for this specific cause. However, it is interesting that means increased with age (although not significantly). Findings from research done in the Northern hemisphere indicate that young consumers are at the frontiers of driving sustainability, which is contrary to the findings of this study. A possible reason why young respondents may be less inclined voice their concern more overtly may be grounded in the fact that they are also more competitive in nature (see findings presented in Table 6.37) and therefore more individualistic in how they deal with issues of the kind. Findings revealed by Patchen (2006) support this notion.

Education level: Results presented in Table 6.44 reveal respondents' willingness to become activists that promote sustainable consumption. ANOVA revealed significant differences within the level of education category (p = 0.035).

TABLE 6.44: ACTIVISM PER EDUCATION LEVEL CATEGORY

Age	Education category	Mean	Mean Difference	SEM	p - value
Lower than Grade 12 (M = 3.45)	**Grade 12**	3.06	.391*	.152	.031
	Grade 12 plus a Degree or Diploma	3.09	.363	.151	.050
Grade 12 (M = 3.06)	**Lower than grade 12**	3.45	-.391*	.152	.031
	Grade 12 plus a Degree or Diploma	3.09	-.028	.037	1.00

Bolded p – values indicates significant differences; *The mean difference is significant (p≤ 0.05)

The post-hoc Bonferroni test shows that the lowest level of education group is significantly more inclined to become activists for the cause, although literature suggest that sustainable behaviour is mostly supported by better-educated individuals (Patchen, 2006; IMB, 2012). This study therefore suggests that consumers with the lowest education level would demonstrate their support more overtly/ enthusiastically.

© University of Pretoria

Income level and Population group: Means for these two demographic subsets of the data were >3. Findings could, however, not confirm that consumers' income level or that the population group they belong are useful to predict consumers' willingness to demonstrate their concern about sustainability issues overly ($p > 0.05$).

Factor 2: Personal effort

The following investigation reflected on Factor 2, i.e. consumers' willingness to make personal effort to mitigate unsustainable consumption practices.

Gender, Age, Income level, Education level and Population group: In neither of the demographic categories any significant differences among the sub sets of the data could be confirmed ($p > 0.05$), which means that these demographic characteristics cannot be used to predict the personal effort that consumers are willing to make to promote sustainable consumption practices. Awareness among consumers, especially among older generations seems to be growing steadily and although some studies show that older consumers refrain from altering their current lifestyles to reflect a more simpler state of living, they do take their role and responsibility in terms of combatting climate change seriously (Patchen, 2006; Wells, Ponting & Peattie, 2012). According to the findings, the older consumers are not significantly more willing to make personal effort to support the cause.

Factor 3: Personal sacrifice

The following findings reflect consumers' willingness to make personal sacrifices in order to mitigate unsustainable consumption practices.

Gender, Age, Income level, Education level and Population group: Means >3 indicate a positive inclination, i.e. that consumers would make personal sacrifices, but similar to the findings for Factor 2 (Personal effort), there were no significant differences within the sub sets of the various demographic categories ($p > 0.05$), which means that these demographic characteristics cannot be used to predict the personal effort that consumers are willing to make to promote sustainable consumption practices.

Factor 4: Financial investment

When seriously involved in an issue, consumers might be expected to make financial compromises to demonstrate support for the cause. This matter was investigated through Factor 4.

Gender, Age, Level of education, Population group: Findings suggest that neither gender, age, level of education nor population group would be good predictors of consumers' willingness to sacrifice some of their hard earned money to promote the cause ($p > 0.05$). Means across all the demographic categories were <2.5, which also suggest some hesitance (lack of enthusiasm) to donate money to promote

© University of Pretoria

sustainable consumption practices, or to sacrifice by paying higher prices for goods that reflect sustainable practices for example paying more for locally produced vegetables while imported products are cheaper.

Income level: The only significant difference among sub sets of the sample (p = 0.012), was in the income level category. The subsequent post-hoc Bonferroni test (Table 6.45) revealed that the highest income group (>R45000) are more willing to make financial sacrifices, which makes sense from an affordability point of view.

TABLE 6.45: FINANCIAL INVESTMENT PER INCOME CATEGORY

Income	Income category	Mean	Mean Difference	SEM	p - value
R0 - R10000 (M = 2.35)	**R10000 - R25000**	2.30	.058	.071	1.00
	>R25000 - R45000	2.33	.019	.069	1.00
	>R45000	2.56	-.201*	.076	.050
>R10000 - R25000 (M = 2.30)	**R0 - R10000**	2.35	-.058	.071	1.00
	>R25000 - R45000	3.33	-.039	.078	1.00
	>R45000	2.56	-.259*	.084	.013
>R25000 - R45000 (M = 2.33)	**R0 - R10000**	2.35	-.019	.069	1.00
	>R10000 - R25000	2.30	.039	.078	1.00
	>R45000	2.56	-.220*	.082	.048
R45000 (M = 2.56)	**R0 - R10000**	2.35	.201*	.076	.051
	>R10000 - R25000	2.30	.259*	.084	.013
	>R25000 - R45000	2.33	.220*	.082	.048

Bolded p – values indicates significant differences; ***The mean difference is significant (p≤ 0.05)

According to Patchen (2006), higher income groups tend to be less frugal, which allows them to focus on the issue rather than the financial consequences of their decision as they can afford to take the risk. During the focus group discussions it became clear that high-income consumers are more willing to contribute financially towards the mitigation of unsustainable consumption practices and often do so to feel better if they do not have the time to advocate the cause in other ways, e.g.:

"I would eagerly pay for someone to take care of my waste [recycling] because I don't have the time to do it" (F3:2)

"It is much easier to pay than to do it yourself"(F3: 4).

Factor 5: Apathy

Because Factor 5 only contained two scale items, a Pearson correlation coefficient was calculated as an indication of how well the two items correlated and could affirm the results of one another. A p-value = 1 confirmed that the two items were a good fit in terms of the construct. Possible significant differences among the different demographic categories were then investigated by means of a Pearson Chi-Square test. Percentages exceeding 50% were interpreted as confirmation of disinterest in the cause. For ease of explanation the results refer to item 1 and item 2: i.e.:

© University of Pretoria

Item 1:The benefits of modern consumer products are more important than the pollution that results from their production.

Item 2: The whole pollution issue has never upset me too much since I feel it is somewhat over rated.

Gender and Age: Neither gender nor age seems to be good predictors of significant differences about sustainable consumption practices (p >0.05). The low percentages (Item 1: Males, 16.1%; Females, 18.5%/ Item 2: Males, 24.8%; Females 19.9%) suggest low apathy, i.e. that consumers are sympathetic. These findings are supported by the findings obtained through the focus group discussions in which participants admitted that they do not care about the effects of climate change…

"…currently I do not worry [climate change] it does not have an impact on me" (F3:12)

"I do not worry because [climate change] it does not have an impact on me now, and I cannot think that in 10 years time I will feel any different" (F3:4)

"No, I do not feel responsible and I do not care I would rather worry about the here and now" (F3:9)

Participants who were more compassionate about the cause during the focus group discussions were mostly older than 40 years of age.

Education level: Results of the Pearson Chi square test (Table 6.46) revealed a significant difference with regard to item one (p = 0.027).

TABLE 6.46: APATHY PER EDUCATION LEVEL CATEGORY

Apathy in terms of education levels (Significant difference) *The benefits of modern consumer products are more important than the pollution that results from their production*			
	n	**% Agreed**	**Interpretation in terms of sustainability**
Lower than Grade 12	50.0	50.0*	i.e. apathy is a concern
Grade 12	20.6	20.6	i.e. apathy is somewhat of a concern
Grade 12 plus a Degree or Diploma	15.8	15.7	i.e. apathy is a minor concern
Total	**558**	**18.2**	
p-value (Chi-Square Test)		**0.027***	

Bolded p – values indicates significant differences; ***The mean difference is significant** (p≤ 0.05)

Findings presented in Table 6.46 revealed that apathy among the lesser-educated group (<Grade 12) is significantly higher compared to the other two education level groups. In essence half of the lesser-educated group (<Grade 12) agreed that modern consumer products are more important than the pollution that results from it. This is interpreted that they are less concerned about being sustainable and is therefore considered as potentially socially irresponsible consumers. Literature corroborates these findings by reflecting that better educated consumers are more likely than those with less education to emphasise the importance of sustainable consumption in order to combat climate change (Patchen, 2006).

© University of Pretoria

Income level: Income groups' apathy did not differ significantly for item 1, i.e. that 'the benefits of modern consumer products are more important than the pollution that results from their production' (p = 0.323). However, a significant difference was indicated among the different income groups for item two (p = 0.000). Relevant findings pertaining to the significant difference disclosed by the Pearson Chi-square test in terms of item two is presented in table 6.47.

TABLE 6.47: APATHY PER INCOME CATEGORY

Apathy in terms of income group (Significant difference)
The whole pollution issue has never upset me too much since I feel it is somewhat over rated.

	n	% Agree	Interpretation in terms of sustainability
R0 - R10000	170	27.0*	i.e. Apathy somewhat of a concern
>R10000 - R25000	100	33.0*	i.e. Apathy is a concern
>R25000 - R45000	107	12.1	i.e. Apathy is a minor concern
> R45000	83	12.0	i.e. Apathy is a minor concern
Total	**460**	**20.0**	
p-value (Chi-Square Test)		**0.000***	

Bolded p – values indicates significant differences/*The mean difference is significant (p≤ 0.05)

Findings presented in Table 6.47 revealed that apathy were significantly higher amongst the two lower income groups compared to the two higher income groups. This could be interpreted that as a persons' income increases one might become more interested towards issues relating to climate change and/ or the importance of sustainable consumption and therefore could be considered as more socially responsible consumer. These findings are in conflict with literature, that reflect that affluence often contribute towards consumer ignorance and deters commitment towards sustainable consumption because of the inconvenience involved (Patchen, 2006; Singh, 2009; Gustavsson, 2011)

Population group: Differences in apathy were identified by means of the Pearson Chi-square test between the two population categories for both items (p = 0.007; p = 0.001) as presented in Table 6.48. results indicated that the other population groups (excluding Whites) were significantly less concerned about sustainability issues. A possible reason for their apathy can be attributed to their aspiration to better their lifestyles through any means possible, which often show very little consideration in terms of sustainability.

© University of Pretoria

TABLE 6.48: APATHY IN TERMS OF POPULATION GROUP

Item N = 494	Population group	n	% Agreed	Interpretation in terms of Sustainability	p-Value (Chi-Square test)
The benefits of modern consumer products are more important than the pollution that results from their production	Other	109	28.5	Apathy is some what of a concern	
	White	416	15.7	Apathy is a minor concern	**0.007***
The whole pollution issue has never upset me too much since I feel it is somewhat over rated.	Other	109	22.0	Apathy is some what of a concern	
	White	415	18.3	Apathy is a minor concern	**0.001***

Bolded p – values indicates significant differences; ***The mean difference is significant** (p≤ 0.05)

Table 6.48 present the results pertaining to both items. Findings revealed that apathy is significantly higher among the other population groups compared to the Whites.

Possible reasons why the population group 'Other' (excluding Whites) were more likely to agree that the whole pollution issue is somewhat over rated could be attributed to the fact that many consumers in this group lack proper knowledge about climate change (as previous findings in this study confirmed).

6.2.6.4 Conclusive remarks about consumers' willingness to commit to sustainable consumption

According to literature there are two barriers that are key to the mitigation of unsustainable consumption practices, namely consumers' sense of responsibility, and their willingness to adapt and commit in the long term (Wells et al., 2012). This investigation concludes that in the context of this study, consumers are mostly cognisant of their role and responsibility in the mitigation process, and they are apparently willing to bear and put into practice the principles of sustainable consumption. The issue was investigated in terms of *five constructs* that could be used to challenge consumers' willingness. In terms of *activism,* it is clear that consumers are even willing to overtly partake in social campaigns to bring about social change (M >3). Consumers' willingness to do so increased with age (although not statistically significantly). Although literature suggests that sustainable behaviour is mostly supported by consumers with higher education levels (Patchen, 2006; IMB, 2012), this study suggests the contrary. Consumers with the lowest education level seem significantly more willing to demonstrate their support for the protection of the environment more overtly/ enthusiastically. With regard to *personal effort* that might be required to consume sustainably, findings confirm extant research, namely that consumers are willing to make a personal effort to adopt simpler life styles (Patchen, 2006; Wells,

© University of Pretoria

Ponting & Peattie, 2012). Older consumers seem more willing to make a personal effort to support the cause, although not significantly more so than younger consumers. It is therefore not surprising that consumers are also willing to make *personal sacrifices* in order to mitigate unsustainable consumption practices, provided the sacrifices are not of a *financial nature*. Efforts to mitigate unsustainable consumption practices will therefore probably fall on fertile ground as consumers seem willing and positive. Marketing managers should nevertheless keep in mind that consumers would be less cooperative when they have to make financial sacrifices for the cause, i.e. if products are more expensive compared to products that do not support the idea of sustainable consumption. Consumers' willingness is supported by their concern about environmental issues (low apathy). Whites seem to be significantly more concerned than other population groups, which suggest that population groups should be targeted differently.

6.2.6.5 Consumers' suggestions to mitigate unsustainable consumption behaviour

In order to gain insight and ideas in terms of possible mitigating strategies that could be employed to assist consumers to act in a more socially responsible manner, respondents were asked to briefly state in an open question what actions they are currently employing to mitigate unsustainable practices. Respondents were then asked to propose suggestions on how sustainable fresh produce consumption practices could be promoted. Analysis of this question required the coding of all the responses, followed by content analysis and the categorisation of constructs in terms of coherent categories.

The top ten measures that are used to consume more sustainably are summarized in Table 6.49. Not all the respondents completed this question. Of the 231 who did, 16 bluntly stated that they do nothing. Some even elaborated by adding that they do not see any reason to incorporate more sustainable practices into their current lifestyles. These responses indicated apathy. In terms of possible ideas to mitigate unsustainable purchase and consumption practices, initiatives presented by the respondents are indicated in Table 6.49 in descending order. These initiatives / attempts however not necessarily reflect an understanding of appropriate practices. Buying only organic produce is for example not necessarily indicative of sustainable consumption. In terms of the positive actions that are taken to promote sustainable consumption, the most prominent responses included activities that related to recycling. The majority of respondents (n = 226) indicated that they actively recycle consumer products. A general concern to save resources such as electricity (n = 149) and water (n = 53) was evident. Some respondents, however, indicated that they use these resources sparingly - not necessarily to be more sustainable but rather to save money as the cost of these two commodities has increased vastly in recent months, which is a concern for many households.

© University of Pretoria

In terms of fresh produce specifically, responses reflect a strong focus on fresh produce procurement and waste management. In terms of procurement, respondents (n = 64) stated that they plan purchases in order to curb irresponsible/ unsustainable fresh produce consumption. Some (n = 70) respondents indicated that they maintain their own vegetable gardens and 24 respondents indicated that they only buy organic fresh produce. In terms of waste disposal, respondents (n = 70) indicated that they are avid composters and some even elaborated on their unique composting techniques, which inter alia entailed managing their own earth-worm farms. Some respondents indicated that they dispose of unwanted food in a sustainable manner by donating it to the homeless.

Although results presented in Tables 6.41 and 6.42 reveal that consumers mostly agreed that they would overtly campaign for sustainable consumption practices, this section does not produce evidence to support it. Only six respondents indicated that they are active members of environmental activist groups. It may be that they have limited exposure to such groups and/ or their activities.

TABLE 6.49: CONSUMERS'ATTEMPTS TO PURCHASE AND CONSUMESUSTAINABLY (N=231)

Action	n	%
Recycling of consumer products	226	97.83
Saving electricity	149	64.50
Composting food scraps	72	31.16
Maintaining a vegetable garden	70	30.30
Realistic planning and purchasing of fresh produce	64	27.71
Saving water	53	22.94
Buying only organic produce*	24	10.38
Converting food waste into animal feed	22	9.52
Donating unwanted food to the homeless	10	4.32
Joined a activist group / partaking in campaigning	6	2.59

During the focus group discussions, when addressing the same topic the following came to the fore:

"I do not worry because [climate change] it does not have an impact on me now, and I cannot think that in 10 years' time I will feel any different" (F3: 4);

"No, I do not feel responsible and I do not care I would rather worry about the here and now" (F3: 9)

The focus group discussions revealed that there might be some confusion in terms of what activism entails as many participants revealed that they believe that they sufficiently support relevant organisations via shopper loyalty cards, e.g.:

"I give back to my community through swiping 'my school/ my planet card… they plant trees"(F1:3).

The majority of respondents indicated that formal education is essential if sustainable behaviour is to become the norm and that all citizens should be educated in all facets of life and environmental aspects.

© University of Pretoria

Knowledge gaps that were identified, showed that consumers need information on how to plan, select, use and dispose of fresh produce so that their behaviour would signify sustainable practices. Focus group discussions revealed consumers' regard for the role of Government and retailers. Participants blamed the Government and industries (which included retailers) for not doing more to combat climate change. Consumers seem to think that Government should make a sound investment in services that educate, encourage and enable sustainable behaviour, while retailers should take the responsibility to lead and facilitate these projects.

Consumers' ideas in terms of how to mitigate unsustainable fresh produce consumption practices are summarized in Table 6.50.

TABLE 6.50: CONSUMERS' IDEAS RELATING TO SUSTAINABLE FRESH PRODUCE CONSUMPTION

Consumers' ideas	Justification
Retailers should seriously invest in a supply and demand study in order to properly project consumers' actual needs	…this could especially be helpful in terms of avoiding over supplying and therefore limit unnecessary waste.
Retailers should only sell loose produce	…this relates to respondents reasoning for personal over consumption and ultimate waste where many respondents revealed that bulk packaging often over supply in terms of their needs and therefore waste.
Retailers should assist consumers in making and maintaining communal vegetable gardens	…although this could be viewed as an impractical suggestion this study did reveal that many consumers tend to be somewhat detached from the process of fresh produce production and this often results in unnecessary wastage. Literature indicates that subjecting consumers to the reality and effort employed in producing food often awakens more sustainable practices.
Retailers should commit towards donating excess food to the poor	…although limiting production to the extent where supply perfectly matches consumer demand is viewed as the most sustainable retailing practice, the reality is that managing a zero per cent fresh produce waste supply chain is almost impossible. Therefore although donating to the poor is not necessarily viewed as a feasible manner to curb climate change. Donation of unwanted fresh produce is considered to be more sustainable than landfilling and or incineration.
Retailers should compost unfortunate waste	….although it is considered that the most responsible/ sustainable practice to limit waste would be to match supply and demand the reality of fresh produce waste is real and stands uncontested. Fresh produce waste is an on going problem at all retailers and even in consumer households. Currently composting is viewed as the most sustainable method of waste disposal because of the alternative benefit attained from it, i.e. composted fresh produce waste could be used to produce and nourish future crops.

© University of Pretoria

6.2.6.6 Conclusive remarks about consumers' suggestions to mitigate unsustainable consumption behaviour

Literature dictates that current consumer lifestyles reflect very little if any form of sustainable consumption and that a deficit in terms of knowledge, skills and/ or poor access and support from social structures aggravates the problem (Spaargaren, 2002). Findings from this study confirmed these statements. When asked unprompted what they are doing to confront unsustainable consumer behaviour very few respondents could clearly identify anything beyond recycling, some mentioned saving electricity and a few revealed that they compost. However, a major concern was the fact that most consumers either refrained from answering the question, which was interpreted that they are currently doing nothing in terms of being sustainable or bluntly stated that they do not feel the need to do anything.

Possible strategies that could promote sustainable consumption suggested by respondents reflected the role and importance of governmental and industry involvement. It seems that consumer commitment towards sustainable consumption is highly depended on the input and support gained from surrounding infrastructure and society.

© University of Pretoria

Chapter 7

RESULTS AND DISCUSSIONS PART 2: QUALITATIVE INVESTIGATION

This chapter presents the findings derived from the qualitative data collection techniques, which included interviews held with industry experts and prominent retailers in accordance with the recommendations of Spaargaren and Van Vliets' Social Practices Model as discussed in Chapter 4.

7.1 INTRODUCTION

Interviews with various South African expert groups, prominent South African Retailers as well as focus group discussions with South African consumers constituted the qualitative part of the research. It not only provided a deeper insight and understanding about critical concepts but also gave credence to the study. The aim was to delve into and document all relevant parties' views, concerns and conscious awareness of South Africa's contribution to climate change and the particular role that fresh produce consumption plays.

The primary analysis for the qualitative part of Phase 1 of the study (expert group interviews), Phase2 (retailer interviews), and Phase 3 B (focus group discussion) commenced by transcribing all interviews and focus group discussions immediately after the data were collected. The researcher took care not to change or correct participants' actual words/ language. Transcription was then subjected to conceptual and content analysis, which entailed clarifying key concepts and indicating how these concepts could be integrated into the body of the existing theory or research, an essential part of the analysis as confirmed by Mouton (2002:109). This was done manually by hand by the researcher, using colour coding to identify the relevant concepts in the transcribed text. The codes were categorized in terms of themes that coincided with relevant theory to conclude with narratives, without attempt to quantify information. Where relevant possible relationships between categories were identified and described. Themes that emerged from the data analysis are presented as subheadings in the following sections. The discussion is supported by verbatim quotations from the interviews and or focus group discussions. Quotations are labelled according to the specific expert, retailer or consumer participant (all transcriptions and general summaries are available on request).

© University of Pretoria

The following findings and discussions are organized in accordance to Phase 1 and Phase 2 and the particular objectives. The findings obtained through the focus group discussions (Phase 3B) is not repeated in this chapter because it was already presented as support to the quantitative findings discussed in Chapter 6.

7.2 PHASE ONE

Phase one set out to determine and describe the specific view point of industry leaders and governing bodies in South Africa in regard to climate change and more specifically if and how consumers excessive consumption of products like fresh produce contribute to the problem of climate change. Experts from various fields relating to climate change, public awareness, education and waste management were contacted**.** Experts shared information by agreeing to a short interview. Alternatively they could share their insights and comments through completion of a short survey (Addendum 1).

7.2.1 Climate change as an issue in South Africa and subsequent areas of concern (Objective 1.1)

Globally climate change is viewed as an important issue that needs immediate action because of the significant risk that it pose to human health and well being (IPCC, 2011). Although the responsibility for climate change is generally inflicted on more affluent countries, emerging economies like South Africa are also compelled to regard sustainable consumption seriously and as a matter of priority in order to protect and preserve the world's natural resources for future generations (Ger & Belk, 1995; Suzuki, 1999; WWF-Report, 2012).

All the experts consulted strongly agreed and advocated that climate change is a problem and although it is viewed as an international threat to humanity, they foresee that South Africa could be more vulnerable. Main reasons/ areas of concern that not only contribute to South Africa's current emission rates but also the intensified vulnerability of the country are categorized as follows:

7.2.1.1 Poverty

It is often argued that climate change is the result of prosperity and that first world countries should be held responsible. This is even reflected by the Kyoto protocol, which did not assign any binding targets concerning the lowering of green house gas emission rates to many third world countries (Christoff, 2006). South Africa (also now included as a BRICS country) in particular was not assigned targets so that

© University of Pretoria

the country could rather focus on economic development and the abatement of social problems such as poverty.

Experts commented that…

"…for the general public many other problems like poverty and hunger, people dying at your feet is more important that saving the planet"(E1)

"Poverty alleviation is more important than taking 2 apples out of a bag to prevent wastage…so while a prudent approach to purchases and diets may be promoted the real issues is why do people go the bed hungry"(E5)

According to Stats SA (2012), 52.3% of the SA population is subjected to poverty and relies on a monthly income of <R557.00 (1 ZAR = $10). Many authors agree that saving the planet is a higher order need and therefore one can not expect an individual that has unfulfilled primary needs e.g. protective shelter and sufficient nutrition to limit their already marginal consumption practices (Blackwell, Miniard & Engel, 2006:223). The problem, however, with this reasoning is that South Africa currently match the emission rates of first world countries like the United Kingdom and as stated by the Johannesburg Declaration on Sustainable Development (2002), 'the adverse effects of climate change are already evident, natural disasters are more frequent and more devastating and developing countries are more vulnerable'. One of the experts commented…

"…high poverty levels tend to leave many exposed to natural disasters " (E3).

Even though climate change is a global phenomenon the poor will suffer its negative impacts more severely, because of their high dependence on natural resources, and their limited capacity to cope with climate variability and extremes (Sperling, 2003). History has shown that the burdens of a natural disaster resulting from climate change have the power to cripple the economies of even first world countries (i.e. USA after Hurricane Katrina) (Dolfman, Fortier, Wasser & Bergman,2007; Amadeo, 2012). South Africa with its high poverty levels should therefore consider climate change as a serious threat especially in regard to future economic development.

7.2.1.2 The invisibility of climate change and resulting scepticism

The topic of climate change and the threat that it poses to society often evokes serious debates amongst politicians and/ or academia. Therefore it is expected that scepticism would be significantly higher amongst the general public who often only has a meagre understanding about the issue (Mann, 2009). Scepticism is further intensified especially in South Africa where the majority of individuals have

© University of Pretoria

not experienced serious consequences as a result of climate change. Experts consulted in this study explained that climate change tends to be an invisible factor to many citizens and this will impact the mitigation process for example:

"It is difficult to realize the urgency of a problem like climate change that is not visible to the general public…."(E1)

"…many have a don't care attitude… could be because they don't' feel the consequences of climate change yet….(E4)

Literature supports the notion that mitigation of any behaviour i.e. unsustainable consumption practices relies heavily on the relevant party's belief that the issue at hand is credible or of noteworthy concern (Ott, 2004; Patchen, 2006). For this reason it is imperative that consumers are not only well educated about climate change and the threat that it poses per se but also more importantly it is essential that the educational process is approached holistically. Consumers should therefore be informed about the intricate relationship between climate change and their individual consumption patterns/ behaviour thus explaining their contribution first. Then in order for consumers to take responsibility and mitigate unsustainable behaviour consumers should also receive fundamental skills/ training and continuous support.

7.2.1.3 Education and poor awareness

Shove and Warde (2003) are of the opinion that creating knowledgeable citizen-consumers will result in more sustainable purchasing, consumption and ultimate consumer lifestyles. All experts agreed that most South African consumers have very little knowledge about climate change and even less knowledge about possible mitigation strategies/ solutions that support sustainable consumption. Some experts indicated that industry capitalize from consumers ignorance, needs and consequential irrational behaviour.

"Poor education regarding the urgency and consequences of climate change needs to be addressed"(E3)

"…many have a don't care attitude… because they lack awareness regarding climate change" "20% of SA public might take note of climate change issues… 80% are more worried about surviving the economic downturn" (E4)

"Ignorance in regard to waste management, green house gas emissions and energy efficiency needs to receive attention"(E5)

"…South Africa should be concerned since the impacts of climate change will be huge, many South Africans tend to lack environmental awareness"(E6)

© University of Pretoria

Experts who indicated that consumers have proper awareness stated that it is a small niche market, which often struggle to maintain their preferred sustainable lifestyle because proper support from industry and government is unsatisfactory.

"…programs have to be implemented to assist consumers in maintaining a sustainable lifestyle" (E1)

The importance of proper support systems (i.e. industry and government) in enabling and encouraging consumers towards sustainable consumption is highlighted by authors such as Giddens (1984) and Spaargaren (1998).

7.2.1.4 Government support

Globally many governments debate the true impact of climate change and are often hesitant to support the principles of sustainability 100%. This is attributed to the fear of diminished economic activity. It is claimed that compliance to sustainability will not sustain positive economic growth/ development and would therefore make many nations uncompetitive (Consumer International - Monaghan, 2007). With regard to the South African government, experts commented that:

"The government has a culture that is not planning ahead – we need to get the support of government to endorse and encourage a culture of recycling" (E2)

Current excessive/ irrational consumer behaviour is presented by most of the experts as the result of ignorance and poor education in regard to climate change. Poor education coupled with the promotion of a throwaway consumer culture could never be conducive towards a sustainable future. It is said that government needs to take charge by educating and realigning society's needs to ensure a better future for all, however, as mentioned some experts indicated that they do not believe that the SA government is able to plan and implement projects concerning sustainable development/ consumption.

7.2.1.5 Financial greed, economic welfare and a wasteful consumer culture

Some of the most critical areas of concern identified by experts were financial greed coupled with economic welfare as well as current consumers' wasteful nature. It was decided to not present these findings individually but rather as a unified entity. The reason for this decision is due to the strong underlying relationship between these themes, which is supported by literature.

Findings from experts consulted in this study revealed a serious concern about the current relationship between the South African retailing industry and consumers. Findings suggest that the relationship

© University of Pretoria

between retailer and consumer is often based on self-interest which tend to be unsustainable and much to the detriment of natural resources.

"…consumption is driven more by manufacturers/ producers and the marketing of their product than by consumers actual needs…manufacturers should be more responsible or have the conscience to use green processes"…. "because of the current consumer culture - manufacturers tend to abuse natural resources in order to gain the competitive edge"(E1)

Most experts agreed that because of capitalistic ideals the retailing industry purposefully stimulate over consumption in order to gain a competitive edge. Marketing and advertising in particular, is blamed for 'acclaiming acquisition and celebrating consumption at the expense of other values, and has been labelled the most value destroying activity of western civilisation' (Lee et al., 2009).

"…manufacturers and marketers are to blame or play an important role in promoting over consumption, which overwhelms natural resources"(E2).

Currently consumption is often glamorized and lavish lifestyles are often projected to aspiring societies even though the waste from these consumption patterns has disastrous consequences (Roy & Pal, 2009; O'Cass & McEwen, 2006). The impact of marketing and how it relates to creating a consumerist society that reflects a wasteful culture/ nature were highlighted in statements such as …

"Financial greed: large corporations tend to sell "better" products that consumers don't need, which leads to vast amounts of waste" (E1)

"…young consumers have to much money – its easy to buy too much… we need to get back to basics"(E2)

"South Africans foster a throw away culture"(E4)

"…a growing population together with an fast growing black consumer segment is an area of concern"(E6)

"South Africa….suffers from under consumption and malnutrition as well as the wasteful western tendencies"(E5)

The above is alarming because they not only echo a desire for economic well-being, which largely depends on the use of fossil fuels but suggests great difficulties in terms of the mitigation of climate change because it will depend on the altering ingrained societal values (i.e. materialism) (Wilson & Law, 2007:74).

© University of Pretoria

In an attempt to emphasize the negative impact of capitalistic and or materialistic ideals some experts appealed that…

"…we need to break the culture of promoting convenience and the habit that society finds it easier just to pay for everything without taking into consideration the impact of their action"(E2)

…others simply stated that mankind is doomed and that the only way to reverse the consequences of our excessive consumption and wasteful nature is through…

"…seriously … well a depression. A serious illness that brings populations back to normal levels…. Sorry to say this but it is true, we are too many people on earth, too many is uneducated and ignorant about their impact…. Third world countries are also very guilty " (E2)

It is clear from the presented verbatim that experts who were consulted have an urgent need for the abatement of current consumer practices. Finding possible avenues and/ or critical role players that is willing to commit towards change is therefore essential. A new trend amongst businesses globally is to implement 'conscious capitalism'. The idea instilled by conscious capitalism is that capitalism can be consciously applied to the benefit of the natural, economic and social environment. Explained by George in (Mackey, 2013) conscious capitalism can be defined as a well run, values-centred business that contribute to humankind in more tangible ways than any other organization in society'.

7.2.2 Mitigating unsustainable fresh produce consumption – Key role players and possible modus operandi (Objective 1.2 and 1.3)

Fresh produce wastage in South Africa is estimated between 11 and 21% in retail and tends to constitute almost 50% of the average households' waste per week (Marshak, 2012; Nahman et al., 2012). Findings from the expert interviews indicated that the mitigation of unsustainable fresh produce practices depends on the input of key role players, which include both retailers and consumers.

7.2.2.1 Taking responsibility towards sustainable consumption and the importance of knowledge

Fresh produce consumption is viewed as a simple practice in which the majority if not all households in South Africa partake. Because of the low financial risk associated most South Africans should be in the position to revise and amend unsustainable behaviour should the need arise. However, expert interviews revealed that consumers per se are highly unlikely to take full responsibility for their unsustainable behaviour and would rather blame industries and or the government. This behaviour of 'passing the buck' is often much easier than searching for information that might assist them in acting more sustainable (Ott, 2004; Ungar, 2006). It is also inferred that consumers deflect responsibility

© University of Pretoria

because they have poor knowledge/ awareness regarding the contribution of their fresh produce wastage towards climate change and even less about proper avenues that could be followed i.e. products and/ or services in order to be more sustainable (Themelis & Ulloa, 2006; Stuart, 2009:6). Knowledge is critical in decision making as consumers' evaluation and ultimate buying behaviour of consumables are based on their knowledge of the product attributes (Jobber, 2010:113). Lack of awareness about environmental issues and climate change may induce unsustainable behaviour and consumption practices. Previous research has confirmed the importance of consumer knowledge and awareness, more specifically how consumers' awareness with regard to the consequences of their current consumption behaviour might influence subsequent behaviour (Jackson, 2005b).All experts agreed that that proper knowledge regarding the consequences of unsustainable consumption practices is critical but that education/ information in terms of industry support, sustainable opportunities and or services should receive urgent attention.

"Raising awareness is not sufficient if support systems are not in place" (E3).

If future sustainable consumption is to be attained and maintained it is imperative that necessary support systems be in place to assist consumers in changing their current lifestyles.

Experts indicated that although the fresh produce waste created by households is viewed as a problem, consumers are not the only culprits. In the majority of South African retail stores issues relating to climate change take a back seat and marketing strategies are often employed to attract attention and ultimately entice consumers to purchase (D'Haese & Huylenbroeck, 2005, ITC-Report 2011, Marshak, 2012).

"Although a third of consumers fresh produce purchased ends up as waste the reality is that consumers are not the only guilty parties…there is a enormous amount of waste at production and retail level…to subject a wasteful culture tag on consumers without a clear understanding of their personal scenario (culture, access, lifestyle…) is some what superficial"(E5)

Because fresh produce waste is prevalent throughout the supply chain it needs to be combatted by all parties involved (farm-to-fork). It is imperative that both consumers and retailers become well-informed regarding each others' objectives and understand the full impact of their actions on the environment (McGregor, 2000). Experts are of the opinion that retailers are in the perfect position to drive sustainable consumption of fresh produce because they are viewed as the middleman and often the controlling party in regard to not only selling but also setting product attributes.

© University of Pretoria

Possible mitigating strategies suggested by experts consulted in this study included sentiments such as…

"…consumers can only buy what is supplied to them…. In-store promotions can and should be utilized to educate the consumers about sustainable consumption…. retailers should be incentivized to sell green products at lower prices " (E1)

"…retailers could use product labelling to educate consumers" (E2)

"…retailers have access to the popular press and can therefore educate consumers via advertising…. Retailers should adapt their marketing strategies from a buy more to a buy more sustainable perspective" (E3)

"Retailers should only sell in season fresh produce. There is no need to market exotic fruit and vegetables…"(E4)

"Retailers should educate consumers by only sourcing from affordable, environmentally sustainable, local producers…."(E5)

"Consumer awareness could be enhanced through using various media and public platforms…retail should use these platforms to incorporate and market messages of sustainable consumption…..retailers need to commit to their social responsibility program to educate consumers about the importance of protecting the environment"(E6)

7.2.3 Conclusion

The views of representatives of major organisations and retail who were considered as experts about respective organisations' stance and practices concerning sustainable consumption (as presented in Chapter 5) concurred that climate change is a problem and should be viewed as a national threat to society. It was strongly argued that the current consumer culture is to the detriment of the natural resources of the earth and although consumers should be in a better position to combat/ curb unsustainable consumption practices they seem ignorant. Limited knowledge about their role and contribution towards climate change deters the mitigation of unsustainable and in particular unsustainable fresh produce consumption from being solved. It became clear that consumers need to be educated about their responsibility and that society's needs, need to be realigned with personal needs to ensure a more sustainable future. Although essential for the mitigation of unsustainable consumption, raising awareness is viewed as insufficient/ inadequate unless support systems are put into place. Experts agreed that it is very important that support systems are put into place to assist consumers in changing and maintaining more sustainable lifestyles.

© University of Pretoria

Government but more specifically the retail industry was identified as key agents of change. However, suggestions are that a concerted effort should be made by retailers to review not only their general practices but also corporate ideals. Current capitalistic ideals are associated with individualism, personal ambition, the accumulation of wealth and power, and an identity grounded in external accomplishment (Mackey, 2013). Chapter 3 explained how the ideals held by current governments and retailers transpire not only in marketing strategies, but also promote the ideals of a consumerist society. It is suggested that before retailers become involved in educating consumers with regard to sustainability, they should firstly realign their corporate strategies to reflect 'conscious capitalism'. Conscious capitalism should reflect environmental awareness, social responsibility, a belief in the greater good, and a worldview that downplays competition, status, and materialism. Although this could be viewed as an inconceivable task, it must be emphasized that desperate times calls for desperate measures and that all role players will have to contribute to an altered vision with the well-being of the earth and future generation in mind.

7.3 PHASE 2

Major South African retailers classified as departmental chain stores where fresh produce constitute an important part of their sales were contacted and interviewed. The investigation was done by means of (a) managerial reports on daily fresh produce management and the marketing strategies of retailers, and (b) observation of actual wastage at retail outlets. Findings present an overview of retailers' general environmental consciousness, and willingness to abide by the sentiments of sustainable consumption through mitigation of disputed practices in fresh produce management.

7.3.1 Fresh produce retailing amidst times of climate change (Objective 2.1)

South Africa's formal retailing industry is currently dominated by four specific vertically integrated retail chains (Chikazunga, Joordan, Biénabe & Louw, 2007). Market share for these retailers are estimated at 96%, which leaves only 4% to other retailers, which includes informal street vendors and the more traditional green grocer (Marshak, 2012; Madevu, Louw, Kirsten, 2006). This study acknowledges that the informal retailing sector caters for a vast amount of consumers, however, findings presented in this study were drawn specifically from the formal sector which included prominent retailers that are classified as hypermarkets and supermarkets (Weatherspoon & Reardon, 2003). The formal retail sector was furthermore chosen for this study because of their similar procurement strategies. By 2012 most formal retailers in South Africa had restructured their procurement strategies from decentralized to centralized systems, which is considered to be more efficient. Retailers that still operate from a

© University of Pretoria

decentralized system are, however, currently in the process of switching over to centralized operation. In regard to fresh produce procurement only one retailer procures 100% of its fresh produce from contracted suppliers. The general norm amongst retailers is to procure 90% of their produce from selected producers and supplement 10% of their supplies from the fresh produce market, which is located in either Johannesburg and or Pretoria. Important to note is that this type of procurement only became popular during the late 1990's. The main contributing factor that spurred the change of procurement strategies during this time was the idea of including a 'distribution center' to the supply chain. Currently all retailers channel all of their fresh produce merchandise through their own distribution centres before it is made available in stores. The need for distribution centers and therefore the restructuring of the fresh produce supply chain was primarily instigated by the sudden change in regard to South African consumer dynamics of which the emergence of the black diamonds (black middle class) is viewed as the most pertinent. The black diamonds is currently estimated to include a minimum of 4.2 million consumers (UCT Unilever Institute of Strategic Marketing, 2013). In 2007 the spending power from this group equated to a quarter of South Africa's total consumer spending power (Chikazunga, Joordan, Biénabe & Louw, 2007). Currently their spending power is estimated at R400 billion annually. Being such a large segment of the total consumer market, retailers had no choice but to take note and adjust their strategies. These sudden changes to the South African consumer profile did not only lead to adjustments in the food industry in terms of general logistics and product assortments but also consequentially contributed to South Africa's fresh produce waste production and ultimate contribution to climate change.

7.3.1.1 Retailers' current awareness of climate change

In a global survey done by Bonini, Hintz, & Mendonca (2008) consumers indicated that a retailers performance in addressing the problems of the environment and climate change affects not only how much they trust the particular company but also whether they would purchase products from it. A good awareness in regard to climate change and possible mitigation strategies is said to be vital should retailers want to retain or gain loyal customers in the future. Retailers that fall behind or fail to adopt "greentailing" will find it very difficult to catch up and will suffer the consequences because both consumers and competition is deemed as unforgiving (Stern & Ander, 2008:xxviii). Retailers therefore need to acknowledge climate change and emphasize their social responsibility when planning and implementing strategies aimed at gaining a competitive advantage.

Findings from this phase indicated that climate change awareness amongst prominent retailers in SA ranged from acknowledging climate change as a serious problem in terms of unsustainable

© University of Pretoria

consumption, which depletes essential natural resources to a questionable acceptance of the fact that the import of products across international borders is more sustainable than using local.

"…humans are wasteful species… carbon emissions from motor vehicles, deforestation, pollutions of natural water resources and consumers greed and excessive consumption is serious problems …"(R1).

"If you asked us two years ago what climate change and related problems are we would not have been able to answer you, however, today the story is different…consumers' carbon footprint is a problem…we have also realized that we have to protect our local natural resources for example our peat moss, which is used for the cultivation of our mushrooms due to ours being under threat of extinction, we currently import our peat moss from Brazil… "(R2)

"Water pollution and over consumption of energy contributes to climate change"(R3)

"Pollution from factories, transportation, unsustainable farming and consumer wasteful practices is related to climate change… the earths resources are depleting and something must be done, industries need to be checked"(R4)

In general retailers' awareness (based on their discussion of similar topics as presented to consumers in the questionnaire section 4 (Addendum C)) could be viewed as average. It seems that the majority do have a basic understanding in terms of critical factors that contribute towards climate change, however, some retailers failed to recognize that saving our natural resources does not imply sourcing products from international countries. One retailer also tried to explain climate change in terms of CFC's and the hole in the ozone layer. Because this was more of a personal explanation it was not interpreted as a reflection of the particular retailers' awareness. Literature supports the belief that an awareness of the consequences of climate change corresponds positively with mitigating unsustainable behaviour/ practices (Jackson, 2005a).

7.3.1.2 Retailers' current practices and the application of the principles of sustainability

All retailers indicated that their current general retailing practices have been or are in the process of being amended to include sustainable retailing practices. This is attributed to the fact that South African retailers are encouraged by government to trade in a social responsible manner (DEAT, 2010c). However, only one retailer indicated that they took ownership of their responsibility to not only review and amend current unsustainable practices but also acknowledge their essential role in changing consumer behaviour.

© University of Pretoria

"We as a company introduced the good business journey and want to provide consumers with the option to lower their carbon foot print…. currently we address our own footprint by planting trees, we switched 15% of our transport to eco diesel, we also try to source from local farmers, 45% of our plastic bags is produced from recycled material, we also make use of grey water at our DC's… consumer research is also done for each store in terms of needs so that waste is minimize, our loyalty card system also assist in forecasting or tracing buying patterns for individual stores…HQ / DC's are never allowed to simply allocate products to a store. We also run education awareness programs through various media, TV, Facebook and twitter eg.@XXXX31 Jul - Looking for simple ways to go greener at home? We've put together some great ideas: http://xxxxs.me/Xr2B #GBJ " (R1)

To date no concrete classification in regard to the application of the principles of sustainability in Retail in particular South African Retail has been set. A general agreement amongst industry and academia is that it should reflect efforts that considers current and future welfare through social - community engagement, economic thrift and the consideration of the natural environmental resources in terms of manufacturing and consumption (Gasparatos, El-Haram & Horner, 2008). Recently serious concerns about the deterioration of natural resources have encourage industries to approach sustainability from a broader perspective which focus more prominently on the protection of the natural environment and health related issues (Gupta, Czinkota & Melewar, 2013). An assessment of the feedback received from the retailers consulted in this study concluded that most retailers did try to abide by the basic sentiments of sustainability in daily practice. Retailers' feedback is presented in terms of prominent principles of sustainability, namely Social community engagement; Economic thrift and Environmental-natural resource management.

Social community engagement

"We are helping schools grow and assist in the education of sustainability… we also donate food to charities"(R1)

"We take climate change very seriously and actively promote sustainability through community projects" (R3)

Economic thrift

"We implement proper consumer research together with a system called century that assists perfect in forecasting and sales tracking – this minimizes over ordering… we also have strict policies regarding our cold chain maintenance – this minimizes waste…we also rely on intelligent lights – equipped with motion sensors"(R1)

© University of Pretoria

"We have implemented a training program "train the trainer" to assist smarter retailing that could limit for example waste which saves money… we also try to source and buy products in large lots in order to make the product available to the consumer at a much cheaper price… expired products that is still fit for human consumption is reused in stores in departments like deli's to cut costs…we have recently minimized refrigeration in areas that do not necessarily need them " (R2)

Environmental - natural resource management

"We have implemented a program called the good business journey … last year we planted 40 000 trees in the country…we try to source products from locals…we are offering more eco-friendly choices… we recycle more plastic… we are committed to reduce our water usage and current waste by 30%... we are also using a "heat regain" system in the winter, where all the heat from fridges are diverted back into the clothing departments" (R1)

"We try to lower our water consumption" (R3)

"We have introduced a strategy to use sustainable suppliers and we are doing our part in decreasing green house gas via shorter transport routes" (R4)

Although most retailers had some policies and practices in-place that focused on sustainability, some retailers did indicate that they could and should do more but struggle because of current consumer demands and pressure in regard to meeting profit margins.

Issues that deterred retailers from implementing sustainability programs optimally is summarized as follows…

Current consumer demand which is often idealistic and ignorant

"…consumers don't care it is all about I want it and I want it now!...low education amongst consumers especially amongst lower income groups is also a huge problem" (R1)

"…consumers really don't care…consumers can't see climate change and will therefore not act on it…LSM (living standard) does play a role the rich can afford to waste where as the poor cant afford to waste …but both waste because the do not have the correct education" (R3)

A highly competitive retail environment that is driven by capitalistic ideals.

"…retailers will push sales based on consumer demand because sales and profit is very important" (R1)

© University of Pretoria

From the statements above, it appears that most of the retailers have implemented some policies/ practices in regard to sustainability. In commenting on the success thereof most of the retailers mentioned that they have recognized areas of concern but still agree that sustainability is the only way forward.

7.3.2 Addressing fresh produce waste in retail: possible suggestion to promote sustainable consumption (Objective 2.2)

In 2006 waste generation in South Africa was estimated at 469 million tons per annum (Theron, 2006). Recent studies indicated that although current fresh produce waste figures for the entire country is unavailable, sufficient evidence exist that total food waste volumes have grown significantly and therefore warrants attention (Nahman et al., 2012; Marshak, 2012). Nahman & de Lange (2013) estimated that total cost of food waste across the supply chain for South Africa is estimated at R61.5 billion per annum.

Although most retailers considered the topic of fresh produce waste as highly sensitive all agreed to provide a general estimate for fresh produce waste in their companies. In consideration of the sensitivity of the information it was decided to present the waste figures for specific retailers not individually but rather as part of a range. Thus, in most prominent South African retailers, the current weekly fresh produce wastage figure is estimated to be between 5 and 35%. However, some retailers did indicate that sudden situational factors i.e. weather fluctuations can drive waste even higher.

7.3.2.1 Reasons for fresh produce waste: current practices and areas of concern

The amount of fresh produce waste generated by individual retailers is of concern because it is often disregarded as harmless organic matter. However, what many retailers and consumers alike neglect to notice is once fresh produce starts to decompose it generates green house gas, i.e. methane, which encapsulates significantly more sun-rays than CO_2 and is therefore contributing to climate change (Themelis & Ulloa, 2006:1243; Stuart, 2009:6; Nahman et al., 2012). Retailers that were consulted recognised a number of underlying causes that contributed to unnecessary fresh produce waste. 'Old school' retail practices and corporate ideals coupled with ignorant, idealistic consumer demands were implicated as the main issues. This correlated with the findings obtained from the expert groups. Because of the close relationship between these concepts the discussion of the findings will be organized according to the general retailing practices. The influence of consumers and relevant corporate ideals will be clearly identified and discussed within this context.

© University of Pretoria

Retail practices that were indicated as concerning because they contribute to fresh produce waste are presented under the following themes, which correspond with marketing-mix literature (Jobber, 2010:223).

Product

Fresh produce, as a product per se possesses some characteristics that make it particular difficult to manage. Characteristics that make retailing of fresh produce challenging includes factors such as its high perishability, sensitivity to ethylene, and seasonality (Madevu, Louw, Kirsten, 2007). Because most consumers feel entitled to nothing but the best - all the time, retailers will often over compensate when selecting, ordering, and ultimately discarding produce due to slight imperfections and go to extensive lengths to sell impeccable produce. Themes that were clustered under ***product*** included retailers' practices in terms of fresh produce management and procurement based on consumer needs and actual ordering techniques.

"…our culling practice at the moment is ultra conservative…the shelf life for products such as strawberries in extreme weather are often shortened from 3 to 2 days...incidences like this escalates waste" (R1)

"Very few consumers care about sustainability, I find that in our stores it is only a small percentage…climate change is happening too slow, it might take years, decades, centuries and to expect consumers to change their product choices today, they do not understand why?... products that are blemished will not be bought by a high LSM customer…we also try to stock our stores in higher LSM areas with better quality produce"(R2)

" We are pressurized by consumers to stock most products all year round… some products like Java oranges which is a seasonal product but that our customers have come to like will therefore be imported" (R2)

Most retailers indicated that each individual store is responsible for doing their own fresh produce ordering. This type of ordering is viewed as sensible because store managers with the assistance of appropriate EPOS systems (Electronic point of sale system) should be able to track the trends of their customers' needs effortlessly. Some retailers did, however, indicate that their produce ordering is corporately managed and that stores seldom have an input in the produce that they receive. Stores that receive products through allocations often run the risk of excessive waste.

© University of Pretoria

"We do weekly forecasts … we implement proper consumer research together with a system called century that assists perfect forecasting and sales tracking – this minimizes over ordering… we also have strict policies regarding our cold chain maintenance – this minimizes waste"(R1)

"You will see that the products carried in all our stores are all the same, stock is controlled by head office and each store is allocated a produce selection that reflects the corporate blue print"(R2)

"All of our stores are required to place fresh produce orders 72hrs ahead of time, this is to ensure that the farmers only pick what is ordered and not according to approximate figures"(R3)

"Fresh produce orders suggestions are sent through every morning, then demand planners process orders…stock is received directly into fridges on the floor and maintained at temperatures between 0 - 5 degrees Celsius …fresh produce waste is controlled by not over ordering … over ordering causes farmers to over farm and in that way we are depleting natural resources unnecessarily "(R4)

Price

Most retailers indicated that they do carry some fresh produce that is considered to be more environmentally friendly, i.e. organic produce. However, because these products are priced at a premium - wastage figures tend to be high.

"…I see a lot of middle age white couples who try to buy organic or they try to only use recycle bags, those sort of things…some people will do it because it is a trend; some will do it because they sincerely and genuinely care about what they are doing….but it seldom lasts, consumers would um… don't care how they consume. It is I want it and I want it now and I want it in this look…unfortunately retailers are not innocent in that… because if, I find that this item is selling better than that item notwithstanding the fact that it is less environmentally friendly, we will most likely push that (product)" (R1)

"Organic products are too expensive for many of our customers… here and there you find that it sells … but mostly it is a richer customer"(R2)

Retailers did, however, agree that there is a general trend/ high demand especially amongst higher income consumer groups for convenience products. It is also mentioned that consumers are more inclined to pay premium prices for convenience. As mentioned this inclination is, however, not reflected in sales of environmentally friendly produce.

"Convenience is very important…affluent people do not want to go through the hassle of preparation…being green has become too fashionable, people do not get the green label for the right reasons"(R1)

© University of Pretoria

"In our higher LSM stores we might allocate less of specific produce like loose produce and more convenient, greater variety and different packaging"(R2)

Place

Most retailers indicated that their distribution centres are closely located to stores. This was planned to not only limit emissions from transport but also to prevent stores from carrying too much stock. Some retailers indicated that their stores did not have back up areas and those that do have back up areas/ storeroom stated that the areas are not necessarily equipped with sufficient refrigeration. This could therefore be problematic in circumstances where stores receive too much stock and therefore could result in unnecessary wastage.

"We ensure that all our stores receive daily deliveries… we also have very strict rules regarding the cold chain to ensure produce are in top condition when sold"(R1)

"Most of our stores that only receive sock weekly do have small back up areas to accommodate surplus stock" (R2)

"We have introduced a strategy to use sustainable suppliers and we are doing our part in decreasing green house gas via shorter transport routes" (R4)

Promotion

As mentioned previously retailers trade in a highly competitive environment. Pressure to meet profit margins often result in retailers relying on 'old school' marketing strategies that entice consumers to purchase in an unsustainable manner.

"The competition between retailers in South Africa is so high … one retailer will always try to better the other by any means possible, it doesn't matter what the consequences are…you need to please the consumers or else you cut your own throat " (R2)

"Promotions are done on a weekly basis …we do mark downs on products close to expiry to encourage sales"(R4)

People

A major concern for some retailers was that their staff tending to fresh produce areas has little product knowledge. This meant incorrect merchandising of produce, which results in faster ripening, and deterioration of ethylene sensitive products for example, bananas. Findings furthermore indicated that consumers' demand for perfection not only in terms of product attributes but also product merchandising often result in over filling bins, crates and fridges. Wastage is highly likely when produce

© University of Pretoria

like soft fruit is displayed in bulk containers, which create a feeling of abundance. Research done by Marshak (2012) stated that consumers easily reject produce that is deemed unattractive due to bruising or imperfections.

"The staff…mmm one thing that you must understand is that a lot of our staff is outsourced, this is an issue because they seldom have proper skills to merchandise produce correctly… they lack product knowledge that should limit them from merchandising kiwi's and tomatoes together"(R2)

Waste management

Some retailers indicated that they cull expired produce whilst it is still fit for human consumption and can therefore donate it to charities. Retailers that struggle to implement proper culling strategies often end up with waste that needs to be destroyed. These products often end up going to landfills or incineration plants.

"Our waste budget is not allowed to be higher than 5%. We limit waste by careful ordering, a proper cold chain, then only when products e.g. one melon don't sell we will give it to charity because it is still fit for consumption…if there is something seriously wrong e.g. a product is recalled ... head office will tell us that the product needs to be destroyed…a specific company will then come and collect the product and take it to be incinerated"(R1)

"I agree that I think the manner in which we manage our waste is a contributing factor, I reckon waste disposal in our country is not properly regulated… this might just be due to the culture in our country, we do, however, have a policy in our stores where we mark down expired products, consumers can purchase these marked down products from 16:00" (R2)

"We manage fresh produce waste daily but we also try to rather minimize wastage from the start…"(R4)

7.3.2.2 Suggestions to limit fresh produce waste

Most retailers were very eager to share possible suggestions that could assist in the abatement of fresh produce waste. This indicated that fresh produce waste was indeed a concern to them and that they agreed that sustainable fresh produce management could benefit their companies in the long run. Most answers reflected that consumers are in urgent need of education. Knowledge and skills that will encourage more sustainable consumption were a prominent theme.

"People are not aware of what they are doing… If retailers do not educate the public, the public will never know…people also need to be provided with possible choices and options from us to support their changes"(R1)

© University of Pretoria

"As a retailer we try to be responsible and are constantly thinking how do we get out consumers to buy in to sustainability… We also run education awareness programs through various media, TV, Facebook and twitter eg.@XXXX_SA31 Jul - Looking for simple ways to go greener at home? We've put together some great ideas: http://xxxxs.me/Xr2B #GBJ " (R1)

"Retailers can take the lead and educate the consumers, by informing them of things."(R4)

"Our DC could support retailers in educating consumers and encourage them to demand more sustainable products"(R3)

Retailers also agreed that they themselves should take the lead as self-appointed agents of change…

"If retailers do not educate the people the people will never know…"(R1)

"All leading food retailers are in a position to help facilitate change. Consumers deal directly with retailers, and if retailers make consumers aware of the problem, they will also help do their bit" (R4)

Some retailers did, however, feel that the responsibility for mitigation of unsustainable consumption should not be the sole responsibility of retailers but that government and/ or consumers should rather take the lead….

"I don't think that the general consumer or industry for that matter in our country is willing or equipped to drive change…It will have to be enforced from above - by government" (R2)

"Consumers are in a better position as they can demand more sustainable products in store and the supply chain will adapt to the change in demand" (R3)

A theme that more specifically focused on amending unsustainable retail practices per se related to the belief that planning and forecasting at store level is essential towards limiting fresh produce waste, because it tends to understand and meet consumer needs much better.

"We never allocate, consumer research in terms of the type of products required in stores is essential e.g. white customers will 99% of the time buy prepared fruit or veg products – convenience products… where it is a possibility that your African customer will most likely buy whole loose products…over or under catering on products like these in relevant areas will lead to waste"

"Daily forecasting is essential…over ordering leads to over farming…"(R4)

© University of Pretoria

7.4 Conclusive remarks

Pertinent findings pertaining to the sustainability of fresh produce retailing in South Africa amidst times of climate change can be summarized by reflecting on South African retailers consciousness about climate change and willingness to incorporate strategies/ policies that promotes sustainability through positive change. Findings revealed that the general consciousness/ awareness of prominent retailers trading in fresh produce is believed to be of average level. Most retailers have a basic understanding in terms of the principles of sustainability, which is reflected in their marketing strategies and organisational policies, however, some retailers actual practices in terms of sustainability is debatable. On reviewing the actual practices of retailer's one specific retailer out performed the rest by having better insight and control in regard to actual implementation of sustainable practices. This was also supported by findings from the consumer survey (as presented in Chapter 6), which indicated that this retailer is currently rated as being the most environmentally conscious in South Africa.

Consumer ignorance and idealistic demands for perfect and convenient products paired with 'old school' retailing practices and capitalistic ideals were recognized by retailers as areas of concern that impede on their ability to implement sustainability at full-scale. According to literature positive change towards sustainability is only possible if personal beliefs, social norms and infrastructure are addressed simultaneously by providing motivation, ability and opportunity (UNEP, 2008). As mentioned in chapter 4, behavioural changes involve the 'unfreezing' of existing behavioural practices and the elaboration of new and preferable alternatives. Lewin (1951) argued that the process of 'un-freezing' existing habits needs to take place in a group environment and to involve open and supportive communication amongst all relevant role players (i.e. consumers and retailers).

Findings from retailers supported findings from the expert interviews in terms of the detrimental relationship between consumers' idealistic demands and existing fresh produce wastage figures. Most retailers indicated that the manner in which their companies procure, manage and dispose of fresh produce is primarily driven by consumer demands. Retailers emphasized that urgent consumer education is needed to inform consumers about the consequences of unsustainable consumption practices. Most retailers agreed that although consumers should amend their personal demands it is more viable that retailers take the lead. By amending their own organizational practices, retailers will not only encourage and support consumers but will also educate and ultimately emancipate consumers in terms of mitigating unsustainable behaviour and maintaining sustainable lifestyle choices.

© University of Pretoria

Chapter 8

CONCLUSION

This chapter presents the conclusions of the research in terms of the objectives for the study. Recommendations are based on the interpretation of the findings with specific attention to how the very intricate issue of sustainable consumption could be promoted as a 'way of life' that is supported throughout the retail and consumption chain. Shortcomings of the study are discussed and recommendations are made for future research.

8.1 INTRODUCTION

" The number one threat to our sustainable development, economic growth and quality of life is related to the impacts of climate change. Early impacts are being felt on agricultural production, food prices and food security, which will have disastrous social and economic consequences if we do not take bold steps to address climate change" – Edna Molewa, Minister of Water and Environment (RSA National climate change policy, 2011)

There is little doubt that climate change is real and that it is threatening not only the natural environment but also the survival of mankind. In recent research irresponsible consumption and waste practices of both retailers and households have also come under the spotlight and societies are urged to reconsider and change their current purchasing and behavioural patterns and to adopt more sustainable practices (Marshak, 2012). Unfortunately, consumers' willingness to alter habitual behaviour declines as the amount of effort and or personal sacrifice increases. For example, in many households sacrificing the convenience of pre-prepared vegetables because it entails unacceptably high production wastage, may sound absurd to time constrained consumers who already battle to juggle high paced lifestyles. Environmentalists nevertheless agree that public support in terms of limiting and or even reversing the disastrous effects of climate change is crucial and therefore ways need to be found to mobilise and entice consumers to cooperate even if the rewards for their efforts will not be felt soon enough to motivate them now.

Consumer behaviour is a complex issue and behaviour with respect to issues like climate change and/ or sustainability requires more than just a simple assessment of the basic cost and benefits of their actions. Hence, this study aimed to provide empirical evidence of how the retail process in a highly competitive market, as well as consumers' purchasing and consumption of a very basic household commodity, namely fresh produce contribute to unnecessary waste that is undeniably one of the precursors of climate change that could be amended. Fresh produce is a product category that most consumers can associate with fairly easily. In order to establish the severity of the problem and the merit of concerns

© University of Pretoria

about households' consumption practices on this very basic product level, evidence of South African retailers' as well as consumers' general awareness of environmental issues as well as their everyday conduct was investigated. Empirical evidence of decision makers' general purchasing and consumption practices in this basic product category was generated and explicated in terms of underlying personal and societal values. An understanding that unacceptable consumption practices in this product category may be caused by ignorance that results from consumers' dependence upon 'low effort' or 'low-involvement' decision making, which is essentially a way to reduce cognitive/ mental effort (Alba and Hutchinson, 1987), allowed the investigation of consumers' sense of social responsibility and willingness to commit to sustainable consumption.

A mixed method approach was implemented to collect the data. A comprehensive consumer survey was used to collect quantifiable data from 560 respondents in Tshwane, South Africa, where consumers have access to multiple types of outlets and where information about environmental issues are probably more easily obtainable than in most other parts of the country should consumers wish to expand their knowledge in this regard. The quantitative investigation was supported by data obtained through focus group discussions (a qualitative research technique). The analysis of the data was done with the assistance of qualified statisticians of the University of Pretoria to enhance the reliability and the validity of the study as well as the interpretation of the results in accordance with the objectives for this study (Chapter 5). The study was framed in terms of relevant theoretic perspectives, namely underlying theories of rational choice (Jackson, 2005a; Jacoby, 2007; Barnett, 2013); which proposes that consumer behaviour is the result of an individual's assessment of the consequences of different behaviours and how they relate to personal rewards or gain within a specific setting; ecological modernisation that argues that moving towards environmentalism will benefit the economy (Buttel, 2000; Spaargaren et al., 2006) and the social practices model, which includes the core assumptions of the structuration theory, which assumes that the mitigation of climate change requires the input and contribution of all core role players in the greater society (Jackson, 2005a). These theories enabled a more comprehensive discussion of consumers' awareness and knowledge of global warming and related problems, an explication of retailers' modus operandi as well as a discussion of the interdependency and crucial relationship between these two role players in terms of mitigating climate change. Conclusions are presented in accordance with the objectives of the study.

© University of Pretoria

8.2 CONCLUSIONS REACHED FOLLOWING THE QUALITATIVE INVESTIGATION THAT INVOLVED THE OPINIONS OF EXPERTS IN SOUTH AFRICAN INDUSTRIES

8.2.1 Experts' concern about climate change (Objective 1)

Experts' opinions about climate change and the role that unsustainable fresh produce management and consumption plays, concur with extant literature and confirm the underlying assumptions of the structuration theory. Discussions indicate unequivocally that mitigation of climate change will not be as a result of the change in attitudes of entities/ individuals, but that it requires the input and contribution of all core role players in the greater society. Experts agreed that unsustainable consumer behaviour poses a threat to South Africa, especially in terms of long-term food security and economic development. Concerns about climate change and its profound effect on food security in South Africa have been raised before (Ziervogel & Zermoglio, 2009). With millions of South Africans living below the breadline, it is therefore now more important than ever for South Africa to take action and to lead the rest of Africa in terms of alternative ways to optimise food resources. Issues that have come to the fore in previous research include climate change's impact on food availability, accessibility and utilisation. Although recent calls from governing bodies in South Africa propose an increase in food production to meet the needs of society, this study reveals that huge amounts of fresh produce is wasted annually, in households as well as by retailers. While it does not make sense in terms of a general outcry about food security, the wasted food also intensifies the green house effect, which is one of the prominent concerns that this study wishes to bring to the attention to all relevant role players throughout the supply chain.

Experts expressed concern about South African consumers' ignorance, especially the lack of knowledge among previously disadvantaged groups whose aspirations to better their lifestyles seldom include frugal consumption. Furthermore experts mentioned that the aforementioned problem is particularly worrisome because current retail business models reflect practices (e.g. marketing strategies) that encourage consumers to consume more, rather than less. These findings support Giddens' (1984) theory namely that agents (consumers) are often 'locked-in' by certain modes of conduct, 'rules and regulations' (i.e. unsustainable consumption) exerted by social structure/ system of provisions (retailers).

In order to achieve a point of sustainable consumption, it is imperative that societal values are realigned with the assumptions of a global perspective to reflect a higher sense of social responsibility. The structuration theory cautions that there is no 'ready-to–use' recipe to amend consumers' behaviour and that social change requires the input and cooperation of society as a whole, i.e. agents and relevant

© University of Pretoria

systems of provisions (consumers, industry, retailers and government). The anticipated outcome of sustainable consumption furthermore relies on efforts to educate and motivate relevant role players (consumers, industry and retailers) in such a manner that not only make sense, but are also achievable and are acceptable in our social world.

It should be remembered that consumers have a free will and routinely 'reflexively monitor' not only their own daily behaviour but also the contexts and settings surrounding them. In order to adapt their behaviour, consumers as well as retailers will have to understand *how* they need to change and *why* they need to do that (Shields et al., 1996). Apart from making sense, changes should also not cause too much discomfort and inconvenience and if it does, consumers have to understand why in order to tolerate it without too much resistance. It is therefore suggested that consumers should be equipped with at least the basic factual information about their role and contribution towards efforts to mitigate climate change. Raising awareness alone is, however, not sufficient unless support systems are put into place to assist consumers in changing and maintaining more sustainable lifestyles, for example having simple information readily available in retail stores at the point of sale, where most consumer decisions are made. An example of a simple yet effective procedure that is already implemented in most South African retail stores include the colour coded SASSI (South African Sustainable Seafood Initiative) system, which identifies the sustainability of seafood by red, orange or green awareness markers and assists consumers in making more sustainable purchasing decisions. A similar system that showed great success in 2013 by facilitating consumers' understanding of nutritional information on food product labels is the United Kingdoms' Traffic - light nutrition labelling programme (Koenigstorfer, Groeppel-Klein & Kamm, 2013). It is proposed that the implementation of consumer awareness programmes like the SASSI programme is not only educational but can also attract new- and maintain current consumer loyalty. Other suggestions also include standardising labelling and packaging formats across the industry in order to enable effective education and waste management (e.g. recycling). Results from this study confirmed an increased consumer demand for communication regarding climate change and respective sustainable product alternatives. Experts agreed that those retailers that are able to satisfy consumer demand in this regard have the potential to gain a competitive advantage.

During this stage of the investigation, Government was pertinently mentioned as a critical agent of change, although experts agreed that the retailing industry is in a much better position to promote sustainability among South Africans due to the level of interaction that already exists. Retailers will therefore need to recognise that, regardless of the mitigation action taken, they will have to reconsider

© University of Pretoria

their business models and related marketing strategies in order to reflect their commitment to encourage sustainable consumption practices overtly. Participants concurred that retailers are obliged to review their existing marketing practices as well as their corporate ideals to support the cause and to direct consumers in a sensible and constructive manner. In more theoretic terms, the challenge proposed to retailers and governmental bodies seems to entail a reconsideration of predominant capitalistic ideals in favour of 'conscious capitalism' which embraces environmental awareness, social responsibility, a belief in the greater good, as well as a worldview that aborts materialism and status driven consumption for the sake of a more sustainable future.

8.2.2 Fresh produce retailing amidst times of climate change (Objective 2)

Climate change is expected to have a significant and largely negative impact on the future of South African food retailing. It is predicted that the production and supply of consistent and high quality fresh produce in particular will suffer severely due to sudden and severe weather fluctuations (IPPC, 2012). Currently South African retailers' consciousness about climate change and their ability to incorporate strategies/ policies that promote sustainable retailing and consumer consumption practices seem inadequate. Because of their potentially critical role in educating and facilitating consumers to embrace an alternative path of sustainable fresh produce consumption, it is alarming that most retailers find it difficult to comply with, and commit to the principles of sustainable consumption and retailing. Unfortunately most retailers are duty-bound to reflect marketing strategies and organizational policies that encourage over consumption in order to attain economic viability and or a competitive advantage in the market place, notwithstanding the wastage that is created along the way. Representatives from the retailers who participated in this study, concurred and acknowledged regrettably that 'old school' retailing practices and capitalistic ideals coupled with consumers' ignorance and idealistic demands for perfect and convenient fresh produce, not only obstruct their ability to implement more sustainable retail practices but also incite a fairly despondent future.

The predominant message that underlies marketing practices of the last century is that consumers 'must hurry up and consume' in order to boost economic growth, which is important in terms of the economic welfare of their countries. Inevitably this disregards the consequences that their actions may have on the natural environment (Sari & Soytas, 2009; Busch, 2009; Wann, 2003, Odhiambo, 2011). Due to poor advocacy and a neglect of education about climate change, retailers continue to operate within an economic perspective with a focus on supply and demand and an emphasis on profit, while consumers have become accustomed to express their increased sophistication and need for convenience in terms of the type and quantities of products that they purchase. These trends undoubtedly exert pressure on

© University of Pretoria

retail to conform and if they benefit financially, it becomes more difficult to change their modus operandi. Retailers that demonstrate more sustainable practices indicated that they struggle to educate and convince customers to reduce waste. The impression after discussions with spokespersons of retailers was that consumers are to a certain extent playing a 'blame game' as they believe industry should be held accountable for climate change. The complexity of addressing climate change has resulted in a myriad of responses and ideas by retail. Representatives, however, agreed that retailers' infrastructure and general logistics should be designed and adjusted to motivate consumers and to create optimal opportunity to adopt environmentally friendly purchase and consumption practices.

At present one retailer in South Africa seems to lead the market with respect to efforts towards more sustainable retail practices and has managed to secure itself as a socially responsible retailer. That, however, took time and required pertinent adjustments in their marketing campaigns to realign their customers' beliefs with what they are promoting. Effective practices implemented by this retailer include managing carbon emissions from transport by updating their fleet with vehicles using Euro 5 – Bluetec technology and limiting electricity usage by managing refrigeration and lighting more efficiently. Given the potential damaging effect of the required infrastructure and subsequent activities that take place in close proximity to distribution centres, this retailer not only considers their social responsibility during site selection but also emphasise that all architectural plans focus on eco-friendly buildings. Environmental concern is furthermore reflected in their regular audit of suppliers' greenhouse gas emissions and daily reporting done by their respective retail outlets. An example of such as report, which is made available to consumers in store by means of digital signage, is presented in Figure 8.1.

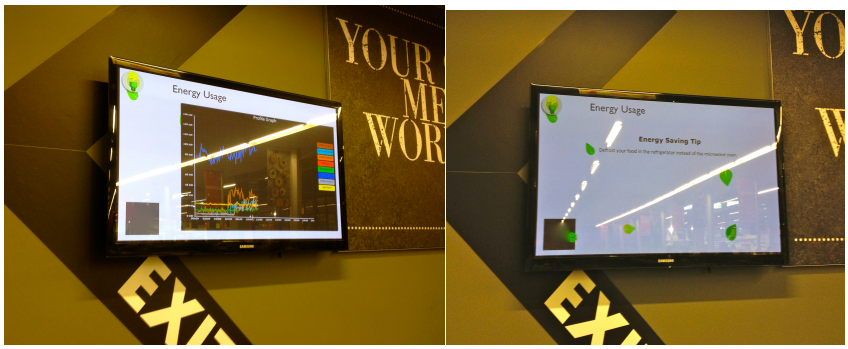


FIGURE 8.1: RETAILER USAGE OF DIGITAL SIGNAGE AS A MEANS TO REPORT AND CONVEY ISSUES REGARDING ENERGY CONSUMPTION IN THEIR STORES

Due to global trends and governmental policies, more South African retailers are currently making concerted efforts to adopt retail practices that reflect so-called 'green' practices as part of their

© University of Pretoria

corporate social responsibility. Unfortunately most retailers struggle to comply because of the costs implications. Sustainable retailing of fresh produce in particular poses some challenges, because it warrants the retailing of less than perfect fresh produce, which is often frowned upon by most consumers and could hence forth influence store patronage. Currently most retailers exploit consumers' irrational demand for perfection in order to maintain their loyalty, even though it results in vast amounts of unnecessary wastage. This can be prevented if consumers are educated about their shared responsibility and the need to address undesirable consumption habits. Scholars agree that habits are essential for consumers to function effectively (cope) on a day-to-day basis (Jackson, 2005a; Jacoby, 2007) because it reduces unnecessary mental effort and saves valuable time. In a product category such as fresh produce, it therefore means that a fairly straight forward product category that generally requires low involvement has to be elevated to the conscious domain of consumers' minds while they are already pressurised for time thus making it increasingly difficult to alter or change consumers' behaviour. In addition, consumers are unlikely to alter their habits if the alternative that is offered does not provide an incentive that is both instantaneous and recurring (Jackson 2005a). Effectively, purchasing fresh produce has to become a matter of rational choice, which is the key to "un–freezing" existing habits (Lewin in Kaminski, 2011). In order to do that, consumers will have to be educated on the one hand, and motivated to review their established practices.

In conclusion, this investigation indicates that although retailers' understanding of climate change seems elementary, all were willing to take responsibility and to commit to the cause. Retailers, however, mentioned that the manner in which most of their companies procure and manage fresh produce and ultimately dispose of unwanted fresh produce needs to be reassessed before trying to educate consumers about more sustainable purchasing and consumption practices. This concurs with the view of Darley and Johnson (1985) who suggest that in developing countries consumers need to be protected first, before they are educated, which will empower them for the future. Retailers therefore need to acknowledge climate change and emphasize their social responsibility when planning and implementing strategies aimed at gaining a competitive advantage. Retailers agreed that it is imperative that future retailing practices reflect a true commitment to address climate change in order to not only sustain a competitive advantage but also sustain society in general. Retailers that fall behind or fail to adopt "greentailing" will find it very difficult to catch up and will suffer the consequences because both consumers and the competition are unforgiving (Stern & Ander, 2008:xxviii). The challenge, however, is that profit margins are intimately tied with satisfying consumer demands, which are often unreasonable. Ways therefore need to be found to address consumers' idealistic demands while

© University of Pretoria

introducing more sustainable retailing practices. The success of one of the retailers to achieve just that, may serve as an inspiration for other retailers.

8.3 THE QUANTITATIVE INVESTIGATION: THE SOUTH AFRICAN FRESH PRODUCE CONSUMER

8.3.1 Consumers' existing fresh produce consumption practices as an indication of their practical consciousness (Objective 3.1)

Findings of this research indicate that consumers' current fresh produce purchasing and consumption practices which reflect their practical consciousness reflect habitual behaviour that does not demonstrate concern about sustainability issues. Fresh produce consumption in most households was revealed to be relatively high and many households indicated that they purchase fresh produce twice per week or even daily. Women are still fulfilling the traditional role of primary food and grocery shopper in most households. Not surprisingly, the majority admitted that they are inclined to select fresh produce based on the visual appearance of products and their sell-by-dates without considering the consequences that their preferences might have on the natural environment. This reflects limited consciousness (explicit knowledge) about realities concerning climate change (which is confirmed in this study). Demanding consumers are, however, not the only culprits of waste creation and ultimately the degradation of the environment. As mentioned previously, issues relating to climate change are apparently taking a back seat to marketing strategies employed in retail. Although respondents indicated that they plan their fresh produce purchases in advance, the absence of shopping lists indicates the contrary. Respondents admitted that they are easily swayed by attractive in store displays (which form part of the marketing strategies of retailers). This contributes to impulse buying, which in turn, explains the amount of waste in households. Other prominent reasons for respondents' over consumption and subsequent wastage of fresh produce included: buying in bulk, and buying in abundance because they believe that fresh produce is healthy and nutritious. All of these practices reveal the influence that structure/ systems of provision have on consumers but also reveal possible avenues that could be targeted to promote sustainable consumption practices. Giddens' (1984) structuration theory proposes that just like consumer behaviour 'rules and regulations' implemented by structure/ systems of provision (i.e. retailers) can be mitigated discursively to make a difference and to initiate change (Rose & Scheepers, 2001). One of the defining characteristics of retailers' (structures'/ systems of provisions') capacity to transform unsustainable practices is their ability to discursively convey relevant knowledge and or skills in a supportive and constructive manner. According to Giddens

© University of Pretoria

(1984), the possibility to change (defined as agency) is closely connected with power, which is the result of knowledge. Because theory equates knowledge to power the loss of transformational capacity equals powerlessness (Rose & Scheepers, 2001). This study confirmed these theories by revealing that consumers who experience a deficit in their knowledge are highly likely to feel powerless, which could contribute to them becoming detached/ disinterested in addressing the problem as it makes them feel inferior. This investigation not only confirmed that most respondents require additional knowledge or skills in order to mitigate change i.e. unsustainable fresh produce consumption practices but also indicate that retailers are in the better position (having a better transformational capacity) to be the frontiers and to motivate and educate consumers to alter their purchase behaviour.

Respondents indicated that they do not necessarily frequent/ patronise one specific retailer to purchase fresh produce, which means that they are able to compare retailers. This means that a concerted effort by all South African retailers is required to promote sustainable consumption practices as the norm. One of the retailers that were included in the investigation was identified as being the best in terms of the quality of fresh produce offered as well as its overt demonstration of concern about environmental issues. Unfortunately it could not be confirmed if this retailer's efforts to encourage concern about the environment actually encourage sustainable consumption behaviour among its patrons.

Critical areas of concern included the fact that respondents seem to feel entitled to superior quality, attractive, fresh produce and tend to use date codes to differentiate good- from poor quality produce, even though the date codes that are rejected, have not yet expired. Ignorance is evident from the fact that fresh produce is often discarded based on the sell-by-date rather than the use-by-date. Consumers' fresh produce waste disposal practices revealed further reasons for concern as the majority of the sample admitted that they often throw away fresh produce due to slow consumption, while a regrettably low percentage of the sample discarded fresh produce in a responsible manner. The ecological modernisation perspective explains that consumers may be too individualistic and self-reliant to participate in activities that work against their own interest and that it may be naive to ascribe the responsibility for mitigating such a big problem as climate change to individual consumers (Princen et al., 2002:133). This explains why Ecological modernisation (Huber, 2008) proposes that the responsibility to mitigate climate change should fall on the shoulders of industry and government who have more control and resources to assist in combating climate change.

When investigating differences in the behaviour of consumers that differ in terms of their demographic characteristics, findings indicated that younger, lower educated, lower income consumers as well as

© University of Pretoria

population groups other than Whites are more inclined to consume fresh produce for status related reasons. These consumer groups may therefore exert unreasonable demands in terms of the quality and availability of fresh produce in order to gain the admiration of others when serving, or displaying the produce in their homes. Of pertinent concern, however, is the neglectful behaviour of females and young consumers who are the primary socializing agents of the future, as well as population groups other than Whites. The Black population group specifically form the majority of the South African population, and it would be in the best interest of all, if their purchase and consumption behaviour could be amended to reflect concern about the environment. Overall this study concludes that consumers' practical consciousness, i.e. their current fresh produce purchasing and consumption practices/ habits as worrisome because the findings revealed several practices that contradict concern about the sustainability of our natural resources and could even be to the detriment of our planet.

This dilemma is best understood in terms of the structuration theory (Giddens, 1984), which suggests that social life is both the result of multiple micro-level activities and macro-level influences (Gauntlett, 2008:101). To truly understand and explain society one therefore needs to acknowledge the relationship and interdependency between the human agent (consumer) and social structure/ systems of provisions (society/ retailers). Giddens' main critique against other theories for example symbolic interactionism and structure idealism is that they not only ignore the undeniable relationship between important role players but more often disregard the role of human agency in favour of essential systems of provision that drive consumer behaviour. Based on this, it is understandable that consumers who are regarded vulnerable by all theoretic standards (for example those in lower income categories or consumers with lower education levels) might prefer and find pleasure in consuming products to boost their selves and to impress others. It is important to keep this in mind when planning educational efforts that attempt to mitigate irresponsible and unsustainable purchasing and consumption practices. Suggestions include persuading consumers who exhibit a poor practical consciousness and are thus inclined to consume irresponsibly to adopt alternative behaviour by elevating environmentally responsible purchase and consumption practices to a more desirable and admirable level.

Alternatively it is also suggested that legislation is considered in terms of regulating not only retailers' but also households' fresh produce wastage and the management thereof. Much can be done to amend the practical consciousness of most South African citizens but in particular demographic groups such as females and middle age consumers who have considerable influence on future decision makers' behaviour in their capacity as prominent socializing agents. Furthermore lower educated- and low income consumers as well as consumers from other population groups (excluding Whites) should also receive attention because these consumer groups have a noteworthy influence on the sustainability of

© University of Pretoria

our natural resources due to their undeniable aspiration levels and potential spending power. The idea here would not be to deny consumers their ambitions but to rather explore possible avenues to propagate simplicity as an ideal to strive for and/ or to consume in a more sustainable manner.

8.3.2 Consumers' knowledge and sustainable fresh produce purchasing and consumption practices (Objective 3.2)

Lack of knowledge about environmental issues and climate change may induce unsustainable purchasing behaviour and consumption practices and therefore it is crucial not to underestimate the influence of knowledge of climate change on consumers' buying behaviour and consumption practices (Schlegelmilch et al., 1996; Bancroft, 1998; Glynn & Bristow, 2006). The more informed consumers are about climate change, the more willing they would be to take remedial action to correct their consumption practices (Sundblad, 2008). This study distinguished between different types of knowledge and found discrepancies in terms of respondents' explicit and tacit knowledge about environmental issues and its relevance in terms of fresh produce consumption practices.

Firstly, results revealed that older, lower educated, lower income as well as consumers from population groups excluding Whites, lack explicit (factual) knowledge about climate change, but nevertheless possess the tacit knowledge (skills and ability) that is required to purchase and consume in environmentally responsible ways. Lack of explicit knowledge of climate change does therefore not necessarily mean that consumers will act irresponsibly, but rather confirms that sustainable consumption requires frugality (Daly, 2002). However, in the context of this study the behavioural patterns revealed by the lower educated, lower income as well as consumers from population groups other than Whites, which reflect more cautious purchasing and consumption behaviour, are probably so due to limited financial resources and may therefore not necessarily be the result of true concern about climate change. From a theoretical point of view, 'saving the planet' and honouring the principles of sustainable consumption is not only a complex and sensitive issue, but it also reflects a higher order need, which many South Africans may struggle to associate with (Oliver et al., 2011, Sonnenberg et al., 2011).

Although this study showed that many of the recommended behavioural practices are willingly adopted across all levels of the socio-economic spectrum, maintaining sustainable consumption practices remains a challenge. Main reasons include the format in which explicit knowledge about climate change is conveyed. Information is not always readily accessible in a comprehensible format. Giddens (1984) suggests that consumers (as agents of change) rely on knowledge and routinely "reflexively monitor"

© University of Pretoria

their own daily behaviour as well as the contexts and settings surrounding them, for example what is happening in retail, in media and amongst their friends. Routine maintenance of this kind enhances a consumer's theoretical understanding of desirable behaviour and best practices, which would enable them to explain and elaborate discursively why they act in the manner that they do (Shields et al., 1996). It is therefore suggested that current sustainable consumption practices of the fore mentioned groups (who are among the more vulnerable in society) are encouraged, reinforced, enriched and improved by empowering them with comprehensible explicit knowledge about climate change, specifically explaining the consequences of unsustainable consumption practices and emphasising the prolonged benefits of sustainable consumption practices in terms of the future. This would empower consumers through new insights and enable them to find solace in maintaining a sustainable lifestyle.

The second concern that came to the fore in the findings, is that younger, better educated, higher income and White respondents (i.e. consumer groups in the upper socio economic spectrum), lack tacit knowledge about sustainable consumption practices despite having acceptable levels of explicit knowledge concerning climate change. These consumer groups apparently understand the urgency of climate change and related problems, but struggle to demonstrate that through their everyday purchase and consumption practices. Obstacles that may cause this contradiction is the fast paced lifestyles of younger, higher income consumers that stimulate consumerist values and which demand convenience in order for them to cope. Because sustainable consumption practices not only require personal time and effort but also discourage consumerist value systems it may seem less appealing to those who can afford to pay for convenience and who can afford some waste. Muster (2012) explains that most consumers today are just too tired to care about sustainable consumption when caught up in their daily routines. Literature furthermore suggests that better educated consumers may also be under the impression that their knowledge is adequate (Sonnenberg et al., 2011), which may prevent them from sourcing additional information. Undesirable fresh produce consumption practices among these consumer groups are further fuelled by lower financial risk perception. Although alarming, the negligent behaviour of consumers who actually possess the explicit knowledge about climate change might probably be easier to change because when informed, they would understand the consequences of their behaviour and would be able to reflect on their behavioural practices more easily (reflexive monitoring). Efforts to mitigate unsustainable behaviour rely on consumers' discursive consciousness (Kaspersen, 2000:31), which is more achievable in this instance compared to consumers who lack explicit knowledge.

Scholars agree that the time has now come where the urgency of addressing climate change in order to save mankind outweighs individual consumer needs and wants. Much, however, still needs to be done

© University of Pretoria

to encourage, educate and convince South African consumers to take environmental matters more seriously – especially the younger, better-educated consumers who are the socializing agents of the future. It is furthermore imperative that avenues are sought through which sustainable consumption practices can be introduced in a more appealing manner. Expert groups who participated in the first phase of this investigation agreed that retail could play a very important role. In addition, industry and popular media should also become involved due to their reach and popularity. The social practices model (Spaargaren & Van Vliet, 2000) suggests that mitigating existing unsustainable consumption practices will require of consumers to change routine behaviour from the level of practical consciousness to discursive consciousness where consumer decisions are deliberated rationally. For successful mitigation of consumers' unsustainable fresh produce practices both the agent (consumer) and the structure/ systems of provision (retailers) need to realise their individual responsibilities and indicate willingness to assist one another in amending unsustainable consumption practices.

8.3.3 The influence of underlying social norms and values on consumers' consumption behaviour (Objectives 3.3.1 and 3.3.2)

Findings of the study up to this stage do not indicate that consumers' decision-making consciously consider society and/or the natural environment. A major problem is that existing marketing and media strategies promote a culture of consumption. In times of economic pressure as we have experienced in recent years, marketing managers literally had to pull out all the stops to retain existing customers and to attract new ones to boost sales. Marketing managers often argue (in defence) that they merely respond to consumers' wants (O'Shaughnessy & O'Shaughnessy, 2002). Nevertheless, they very seldom encourage a simpler way of living (Heath & Chatzidakis, 2011). Fuelled by powerful marketing campaigns, consumers' needs therefore seem insatiable.

This study investigated the influence of underlying personal characteristics specifically personal and social values, compulsivity, status consciousness and materialism on consumers' purchasing and consumption behaviour. Findings indicate that that young, lower educated, low income as well as population groups other than Whites are more materialistic ($M \leq 2.5$), which is identified as a value that fuels consumerist societies and individualistic needs that surpass that of fellow and future citizens. In the South African context, this is a matter of concern as the vast majority of the South African population fits this profile. Sustainable consumption practices require more controlled (frugal) spending, which could be viewed (by consumers) as an impediment if they are striving to secure a better lifestyle and to win the admiration of others. This dilemma fits the assumptions of the structuration theory, which explains that consumers are 'caught up' in the greater society with specific 'rules and regulations'.

© University of Pretoria

Therefore consumers may become status conscious and materialistically driven in order to fit in with the norms of society where social symbols are used to distinguish and secure one's position within the social hierarchy. Consumers may therefore struggle to honour the principles of sustainable consumption because on the one hand, they may have general knowledge about climate change, while on the other hand, they might feel 'locked-in' by social structures that 'control' their actual behaviour. The only viable solution seems to be a 'trickle down' approach, where consumers in the upper strata of society are encouraged to demonstrate their explicit knowledge of climate change (see 8.3.2) through more sustainable purchasing and consumption practices so that a more frugal lifestyle could become the norm. Consumers in upper socio economic groups have better access to sources of information and media, which means that it might be easier to reach (and convince) them to change their behaviour than it would be with lower educated, lower income, less experienced (younger) consumers.

8.3.4 Consumers' sense of social responsibility and willingness to adopt sustainable consumption practices (Objectives 3.3.3 and 3.3.4)

The role of consumers' social responsibility as a precursor for mitigating unsustainable consumption practices and ultimately curbing climate change has in previous research received limited attention (Wells et al., 2012). Unlike most studies that simply identify 'who is responsible for particular problems' and/ or 'who should be held responsible for addressing the problem' this study also investigated respondents' social responsibility and their willingness to commit to the principles of sustainable consumption. The power consumers exert on the mitigation of climate change by accepting their social responsibility is currently indisputable and have become a pivotal point with regard to the survival of humanity. Initial findings from the quantitative investigation indicated that most respondents accepted their social responsibility and understood that the mitigation of climate change is possible through intervention strategies, like sustainable consumption practices. This is comforting, because findings obtained by the qualitative investigation (see 8.2.2), indicated that consumers' acceptance of their personal social responsibility and willingness to abide by the principles of sustainability affect the success of retailers' demonstration of corporate social responsibility. The structuration theory supports this view and defines it as 'duality', which stipulates the interdependence between agents and structure. Giddens' (1984) structuration theory argues for the 'duality of structure' where social structure is both the medium and the outcome of social action. Dualism relates to the fact that the two independent sets of phenomena namely structure and agency is both interdependent and reliant on one another for progression (Rose & Scheepers, 2001).

To date very little research have attended to South African consumers' social responsibility as well as

© University of Pretoria

willingness to commit to sustainable consumption in terms of demographic characteristics. By reviewing respondents' responses in terms of selected demographic categories, an attempt was made to address this gap in literature. Results aim to identify vulnerable consumer groups.

8.3.4.1 The socially responsible consumer (Objective 3.3.3)

This study revealed that most respondents, but in particular women, better educated and higher income groups are more inclined to behave in a socially responsible manner. These findings were confirmed by results that indicated that in terms of competitive and altruistic behaviour (identified attributes of socially responsible consumer behaviour) these groups did significantly better compared to their respective counterparts. Literature support these findings by explaining that these groups are often less driven to compete for social status because they are more conscious and concerned about how the consequences of their decisions might influence fellow citizens (Patcen, 2006). Consumer segments identified as possible areas of concern included men, the youth and in particular consumers from Black and other population groups (excluding Whites). These consumer groups not only reflect more materialistic (as revealed in 8.3.3) and competitive consumption behaviour, but are also more inclined to become detached from society and/ or nature, Together, the fore mentioned findings impede these consumers' ability to accept their social responsibility in terms of mitigating unsustainable consumption of fresh produce. This is concerning because poor decisions made by these consumer groups have the potential to negatively influence the sustainability of global natural resources as well as the viability of the South African economy.

Detachment (M = 2.68) indicates an unsympathetic approach to other societal members and nature. Consumers who are 'detached' would typically much rather purchase fresh produce conspicuously because they are more concerned about their possessions and social status than the needs of future citizens. Findings indicate that consumers distance themselves from societal members and/ or nature and are prone to make decisions that reflect individualistic values, which shows a limited sense of social responsibility. An example of detachment among consumers is reflected in their ignorance about the wastage of fresh produce during production and retailing, which is a direct result of their illogical demands in terms of flawless produce. This view coincides with Marx's (1845) theory of reification as it resembles alienation. Reification is a specific form of alienation where an individual's personal activity becomes something objective and independent to such an extent that the relationship between the individual's own behaviour and that of other social structures as well as processes in the natural environment, fails to be acknowledged. This situation is problematic because, as long as consumers succumb to the capitalistic notions of the global economy and believe that they have no control over what happens beyond the boundaries of their personal households, change towards more sustainable

© University of Pretoria

behaviour is bound to be slow. Consumer reification/ detachment in terms of fresh produce consumption is not only revealed through unreasonable demands which contributes to high wastage figures presented by prominent retailers, but also in terms of the ease with which fresh produce is discarded at home. Focus group discussions revealed that many consumers do not know and seldom care how their demands in terms of perfection contribute towards unnecessary wastage. A strong sense of detachment and despair was observed during focus groups discussions where participants also revealed that they believe that accepting their social responsibility by changing personal consumption patterns is a waste of time and effort because it will not have any impact in mitigating climate change. The quantitative investigation also confirmed that consumers are of the opinion that an individual can do little to resolve the problem. The structuration theory (Giddens, 1984) furthermore reveals that often consumers refrain from confronting the rules and regulations that 'structure' exerts on them out of a fear that they might disrupt their 'ontological security' (comfort zone) and might find themselves in unchartered waters. This signifies consumers' ignorance. Ott (2003; 2004) explains that these consumers are 'hiding behind a veil of ignorance and convenience'.

Because the ignorant consumption and wastage of fresh produce not only threatens food security in South Africa but also exacerbates global climate change, it is recommended that contributing factors such as consumers' competitiveness and detachment that deter their ability to accept their social responsibility receive further attention and should be considered when planning future governmental and organisational policies and or strategies. It is furthermore essential that all South African citizens are made aware about the fact they and their respective societies will benefit from collaborative responsibility and subsequent actions (between structure and agents) that counteract unsustainable fresh produce practices and curb climate change. Such messages need to emphasise the costly implications that unsustainable fresh produce consumption and management currently have in terms of food security as well as its contribution in terms of climate change.

8.3.4.2 Consumers' willingness to adopt more sustainable consumption practices (Objective 3.3.4)

Literature state that even though consumers accept their role in terms of social responsibility, it seldom transpires in terms of actual sustainable behaviour (Sighn, 2009; Wells et al., 2012). Even where consumers are willing to adopt more sustainable consumer practices, their ability to do so is often undermined due to a lack of relevant information and/ or supporting infrastructure (Wells, 2012). This study supports prior evidence that consumers are willing to encourage change towards sustainability (McGregor, 2008; Tustin & De Jongh, 2008). This study in particular, indicated that most consumers are willing to commit to sustainable consumer behaviour in terms of activism, personal effort and financial investment. However, levels of apathy (M = 1.99) among all demographic categories in the sample

© University of Pretoria

suggest lack of serious commitment.

As mentioned before, unsustainable consumer behaviour can be attributed to consumers either not having the facts regarding general environmental degradation (i.e. explicit knowledge), or having little access to action strategies (i.e. tacit knowledge). Currently, addressing knowledge deficits is challenging and often results in lack of commitment to uphold sustainable consumption practices. For example, many consumers are knowledgeable in terms of the consequences of unsustainable consumption, but struggle to gain access to alternative products, supportive infrastructure and/ or practical skills that illustrate responsible (more acceptable) practices (tacit knowledge). After repeated unsuccessful attempts to address their deficit, it seems that consumers easily succumb to old habits.

Results revealed that mitigating unsustainable consumption practices requires a strong interest and willingness to commit personal time (activism), personal effort, as well as making financial sacrifices. Even low levels of apathy, as a result of poor access to knowledge and or assistance (systems of provision) may derail/ constrain consumers' willingness and ultimate commitment. This situation is seldom confronted because most consumers are conveniently lost in their daily habits and are afraid to disrupt their ontological security. Failure is therefore not an uncommon phenomenon and South African consumers may perceive the costs of being sustainable unacceptably high and the prospective benefits too remote and too inconspicuous.

Apathy among respondents in this study could be attributed to the fact that many consumers experience shortcomings in some dimension of knowledge, whether it is explicit or tacit in nature. Giddens (1984) explains that knowledge empowers agents and in scenarios where knowledge is deficient, agents become powerless, unresponsive and even reflect behaviour that might be dissociative in terms of the preferred norm. The structuration theory, however, does acknowledge the possibility of altering behaviour by means of 'reflexive monitoring' and explains this assumption by emphasising the permeability of the boundary between the practical and discursive consciousness, which allows the exchange of information/ knowledge.

Amending apathy is a good example of how behavioural change can not only be constrained but also encouraged by the contribution of relevant structure/ systems of provision, which permits the availability of relevant knowledge and favourable circumstances (Giddens, 1984). Thus the mitigation of consumers' unsustainable consumption practices due to apathy is a challenge that could be amended by social structure/ systems of provisions. Reducing apathy is possible by stimulating consumer interest in sustainable consumption. This could be done by presenting information in an easily understandable, attractive and stimulating manner or using media that appeals to consumers. Consumer education

© University of Pretoria

through a positive relationship that fosters constructive communication between structure and agents is therefore essential.

Based on this, this study would like to emphasize the critical role of the consumption junction as illustrated in the social practices model (Spaargaren and Van Vliet, 2000). The consumption junction, which refers to the physical interface where consumers and retailers interact e.g. in-store or via internet website). It is envisaged that the consumption junction are critical in aiding reflexive monitoring of role players' current behaviour by providing proper support systems that fosters/ enables a knowledge exchange between the practical and discursive consciousness. Evidence suggests that currently this consumption junction has had limited success in terms of being the interface ('bricks or clicks') that facilitates communication between agents and systems of provision. The relationship and subsequent communication between consumers and retailers is hence ill equipped to foster sustainable consumption and or management of fresh produce. This is worrisome because currently consumers and even retailers who eagerly want to make a concerted effort to mitigate unsustainable consumption practices and who wish to expand their knowledge of the issue fail to do so, due to poor access to and/ or support from peers and relevant systems of provisions.

These findings therefore suggest that the consumption junction be recognised as the ideal platform for reflexive monitoring of current and future fresh produce practices and knowledge dimensions. In terms of current retailing it could imply the revision of infrastructure, web based platforms and even personnel in order to ensure their ability to not only educate in terms of explicit knowledge but to also provide adequate access to skills and possible avenues that could assist in prolonged sustainable fresh produce consumption. Alternative suggestions involve the revision of social structures, values and norms that could infringe on the ability of vulnerable groups like working women and young aspiring consumers to continue fulfilling their duties as prominent agents of change. Although this study confirmed the role of females as prominent agents of change, their upward mobility in terms of current and future career possibilities is threatening their ability to nurture and act as expected of them. It is therefore envisaged that fast paced lifestyles, growing career and family pressures will in future become challenges that limit consumers' ability to reflect more sustainable consumption practices.

© University of Pretoria

8.3.4.3 Motivating sustainable fresh produce consumption: consumers' ideas and commitment (Objective 3.4)

Although climate change is real and considered a threat to mankind, the role of consumer consumption needs to be assessed realistically. The problem is that current marketing and media strategies promote a culture of consumption, and although it is often argued that marketing merely responds to consumers' wants (O'Shaughnessy& O'Shaughnessy, 2002), they seldom encourage a simpler way of living (Heath & Chatzidakis, 2011). This study revealed possible suggestions from all partaking role players that could encourage sustainable consumption.

Consumer education is unmistakably crucial. It is suggested that retail, which is recommended to be the frontier of change, coordinate the efforts of the popular press and media to encourage the idea of sustainable consumption. Presenting sustainable consumption as an admirable and attractive addition to consumers' lifestyles might improve the acceptance and actual demonstration of future sustainable consumer behaviour.

In the context of the South African population many consumers still aspire to better their lifestyles. Findings of this study reveal that consumers' current commitment towards sustainable consumption is questionable due persistent levels of apathy. Very few respondents could clearly identify anything beyond recycling of paper and plastic and composting as issues that relate to environmentally friendly behavioural practices. Despite consumers' knowledge of climate change they do very little to do something about the problem, which may be due to constraining circumstances for example the social structure of our time and spendthrift that is encouraged in media and/or systems of provisions (retailers). Consumers' low commitment to improve unsustainable fresh produce consumption practices may be due to ignorance about the detrimental effect of fresh produce wastage in terms of climate change. Current economic and social environments are also viewed as restrictive rather than encouraging or supportive. Consumers may therefore know they should act more responsibly and in a more sustainable manner but they fail to commit because they do not know how to and/ or lack the proper skills to adapt their existing practices. This dilemma deserves further attention, especially on how to educate men, the youth, Blacks and consumers from other population groups (excluding Whites) about their social responsibility. It may be unrealistic to only sell seasonal fruit and vegetables, but if products are clearly labelled, consumers might reconsider their choices so that eventually the demand for out-of-season products drops. Focus group discussions revealed that consumers can recall a time when having access to not only a limited variety but also only seasonal produce was not frowned upon

© University of Pretoria

but was accepted as the norm. This study concludes that consumer education is central in terms of the mitigation of unsustainable consumer behaviour. Directing consumers' focus from individual consumer rights to collective, human responsibility (McGregor, 1999, 2000) is very important for the 'individualistic consumer' to become a 'social citizen' as is required to facilitate social change.

8.4 Setting the scene for sustainable fresh produce consumption and waste management amidst concerns over climate change: Exploring possibilities and guarding against pitfalls

Although the following section introduces specific practical thoughts and suggestions in the form of policies and strategies required to mitigate South African consumers consumption behaviour, it was decided to include a brief overview about cross-cutting lessons learned from the findings.

In terms of the theoretical perspective this study provided evidence that the use of the structuration theory (Gidens, 1984) together with the social practices theory (Spaargaren & Van Vliet, 2000) was a perfect fit because it addressed both structure and agency within a daily context. The combination of these theories provided a wide-angle lens through which one could view and understand how context and the relationships between role players shape daily actions i.e. present unsustainable consumption patterns. It also offered some insight into how agents and structure can influence the context i.e. ultimate climate change. Hence this study poses that although consumers are key to driving sustainable consumption, the mitigation of unsustainable consumption practices involves the collaborative involvement of both agents (consumers) and structure (retail), because the amelioration of consumers' unsustainable fresh produce practices involve addressing day-to-day activities that retailers are an integral part of. The use of these theories further enabled the recognition of current relationships between agents and structure that encourage lifestyles and routines (habits) that subdue our consciousness regarding consumption practices, which are unsustainable at present. It is therefore essential to nurture this relationship towards raising awareness and concern about the impact of unsustainable consumption.

Although this study confirmed that most consumers are to some extent aware of their unsustainable practices, their detachment from and apathy towards fellow citizens and the natural environment, which is fostered by current marketing strategies, not only raises concern but also characterises individualism. Currently is seems that most consumers have lost their connections to the environment and seldom recognise their interdependency. Restoring consumers' ability to recognise their interdependency with both nature and fellow citizens is perhaps one of the greatest challenges we are faced with at present. This study argues for ecological citizenship, which portrays values of

© University of Pretoria

environmental concern, altruism or self-transcendence. Much work is, however, still needed to encourage consumers to reform, whether it is through education or overt practical motivation. In South Africa the above mentioned solution is not that simple inter alia due to the rise of a new middle class group of consumers the Black Diamonds who are highly aspirational and aiming to erase an asset deficit, which contradicts voluntary simplicity. Encouraging these consumers to make sustainable purchase decisions will be a challenge. Campaigns and traditional educational approaches which try to stimulate responsible consumption by moralising and reasoning with this consumer group will probably fail as the majority of these upwardly mobile consumers' buying decisions are not based on rational thinking but are driven by factors such as their need for status, belonging and recognition. Since 1994 this group of consumers have grown immensely and are consuming at an alarming rate that are stretching South Africa's natural resources beyond capacity. Nevertheless it is impossible to deny this segment of the population access to consumables that other South Africans already enjoy. Raising awareness amongst this particular group of consumers is therefore essential. It is suggested that approaches that integrate perspectives rooted in behavioural sciences, economics and psychology are introduced to change behaviour and to stimulate a need for sustainable products, services and lifestyles that will benefit all. It is believed that a positive approach for example by introducing product innovations such as new packaging formats for food products that promote sustainability but, which also provide instant benefits for example ease of handling or cost benefits would be more appealing to consumers compared to preaching self-sacrifice or altruism.

The implementation of practical motivation combined with educational instruments is recommended because "knowledge is not enough". Findings of this study show that addressing a knowledge deficit in terms of explicit knowledge will only generate highly knowledgeable individuals that might still fail to take action (mitigate unsustainable consumption) despite their knowledge of the pressing problem i.e. climate change. Knowing that climate change is a threat to human survival is not enough to change behaviour. Consumers not only need to have a sense of urgency based on explicit knowledge but also need to be equipped with sufficient tacit knowledge that enables them to reflect on their behaviour but also have personal control over the outcomes of their decisions i.e. incentives and speed of goal achievements. Currently too many consumers find themselves locked-in by the boundaries of current structures/ systems of provisions (e.g. retail infrastructure and or advertising) which significantly reduce their recognition of flaws in their behaviour and thus restricts on their ability to make well-informed choices and/ or to implement and maintain long term sustainable consumption practices. The competency to discursively reflect (scrutinise) on one's current behaviour, needs and aspirations relates

© University of Pretoria

to one's willingness to adopt more sustainable practices. Critical reflection coupled with the ability to implement both explicit and tacit knowledge is essential towards realising the ideal of sustainable consumption and ultimate combat of climate change.

Findings also indicated that retailers are somewhat hesitant to adopt more sustainable practices, because short-term incentives are limited. However, findings also show that consumers are currently not empowered to amend their practices on their own and therefore it is suggested that retailers take the lead. Retailers should therefore not only amend their policies and communication strategies towards stimulating and educating consumers in terms of sustainable practices but should also ensure that they are able to maintain the longevity of such projects. Unfortunately many retailers indicated that they themselves struggle to uphold sustainable practices not only due to lack of proper infrastructure but also capitalistic notions that pressurise them to perform to sustain a national economic growth rate. This calls for government to take action whether its through policy or legislation.

Strong governance should encourage collaboration that not only provides vision of what can be done but also sets out practical strategies to achieve these goals successfully. This study emphasises the important role of government initiatives to promote sustainable consumption. It is evident that the consumption practices in South Africa in general are detrimental in terms of our social and economic environment. Policies pertaining to sustainable consumption (addressing current consumption patterns) could be disclosed in a number of ways. This study poses the inclusion of regulatory, cooperative, economic and communicative instruments all of which will be discussed in the following section, which aims to introduce practical thoughts, key indicators and strategies for mitigating unsustainable fresh produce consumption amidst times of climate change.

Five topics that also reflect on the main objectives of the study are presented, namely:

- *Reflecting on consumers' habits (practical consciousness): the benefits and cost in terms of future prospects*
- *Assigning responsibility: Identifying prominent agents of change and critical relationships (agents versus systems of provision)*
- *Educating the South African consumer in terms of managing a sustainable lifestyle: Customising information in terms of the demographic profile of consumers*
- *Creating opportunities for action: setting realistic goals*
- *Fostering a culture of support and care: Emphasising the role of the consumption junction (relationship between retail and consumer)*

© University of Pretoria

The discussions of each topic will not only explicate their relevance in terms of literature but will also reflect on the practical application in terms of mitigation of unsustainable consumption and thus highlighting the contribution of this study. Where relevant possible implications and contributions in terms of various critical role players i.e. governmental legislation, industry, society and academia will also be introduced. Arguments made are guided by and will reflect constructs introduced by the initial conceptual framework as well as the chosen theoretical perspective. To assist the discussion, Figure 8.2 presents the initial conceptual framework.

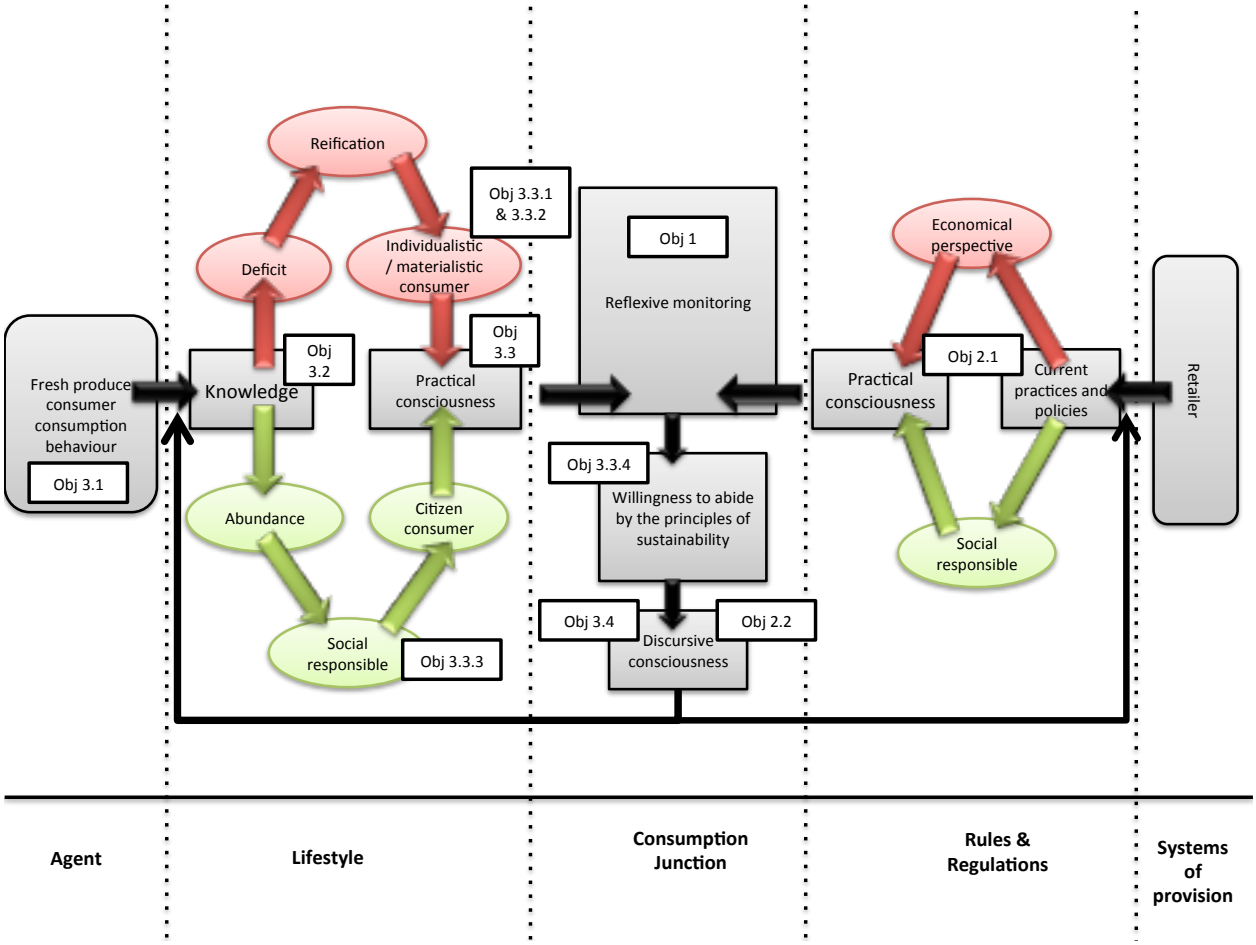


FIGURE 8.2: CONCEPTUAL FRAMEWORK

8.4.1 Reflecting on consumers' habits (practical consciousness): the benefits and cost in terms of future prospects

It is evident from this study that much needs to be done to improve consumers' fresh produce consumption, which reflects consumers' practical consciousness. Results of this study indicate that most consumers when purchasing fresh produce, succumb to clever marketing strategies, which reflect

© University of Pretoria

capitalistic economic oriented goals promoting competitiveness in the market. This is problematic because consumers' individualistic needs, which are driven by personal characteristics such as materialism, often surpass concerns about fellow and future citizens.

The protection of consumers from future environmental and social catastrophes should become a priority in South Africa and it is essential that we encourage consumers to make a mind shift from "sustainable consumption is something they have to do" to "something they want to do". Addressing unsustainable consumption behaviour is not only crucial in terms of efforts to curb climate change in the long run, but from a South African perspective it is essential in terms of establishing food security, which is not only threatened by climate change but also by the limited and diminishing natural resources e.g. water.

In terms of fresh produce, it is clear that consumers' irrational demands such as a low tolerance towards imperfect fresh produce mostly result in irresponsible food wastage. Food waste in South Africa is considered to be a very complex problem, and findings from this study indicate that in South African retail unnecessary fresh produce losses not only occur due to irresponsible consumer choices but are also the result of logistical issues during production and retail. Reflecting on the tremendous amount of food wasted globally but in particularly in South Africa, it is worrisome that calls have to be made to increase food production radically in order to meet and sustain the demand of populations while so much food is wasted.

It seems that, not only consumers but also retailers as well as government (who encourage food production notwithstanding the current wastage figures) often waste excessively due to elevated levels of detachment (see 8.3.4.1) and apathy (see 8.3.4.2). It is thus essential that all parties involved are made aware of the interactive relationship between role players and the eventual well-being of the natural environment. In other words, it is essential that all South African citizens are made aware of how they will benefit in the long run from actions that counter act unsustainable fresh produce practices. Messages for example need to emphasise the costly implications of unsustainable fresh produce consumption and management in terms of food security of fellow citizens as well as its contribution in terms of climate change.

Unfortunately it seems that consumers and retailers feel somewhat bounded (locked – in) by current social and economic structures (i.e. capitalistic notions of the global economy) and often believe that they have no control over their current behaviour. A strong sense of detachment and despair is evident

© University of Pretoria

from consumers' belief that changes to individuals personal consumption patterns will not have a noteworthy impact in mitigating climate change. With this said it is crucial that the complex interplay between consumers, retail and government is attended to. Inevitably, and unfortunately, the mitigation of current unsustainable consumption practices will require time, personal sacrifices but also a strong interest and willingness to commit from all parties. Many consumers will probably perceive the costs of being sustainable inconveniently high and the prospective benefits too remote and too inconspicuous to take matters seriously now.

In order to address the problem of unsustainable fresh produce consumption and excessive waste it is suggested that future endeavours focus on the contexts in which consumers make their decisions. Redesigning retail policies and practices is essential to entice consumers to become more thoughtful and vigilant about their current behaviour and their ability to contribute to the mitigation of change. Retailers could adapt current merchandising strategies for example to discourage bulk sales, which often leads to unnecessary wastage (unless a households' size require bulk purchases). Attention can be given to the revision of retail policies pertaining to the implementation of "sell-by" versus "best before" dates. Currently retailers are required to cull produce on the "sell-by" date instead of their "best before" date, which often leads to unnecessary wastage of fresh produce that is often still perfectly good for human consumption. Retailers could also invest in fresh produce labelling that not only educate consumers about sustainable food products but also communicate the essence proper use of date codes.

It is suggested that food waste in South Africa receives pertinent attention in governmental policy and legislation. Government could address unsustainable consumption through both regulatory and economic policies. Government should become more vigilant regarding their role in monitoring compliance to policies that are already in place. It is further recommended that government should set measurable targets for both consumers and retailers in terms of sustainable consumption and that these targets should be reviewed by impartial bodies at predetermined intervals for example ever two years. Possible regulatory policies for both household and retail could include the taxation of organic waste deposited to landfills and a strong emphasis on recycling for the purpose of energy recovery for example bio-fuel. In terms of regulating retail in particular, policies could focus on improving the eco efficiency of fresh produce transport as well as current infrastructure used to maintain proper cold chain and therefore limit wastage.

© University of Pretoria

Effort could be made to increase South African consumers' practical consciousness of environmental issues, i.e. their ability curb climate change. The consciousness of particular role players such as females who are very important socialising agents in the home, as well as consumer groups whose lifestyles might discourage voluntary simplicity and modesty should receive special attention. The involvement of celebrities and popular media, might be necessary to promote this very worthy cause in a comprehensible yet inspiring format.

8.4.2 Assigning responsibility: Identifying prominent agents of change and critical relationships (Agents versus Systems of provision)

The mitigation of unsustainable consumption practices requires the cooperation of various role players. With this in mind, three phases were introduced in the research process, each focusing on prominent role players in the South African fresh produce industry, namely the so-called experts from established organisation, the retailers and the consumers. This study in particular contributed to the theory of ecological citizenship in that it critiques the argument that sustainable consumption can be attained by simply focusing on the individual consumer (agent). Hence, instead of adopting the predominant idea that one can mitigate unsustainable consumption by targeting consumers, the results of this research suggest that ecological citizenship would be more attainable by considering, emphasising and strengthening the interrelationship between consumers and their social environment (i.e. fellow citizens and especially retailers). Unfortunately most retailers in South Africa revealed certain strategies "rules and resources" or recurrent patterned arrangements that influence the choices and opportunities offered to consumers (agents), which may even result in further detachment, i.e. predominantly caring about personal needs. It is, however, important to note that although the structure of retailers (systems of provision) is not yet conducive towards sustainable fresh produce management and consumption and therefore limits the potential of consumers to make more responsible purchasing decisions it should not be viewed as a permanent constraint. In the same way, that consumers' behaviour can be influenced, the rules and resources of retailers can be adapted to reflect their concern about the environment. Hence, retailers are, therefore, able/ have the capacity to revise their infrastructure, practices and policies in order to act in a more sustainable manner and can make meaningful differences for example by adapting the manner in which fresh produce is presented to the market.

One of the defining characteristics of retailers' (systems of provisions) capacity to transform i.e. to change unsustainable consumption practices is their ability of discursively convey relevant knowledge and or skills in a supportive and constructive manner to their clients. One of the defining characteristics

© University of Pretoria

of structuration theory is the possibility to change (defined as agency). This study confirms that change is intimately connected with knowledge, in this case a combination of tacit and explicit knowledge, which culminates as power (consumer power), in other words failure of transformational capacity equals powerlessness. It is, therefore, argued that consumers who do not possess the knowledge to discursively reflect on their behaviour become powerless and detached and subsequently fail to understand the logic behind alternative purchase and consumption behaviours. Both consumers and experts agreed that retailers are in a better position (having a better transformational capacity) to frontier the mitigation of unsustainable fresh produce consumption.

The following conclusions in terms of assigning responsibility and identifying prominent agents of change can therefore be drawn. It is evident that reclaiming consumption i.e. the mitigation of unsustainable consumption practices on all levels will need the input and cooperation of all role players as the input of agents and systems of provisions are equally important. However, this study confirms that retailers are in a better position to instigate new insights and to support consumers on their path towards sustainable consumption. Although this study encourages the collaboration between retail and consumers this study also recognises the important role of individual agents of change (consumers) especially their ability to reflect and monitor their own personal behaviour. Individual acts are, however, less powerful if not supported within larger structures. Findings from this study confirms the role of females who not only have the innate nature of nurturing and willingness to connect but also have the capacity to socialize the members in their respective households towards promoting ecological citizenship. Although males have become more involved in household decisions in the recent years, this study confirms the role of females as the main food purchase decision makers in households in the context of this study.

Findings suggest a revision of retail strategies and policies, which are currently promoting capitalistic ideals. Retailers that already enforce sustainable practices referred to as “conscious capitalism” confirm that revised retailing practices might be costly initially, but in the long run is lucrative and can establish a competitive advantage. Performance of the one South African retailer, which overtly promotes sustainable consumption practices, indicates that consumers seem loyal towards retailers that support the principles of sustainability.

© University of Pretoria

In terms of governmental legislation it is suggested that policies are formulated to regulate behaviour in the market place through taxation to encourage consumers to reflect more critically (discursively) on their responsibility as social citizens. Incentive schemes and educational campaigns could be launched to encourage consumers to discursively reflect on their responsibility as agents of change within their own households.

8.4.3 Educating South African consumers in terms of managing a sustainable lifestyle: Customising information in terms of the demographic profile of consumers

Consuming efficiently by using fewer resources and limiting our current carbon footprint to achieve a better quality of life for all should become a non – controversial issue. This study confirmed that although, consumers in Tshwane are receptive to the idea of change to enhance the sustainability of consumption practices, insufficient knowledge (whether tacit or explicit) often leads to a hesitant adoption of more sustainable practices/ policies. Main reasons for this knowledge deficit is underpinned by the rather pessimistic assumption that consumers have very little interest in acquiring in-depth knowledge about highly scientific issues like climate change and/or the consequences of their unsustainable behaviour. Reasons for this could be attributed to problematic attitudes of apathy and detachment, which were confirmed in this study. Results concluded that almost all consumers lack some dimension of knowledge whether it is explicit or tacit in nature, and therefore have different abilities to mitigate unsustainable consumption. In general most consumers, lack the ability to discursively reflect on their existing practices. It is concluded that an invaluable prerequisite for mitigation of unsustainable consumer behaviour is consumer education. Consumer education is not only essential in terms of motivation but also in terms of boosting the intellectual proficiency of individuals i.e. assisting consumers in their ability to make rational, thoughtful purchase decisions and to discursively reflect on their current behaviour and/or evaluate the effects of their current consumption practices.

This study furthermore proposes that the mitigation of climate change through sustainable consumption will entail more than just simply raising awareness about consumers' irrational consumption patterns. Retail and government should cooperate to empower consumers with both dimensions of knowledge to enable South African citizens to revise and maintain their purchase and consumption behaviour in order to achieve the ultimate goal of ecological citizenship.

Previous literature suggests that the demographic profiling of consumers in terms of sustainability is futile (Jackson, 2005a; Patchen, 2006). To date the only conclusive demographic characteristic related to

© University of Pretoria

sustainability includes gender, stipulating that females are more sustainable due to their nurturing nature. This study confirms this notion but contributes by revealing two distinctive vulnerable consumer profiles with specific educational needs. Firstly it seems that older-, lower educated-, low income- Black consumers as well as consumers, from other population groups (excluding Whites) require explicit (factual) knowledge about climate change to better understand the problem. Secondly it seems that younger-, better educated- higher income- and White consumers, on the other hand require tacit knowledge, practical skills (know-how) to address unsustainable fresh produce consumption practices.

Some controversy about the relevance of demographic characteristics in terms of sustainable consumption exists. This study builds a case for further research to profile the sustainable consumer through structural equation modelling as demographic variables are not only useful to understand and predict consumer behaviour but are also critical in addressing and maintaining future sustainability of consumer behaviour. At present retail still uses demographic profiling to make their product distribution decisions.

This study confirms that consumers' demographic characteristics significantly determine their needs in terms of tacit and explicit knowledge. It is therefore concluded that the success of attempting to change consumers' unsustainable behaviour should not only include a simple exchange of knowledge and/ or relevant information, but that it is essential to explain the relevant information within a context that is applicable and well understood by the recipient agent (consumer). Information should thus be tailored not only for different demographic groups but also for different lifestyles that involve different social, moral and emotional sensitivities. Because retailers often cater for different consumer target groups and it could be assumed that retailers have sufficient insight about their respective target markets they should be able to adapt information and thus educate their customers with success. Possible communicative/ educational instruments that could be used include promotional material like information brochures and banners. Alternatively retailers could make use of their respective Internet websites to convey relevant tips and strategies, and involve celebrities to endorse their strategies overtly.

To promote sustainable consumption among the youth, government should adapt policies regarding education, that enforce the inclusion of study themes regarding climate change and the principles of sustainability in school curricula.

© University of Pretoria

This study's contribution towards existing literature is the fact that, it differs from previous literature that exclusively associate explicit knowledge as part of consumers' discursive consciousness and tacit knowledge as part of their practical consciousness. Previously it was theorized that one would only need to improve explicit knowledge in order to mitigate unsustainable consumption practices. This study reveals that consumers can experience a deficit in terms of tacit and/ or explicit knowledge and therefore require both of these knowledge dimensions in terms of their practical consciousness about important issues such as climate change and sustainable consumption as well as their discursive consciousness which enables continual assessment through reflexive monitoring of one's actions.

8.4.4 Creating opportunities for action: setting realistic goals

Although climate change is real and considered a threat to mankind, the contribution of consumers' consumption needs to be assessed realistically, acknowledging that not all personal and external influences can be changed easily. A prominent concern is that current marketing and media strategies promote a culture of over consumption and to some extent contribute to unnecessary wastage by inter alia creating unrealistic needs and promoting products with a limited lifespan (planned obsolescence). Although it could be argued that retail/ marketing merely responds to consumer needs, a simpler more sustainable way of living is seldom promoted. Focus group discussions revealed that green marketing and green products are still fairly controversial topics among consumers, and that much needs to be done to ensure that consumers understand the issues well enough to become involved as agents of change.

Because this study reveals that consumer education is the viable solution to curb unsustainable consumption it is essential to encourage educational campaigns on all levels/ environments (micro i.e. household level, meso i.e. retail level and macro i.e. governmental level). Women are primary agents of change within their respective households and could be involved to educate on a micro level. Retailers as well as the popular press are ideal instruments to reach consumers at a meso level (e.g. through popular television programmes like Master Chef consumers could be encouraged to amend irrational demands in terms of perfect or aesthetically pleasing fresh produce) while government legislation should be able to control behaviour at a macro level via regulatory and economic policies e.g. taxation of excessive food wastage. Other suggestions that implicate industry (retail policy) include the promotion of fresh produce in terms of seasonality and locality. A reassessment of bulk packs that are presently promoted to save costs is an option as this was confirmed as one of the main reasons for unnecessary waste creation in households. Focus group discussions revealed that consumers can recall a

© University of Pretoria

time where having access to not only a limited variety but also only seasonal produce was not frowned upon but was accepted as the norm. Based on this it is concluded that if the promotion of buying loose, local and seasonal fruit becomes a norm in all retail in South Africa again, consumers in time may revise their demands and even amend their quality expectations.

8.4.5 Fostering a culture of support and care: Emphasising the role of the consumption junction

Unsustainable purchasing and consumption behaviour can be attributed to consumers either not having the facts about environmental degradation (i.e. explicit knowledge), or having little access to relevant action strategies (i.e. tacit knowledge). Currently addressing knowledge deficits are challenging and often result in consumers ceasing commitment. For example many consumers are knowledgeable in terms of the consequences of unsustainable consumption, but they struggle to gain access to alternative products, supportive infrastructure and/ or practical skills that illustrate/ demonstrate responsible waste practices (tacit knowledge). After consecutive attempts to address their knowledge deficit, consumers mostly give up, often refrain from future attempts and even develop a sense of apathy towards the issue. This became clear from the focus group discussions where consumers were prompted to discuss issues extensively. A serious need exists to acknowledge the demand for some communal platform (i.e. consumption junction) that would enable interaction between critical role players, which would in particular encourage consumers to use, edit and share different forms of knowledge i.e. discursively reflect and monitor behaviour. This could be in the form of a television clip that consumers can watch while queuing or even an in-store interactive customer care desk that could assist consumers with simple instructions and support regarding managing food waste via proper composting. It is envisaged that access to different experiences would encourage consumers to maintain more sustainable lifestyles. It is also believed that a platform like this would motivate consumers and equip them to remain committed.

Thus this study would therefore like to identify the role of the consumption junction as critical in terms of providing a much-needed support system that promotes a knowledge exchange in a state of discursive consciousness**.** Currently it is evident that this consumption junction, which suggests any interface (‘bricks or clicks’) that facilitates communication between agents and systems of provision is not yet well established in South Africa. This is worrisome because current consumers and even retailers who eagerly want to make an concerted effort to mitigate unsustainable consumption practices through

© University of Pretoria

obtaining relevant knowledge of the problem fail, due to poor access to and/ or support from peers and relevant systems of provisions.

Literature to date does not elaborate how to establish and secure a consumption junction that enhances communication between role players and which would contribute to resolve issues that come to the fore in every day life. It is argued that the consumption junction is an ideal platform for reflexive monitoring of current and future fresh produce consumption practices. This study concludes that effort should be made to elevate the importance of a consumption junction in our endeavours to promote sustainable consumption practices and to limit waste. Various opportunities exist, e.g. short television clips in retail that incorporate clients' contributions, the involvement of celebrities to endorse strategies and the involvement of the directors of multiple food programs that viewers are exposed to lately. Providing consumers access to an interactive customer care desk that focus on issues regarding sustainability for example composting and or recycling could also entice consumers to become more vigilant about their own behaviour and active towards the cause.

In his review regarding sustainable consumption Prof Tim Jackson (2005) concluded that the implementation of policy or legislation with the aim to regulate consumption behaviour towards sustainable consumption is doomed to failure without the commitment and contribution of all parties involved. Encouraging and supporting a communal platform like the consumption junction would not only enhance/ emancipate respective role players through a sharing of knowledge and strengthening of their ability to scrutinize their respective behaviour but could also encourage both retail and consumers' ability to work together towards developing alternative, new and exciting solutions that could combat unsustainable consumption and ultimately combat climate change.

8.5 THE RESEARCH IN RETROSPECT

It is always important that a researcher evaluates the research objectively at the end of the investigation to reflect on the reliability of the study, the relevance of the methodology and whether all the objectives of the study have been addressed satisfactorily.

Because constructs like climate change, sustainability, food wastage and consumerism are currently topics of great interest across many research fields worldwide, literature and so-called expert views

© University of Pretoria

from representatives of prominent institutions who are concerned with climate change and sustainability of global and national resources were consulted to provide sufficient credence to this study. This not only underpinned the tone of the problem statement but also assisted in the formulation of the research objectives, conceptual framework as well as the choice of research instruments. In Chapter 5 the measures that were taken to ensure reliability and validity were discussed. Structuring the research in terms of valid and well-established theoretical perspectives further enhanced the reliability of the study. The assumptions of the chosen theoretical perspectives i.e. Structuration Theory (Giddens, 1984) and Social Practices theory (Spaargaren & Van Vliet, 2000), suggested investigating the problem from more than one angle which influenced the research design and methodology, which eventually comprised three phases. Empirical data was therefore collected from different angles/ relevant parties i.e. experts, retailers and consumers. A mixed method research approach allowed the inclusion of different methods of data collection (personal interviews, questionnaires and focus group discussions), which complemented each other and consequently served as cross validation to ensure the reliability and trustworthiness of the study. Where applicable, findings were interpreted and supported in terms of the other data collection phases. An example of this is presented by the interrelationship indicated between the findings of Phase 2 (Retailer interviews) and the results revealed in Phases 3A and B (consumer survey and the focus groups discussions). It is also reflected in terms of Phase 3A (consumer survey) and 3B (focus group discussion) where focus group transcripts were used to support quantitative findings presented Chapter 6.

A structured questionnaire featuring predominantly closed–ended questions was developed with the professional assistance of statisticians of Statomet of the University of Pretoria. Even though established scales were included (Status Consumption: Kilsheimer Scale (1993); Materialism Scale: Richins and Dawson (1992); Social Responsible Consumer Behaviour Scale: Antil and Bennet (1979); Eco Scale: Stone, Barnes and Montgomery (1995); Dos Santos (2011): Compulsive Buying Scale; Edwards (1993): Connectedness to Nature scale; Mayer and Frantz (2004): Interpersonal Orientation CAD Scale; Cohen (1967): Socially Responsible Behaviour Scale (Antil and Bennet, 1979), the internal consistency (reliability) of all the scales were verified through the calculation of Chronbach Alphas. The final questionnaire was also scrutinized by the assigned statistician and pre-tested to eliminate error. Prior to data collection the final questionnaire was submitted to the ethical committee of the University of Pretoria's Faculty of Natural and Agricultural Sciences, who approved the study with all its relevant components including the proposed questionnaire and the interview prompts used in Phases 1 and 2.

© University of Pretoria

Due to financial and time constraints, sampling procedures and the eventual sample were somewhat constrained and therefore findings from this study can unfortunately not be generalised to a population greater than the respondents who participated in the study. Although the data collection for Phases 1, 2 and 3B where all done by the primary researcher and a research assistant, data collection during Phase 3A was more intensive and subsequently required additional support. The distribution of the questionnaires in Phase 3A relied on the assistance of selected fieldworkers who were all well-trained before hand. The questionnaire was fairly long but potential respondents were warned before hand. The fact that the questionnaire was delivered on a drop-off-collect-later basis also ensured that respondents would feel less rushed and would be in a better position to read questions carefully and to respond truthfully. By using a cover letter to clarify the purpose of the study, the researcher's association with the University of Pretoria and assurance that the information would be treated confidentially, keeping respondents anonymous, reliability was enhanced. Respondents were also allowed to withdraw at any time if they wished to do so. Completed questionnaires were collected by field workers within a period of two weeks. The researcher personally coded all the data, after which the Department of Statistics captured the data and assisted with the data analysis. The researcher carefully interpreted findings with professional guidance from the assigned promoter and statistician.

The fact that all the identified role players who participated in this study did so out of their own free will also increased the reliability of their responses and the subsequent results.

The researcher is confident that all the objectives were attended to and addressed satisfactorily. It was possible to draw conclusions based on the data generated for all the objectives of the study. Apart from its length and the time required to complete it, the questionnaire did not produce any unexpected problems along the way.

8.6 LIMITATIONS OF THE STUDY

As is the case with all research initiatives the researcher often encounters barriers and hindrances along the way. Although care was taken throughout the study to obtain the most accurate data in an ethical fashion, certain limitations, which were out of the researcher's control, still arose as discussed in the following section.

Sampling: Although respondents were asked to indicate which population group they belonged to

© University of Pretoria

according to the South African Population Equity Act, this investigation never aimed to distinguish the perceptions of specific population groups. The low response rate from population groups "other than Whites" made it impossible to generalise the findings from this study to the broader South African population. Because the population in South Africa is very cosmopolitan and complex, a correlation of this kind (between population categories) would have required a much larger sample, which was financially and logistically not possible for this study.

Data collection: With regard to the qualitative investigation, findings collected during Phase 1 (expert interviews) were done with the purpose to substantiate the chosen research problem. Problems arising during this phase included availability and access to credible experts that not only presented an interest in mitigation of climate change through consumer education, but who also had some knowledge in terms of fresh produce management. Although finding suitable experts was a time consuming task, it did in the end result in collecting valuable information that supported the cause set for this study.

Data collection during Phase 2 (retailer interviews) was constrained by the volunteering of retailer responses. Fresh produce wastage is currently perceived as a sensitive topic among most retailers and retailers were somewhat hesitant to disclose information in terms of actual wastage figures and actual waste management practices. During the consumer focus group discussions (Phase 3 B) this same sensitivity was also observed and just like the retailers, participants seemed reserved in their discussion regarding personal fresh produce wastage.

With regard to the quantitative investigation, the length of the questionnaire and the time required to complete it, caused some problems such as a low and slow response rate. The questionnaire also measured sensitive concepts such as materialism and altruism, which may have caused social response bias. Response bias is a type of cognitive bias that can affect the results of a statistical survey if respondents answer questions in the way they think it should be answered rather than reflecting their true beliefs. This became evident when consumer responses in terms of irresponsible consumption behaviour from the survey were compared to the comments and discussions made during the focus group discussions. During the focus group discussions participants seemed more willing to share, reason about and defend their purchasing and consumption behaviour overtly. Results of the survey indicated that consumers were more careful in their responses, for example in terms of the social responsibility scale.

Apart for the fore mentioned limitations, no other complications were experienced during the data collection procedure. The researcher was able to interpret the findings with minimal difficulty and did

© University of Pretoria

not encounter any anomalies in the responses.

8.7 RECOMMENDATIONS DEDUCED FROM FINDINGS FROM THIS STUDY

8.7.1 Recommendations for future research

Because results from this study are based on a non-probable convenient sample and can, therefore, not be generalised to the larger South African population, an initial suggestion with regard to future research is to replicate this particular problem/ investigation nationally, or at least in other major South African metropolitan areas such as Johannesburg, Bloemfontein, Cape Town and Durban. This would not only enable a holistic perspective regarding the entire country but would also enable comparison amongst different geographical areas.

To better inform particular retailers regarding their influence and ability to educate and assist customers through appropriate marketing strategies and intervention initiatives, more focus should be placed on selecting samples that represent the particular retailers' target markets. Unfortunately this is somewhat challenging in South Africa due to lack of proper sampling frames.

This study aimed to contribute to literature pertaining to consumer behaviour and sustainable consumption practices by examining individuals' knowledge and current engagement in sustainable fresh produce practices. An extension of this research could involve examining disciplines other than only food and perhaps include those of waste disposal in greater detail.

In terms of demographic profiling of sustainable consumers, results from this study suggest that more attention should be given to the potential role of women as agents of change. Although previous research (Patchen, 2006) are inconclusive in terms of most plausible demographic drivers of sustainability it is well argued in this study that compared to men, women are more concerned and conscious regarding issues relating to climate change. Investigating the willingness and ability of women in particularly working women, could be of interest as current changes in society might inhibit them from committing to sustainable consumption.

Although the use of a mixed-method research design (as used in this study) produced findings that are considered instrumental in terms of extrapolating/ explaining the problem at hand, investigating consumers' daily behaviour via strict qualitative research methods such as real life observation and daily journals seems to grow in support and could possibly produce valuable findings.

© University of Pretoria

Based on the researchers' experience gained during the project and the findings of the study, the following topics are suggested for future research:

- A gender study that investigates the changing role of females and how it affects their potential and ability to act as agents of change.
- A qualitative study where the influence of social norms i.e. materialism and conspicuous consumption conveyed in media is investigated in terms of its mediating influence on wasteful consumption.
- To determine the knowledge and competence of personnel in retail in terms of their ability to support consumers on their path towards sustainable consumption.
- To determine the knowledge and competence of retail managers in terms of their ability to address unsustainable retailing practices.
- To determine the consciousness and attitude of South Africa's Black Diamonds who have increased spending power and who like to flaunt it, towards the mitigation of climate change.
- To investigate the correlation between food wastage and food security in the context of climate change in South Africa.
- To investigate the impact of Northern hemisphere consumer demand on the sustainability of Southern hemisphere natural resource supplies.

8.7.2 Cross-cutting recommendations for industry and policy formulation based on 8.4

The findings from this study confirmed that the mitigation of unsustainable fresh produce practices is most definitely reliant on the contribution of all role players in society i.e. Government, industry and consumers. One cannot, therefore, rely on the 'willingness to abide to the principles of sustainability' of single parties such as consumers or retailers per se. Results from this study did, however, indicate that the most plausible and willing catalyst for change seems to be the retailers. Thus, it is proposed that the uptake of sustainable behaviour will be more successful and have a greater impact if initiated by the retailing industry as opposed to consumers or Government.

Prominent results from this study emphasised the need for knowledge (tacit and explicit) amongst most consumers and retailers were indicated as plausible points of departure for consumer education. It is, therefore, strongly suggested that all South African retailers include a combination of strategies that convey the principles of sustainable consumption in terms of tacit and explicit knowledge. Because it was found that consumers' demographic characteristics and specific lifestyle significantly influences

© University of Pretoria

educational needs in terms of tacit and explicit knowledge it is, however, essential that information is tailored accordingly. Patchen (2006) confirms that ones' demographic characteristics and lifestyle influences ones' social, moral and emotional sensitivities, hence, influencing ones ability to learn.

It is believed that most retailers will gain consumer trust and loyalty for not only making an effort towards educating consumers about their social responsibility but also making the selfless call to conduct business in an environmentally friendly manner. In order for retailers to commit/abide to the principles of sustainability as propagated in the primary assumptions of a global perspective on consumers' consumption behaviour (McGregor, 1999), it is essential that government provide support in this regard.

In terms of policy formulation findings from this study confirm the need for a serious revision of current food wastage and management practices and policies. Results indicated that food waste is real and that pre-consumer wastage i.e. during production and retail is probably driven by consumer demand (e.g. in terms of quality standards). In addition, although post- consumer wastage in South Africa is small in magnitude relative to pre-consumer food waste, the implication of waste produced by households is more significant, since more energy and resources are needed to manage it. Because current legislation has been formulated (National Environmental Management: Waste Act, DEA, 2012) to limit the amount of organic matter disposed at landfills and because it is envisaged to prohibit the disposal of organic matter at landfills in the near future all together, Government policies/ legislation with regard to the management of waste created at home is much needed to ensure the success of legislation regarding landfill management.

Because the wastage of foods such as fresh produce not only deters the economy of South Africa but also plays a pivotal role in terms of the country's food security, it is imperative to find possible avenues that could assist/ encourage the mitigation of unsustainable consumer behaviour i.e. fresh produce wastage. Because consumers seem reluctant to personally take charge of their unsustainable practices, of the role of Government and private institutions is crucial to "nudge" (encourage) consumers to demonstrate behaviour that reflects the principles of sustainable consumption. Thaler and Sunstein (2003) state that this "nudge" should furthermore not allow consumers the luxury of alternative products or services but should simply eliminate unsustainable products/ services from consumers' choice sets, making it impossible for consumers to sustain unsustainable habits.

© University of Pretoria

8.8 THEORETICAL CONTRIBUTION TO INTERNATIONAL LITERATURE

Although many studies have tried and tested Giddens' structuration theory (Kaspersen, 2000; Jones & Karsten, 2008; Lizardo, 2010) as well as Spaargarens' Social practices theory (Mol & Spaargaren, 2000; Spaargaren, 2004; Spaargaren & Maartens, 2005; Spaargaren & Oosterveer, 2010; Hargreaves, 2011) most were done within a First-world contexts and application of these theories were mostly done separately. Thus, the first theoretical contribution of this study is grounded in the fact that it explained the environmental consciousness and susceptibility towards sustainability of both consumers and retailers in terms of the above-mentioned theory and model within the complex context of an emerging economy (such is the case in Tshwane South Africa). The study, furthermore, contributes to current literature by confirming the relevance/ application of a combination of Giddens' Structuration theory as well as Spaargarens' Social practices model, to explicate not only consumers' and retailers' knowledge and receptiveness of sustainability per se but it also enabled an exposition of the interdependency between the role players due to the holistic / integrated approach followed by this theory and model.

In terms of the findings, this study furthermore contributes towards literature in terms of an explanation of consumers' knowledge in terms of the dimensions (explicit and tacit) of knowledge. Results from this study is in contrast with previous studies and existing theories that exclusively associate explicit knowledge as part of consumers' discursive consciousness and tacit knowledge as part of their practical consciousness. Previous theories also theorized that one would only need to improve explicit knowledge to mitigate unsustainable consumption practices. This study, however, revealed that consumers can experience a deficit in terms of tacit and/ or explicit knowledge and that both these dimensions should be viewed as interdependent units present in an individuals' practical and discursive consciousness. This study, therefore, argues that a balanced representation of both these knowledge dimensions in terms of not only consumers' practical consciousness but also in terms of their discursive consciousness is needed to enable continual assessment through reflexive monitoring of one's behaviour.

8.9 CONCLUDING REMARKS

This study commenced by arguing that a serious revision regarding current consumer behaviour, which is fuelled by conventional economic theory/ rational choice theory, is needed. Based on the consulted literature and arguments presented in Chapters 2 and 3 the existence of a relationship between current unsustainable consumption practices and the deterioration of our natural environment (resulting climate change) is undeniable, and hence, became the initial focus for the study. Guided by the assumptions of the Structuration Theory (Giddens, 1984) supported by the Social practices Model

© University of Pretoria

(Spaargaren & Van Vliet, 2000), which enabled a contextual approach in which consumers and industry take and equal stance and shared responsibility, this study in particularly set out to identify core role players in terms of sustainable fresh produce management. During Phase 1 of the study (Expert interviews) it was confirmed that prominent retailers and most households in South Africa would be viable areas of interest. The investigation then continued with emphasis on the interdependency between consumers and retailers as well as how this relationship influences the respective parties' susceptibility towards sustainable fresh produce consumption.

Objectives pertaining to the investigation of prominent retailers (Phase 2) current fresh produce practices and concern in terms of climate change, revealed that although most retailers in an effort to curb climate change are making concerted efforts to mitigate unsustainable fresh produce practices many fail to do so due to increased pressure from consumers who have unrealistic / idealistic demands.

Objectives pertaining to current consumer behaviour (phase 3) were specifically formulated to investigate consumers' current fresh produce practices, their knowledge regarding climate change (explicit knowledge), sustainability (tacit knowledge) as well as their willingness to act in a socially responsible manner. Findings revealed that most consumers still portray fresh produce consumption behaviour that is typical of individualistic and unsustainable practices initial exploratory factor analysis in terms of possible drivers of current consumer consumption confirmed this by revealing that consumers' general purchasing behaviour is mostly driven by materialistic values, followed by a sense of status consciousness among many respondents but in particular Black and young respondents. This is somewhat worrisome, as these consumers constitute a large portion of South Africa's current but more specifically our future consumer market. Consumers' knowledge regarding climate change seems above average, however, areas of concern were identified among lower income, black consumers. Initial exploratory factor analysis indicated that in terms of respondents' knowledge about possible strategies that represent the principles of sustainable consumption, most respondents had a good understanding about sustainable buying behaviour, sustainable household behaviour, sustainable consumer demands as well as sustainable waste management. However, an area of concern was the fact that most respondents across all demographic categories seemed ignorant about their contribution towards unsustainable retailing practices. Findings collected during phase 2 (retailers interviews) supported this notion with most retailers indicating that many consumers demand top quality, brimming shelves notwithstanding the cost in terms of resources and ultimate wastage. Results regarding consumers' overall sense of social responsibility and willingness to abide by the principles of sustainability revealed that most respondents are willing to adapt their current behaviour and could be considered as socially

© University of Pretoria

responsible citizens. Findings confirmed high levels of centrality and altruism and a low level of competiveness. However, an area of concern was identified in terms of consumers' level of detachment as it reflected an individualistic outlook as well as an unsympathetic approach towards other societal members and nature, which is not conducive in terms of sustainable consumption.

Sustainable consumer behaviour is key to curbing climate change. With the number one food trend for 2014 set at 'Limiting food waste' (O'Halloran, 2013), as an indication of showing concern about the environment, all are encouraged to improve their awareness and contribution. As a responsible global citizen, South Africa is committed to not only manage their current emission trajectory responsibly but to limit and curb emission rates by 2025. Fresh produce is recognised as a product category that most consumers can associate with easily. Evidence of South African retailers' as well as consumers' level of general awareness of environmental issues and their general purchasing and consumption practices in this basic product category revealed that mitigation in this area has great potential to reduce food wastage which is important to curb climate change. It could furthermore be beneficial for future food security and foster social and economical well-being in South Africa.

Changing consumer behaviour, especially in terms of sensitive issues like food wastage and personal contribution towards complex issues like climate change is far from easy because it may seem like a distant phenomenon. In South Africa the situation is even more problematic as 11 official languages, numerous social cultures, low education levels and low income complicate consumers' access to information and support systems which is detrimental in terms of consumers' willingness to commit to support the cause with all the associated responsibilities.

Unfortunately desperate times call for desperate measures and in terms of planning for the future we need to address consumption behaviour today.

Never has the saying of waste not - want not rang more true!

© University of Pretoria

REFERENCE LIST

A

ABELA, A. 2006. Marketing and Consumerism: A response to O'Shaughnessy and O'Shaughnessy. *European Journal of Marketing,* 40:5-16.

ABRATT, R., BENDIXEN, M. & DROP, K. 1999. Ethical Perceptions of South African Retailers: Management and Sales Personnel. *International Journal of Retail & Distribution Management*, 27(2):91-114.

ALBA, J.W. & HUTCHINSON, J.W. 1987. Dimensions of Consumer Expertise. *Journal of Consumer Research*, 13: 411-454.

ALEXANDER, S. & USSHER, S. 2012. The Voluntary Simplicity Movement: A multi-national survey analysis in theoretical context. *Journal of Consumer Culture.* 12 (1):66-86.

AJZEN, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.

AJZEN, I. (2002). Perceived behavioral control, self-efficacy, locus of control and the theory of planned behavior. *Journal of Applied Social Psychology,* 32(4), 665-683. ALBA, J.W. & HUTCHINSON, J.W. 2000. Knowledge Calibration: What Consumers Know and What They Think They Know. *Journal of Consumer Research,* 27:123-156.

ALSMADI, S. 2008. Green Marketing and the Concern over the Environment: Measuring Environmental Consciousness of Jordanian Consumers. *Journal of Promotion Management*. 13 (3-4):339 – 361.

AMADEO, K. 2012. *How much did Hurricane Katrina damage the U.S. Economy?* [Online] Available from: http://useconomy.about.com/od/grossdomesticproduct/f/katrina_damage.htm [Accessed: 2013/05/07].

AMES, L. 1998. *The view from Peekskill: tending the flame of a motivator*. *The New York Times.* [Online] Available from: http://www.nytimes.com/1998/08/02/nyregion/the-view-from-peekskill-tending-the-flame-of-a-motivator.html? [Accessed: 2010/03/06].

AMIGUN, B., KAGGWA, M., MUSANGO J.K. & STAFFORD, W. 2011. Africa's technology options for renewable energy production and distribution. *Energy Transition in Africa*, *COP17,* 28-30 November 2011.

ANASTASI, A. & URBINA, S. 1997. *Psychological Testing*. New Jersey: Prentice Hall

© University of Pretoria

ANDERSEN, J.K., BOLDRIN, A., CHRISTENSEN, T.H. & SCHEUTS, C. 2010. Greenhouse gas emissions from home composting of organic household waste. *Waste Management*, 30(12):2475-2482.

ANDERSON, J. 1982. Acquisition of cognitive skill. *Psychological Review*, 89:369-406.

ANDERSON, J.R. 1995. *Cognitive Psychology and its Implications*. New York: W.H. Freeman and Company.

ANGELL, B. & TOWNSEND, L. 2011. Designing and constructing mixed methods studies: Workshop for the 2011 Society for Social work and Research annual meeting. *Institute for Health.* The State University of New Jersey.

ANSPAUGH, W.C. 2008. *From the 60s to the 90s and beyond. Rebirth of Reason: 1-3*. [Online] Available from: http://rebirthofreason.com/Articles/Anspaugh/From_the_60s_to_the_90s_and_Beyond.shtml [Accessed: May 2010].

ANTIL, J.T. & BENNETT, P. 1979. Construction and validation of a scale to measure socially responsible consumption behaviour. In Bearden, W.O. & Netemeyer, R.G. Handbook of Marketing Scales: Multi-Item measures for marketing and consumer. 1999. Sage. California.

ARENI, C. 2003. Examining managers' theories of how atmospheric music affects perception behavior and financial performance. *Journal of Retailing and Consumer Services,* 10:263-274.

ARNOLD, M.J. & REYNOLDS, K.E. 2003. Hedonic shopping motivation. *Journal of Retailing,* 79(2):77-95.

ARSCP (African Roundtable on Sustainable Consumption and Production). 2011. *Sustainable Consumption and Production for Sustainable Growth and Poverty Reduction*. [Online] Available from: http://www.uneca.org/sites/default/files/publications/sdra3.pdf [Accessed:2012/11/13].

ARTHEY, V.D. 1975. *Quality of Horticultural Products*. London: Butterworth.

AZJEN, I. 1991. The Theory of Planned Behaviour. *Organisational Behaviour and Human Decision Processes*, 50: 179-211.

ASSADOURIAN, E. 2011. *It's time for Millennium Consumption Goals'. The Center for a New American Dream: More of What Matters*. [Online] Available from: http://blogs.worldwatch.org/transformingcultures/mcgs/ [Accessed: 2012/08/31].

B

BABBIE, E. & MOUTON, J. 2002. *The Practice of Social Research*. South African ed. Cape Town: Oxford University Press.

© University of Pretoria

BAKEWELL, C. & MITCHELL, V.W. 2006. Male and female decision making. *Journal of Business Research*, 59: 1297- 1300.

BANCROFT, M. 1998. *What is consciousness? An overview of various definitions*. California Enspire Press: Enspire Publishing.

BARCLAY, E. 2011. *How that food you throw out is linked to global warming. The Salt: What's on your plate?* [Online] Available from: http://www.npr.org/blogs/thesalt/2011/10/07/141123243/how-that-food-you-throw-out-is-linked-to-global-warming [Accessed: 2012/03/04].

BARNETT, R. 2013. Introduction To Sustainable Behaviour. *Sustain: A Journal of Environmental and Sustainability Issues*, *4*(28): 3-5.

BARR, S. 2004. Are we all environmentalists now? Rhetoric and reality in environmental action. *Geoforum*, 5: 231–249.

BARR, S. & GILG, A. 2006. Sustainable lifestyles: Framing environmental action in and around the home. *Geoforum,* 37**:**906-920.

BELK, R. 1988. Possessions and the Extended Self. *Journal of Consumer Research*, 15:139-168.

BENTLEY, S. 2011. *Who's to blame for supermarket rejection of 'ugly' fruit and vegetables? Ecologist 12.* [Online] Available from: http://www.theecologist.org/News/news_analysis/1174157/ [Accessed: 2012/02/24].

BEN-TZUR, I. & WARD, G. 2009. *Systems approach to reducing waste in the fresh produce supply chain International Symposium Postharvest Pacifica*. [Online] Available from: http://www.actahort.org/books/880/880_13.htm [Accessed: 2010/08/08].

BERGER, G., FLYNN, A., HINES, F. & JOHNS, R. 2001. Ecological Modernization as a Basis for Environmental Policy: Current Environmental Discourse and Policy and the Implications on Environmental Supply Chain Management. *Innovation*, 14(1):55-72.

BERK, R.A. & FOVELL, R.G. 1999. Public perceptions of climate change: A willingness to pay assessment. *Climatic Change*, 41(1): 413-446.

BERNAYS, E. 1930. The Engineering of Consent. *The Annals of the American Academy*, 113-120.

BERNAYS, E. L. 1928. *Propaganda.* New York: Routledge.

© University of Pretoria

BERNHARDT, D., LUI, Q. & SERFES, K. 2007. Product Customization. *European Economic Review*, 51(6):1396–1422.

BIELLO, D. 2013. 400 PPM: Carbon Dioxide in the atmosphere reaches prehistoric levels. Scientific American. Observations. [Online] Available from: https://www.scientificamerican.com/observations [Accessed: 2013/09/21].

BITAN, E. 2008. *Individualism and Environmental Destruction. Celsias*. [Online] Available from: http://www.celsias.com/article/gut-level-interdependence/ [Accessed: 2011/06/014].

BITNER, M.J. 1992. Service scapes: The Impact of Physical Surroundings on Customers and Employees. *Journal of Marketing*, 56:57-71.

BITNER, M.J. 1994. Critical service encounters: the employee's viewpoint. *Journal of Marketing*, 58(1):95-106.

BLACKWELL, R.D., MINIARD, P.W. & ENGEL, J.F. 2006. *Consumer Behaviour*. 3rd ed. Sydney: Thomson.

BLOCH, H., COURVISANOS, J. & MANGANO, M. 2009. *Innovation, Obsolescence and Profit as Drivers of Investment in Australian Manufacturing.* [Online] Available from: http://ssrn.com/abstract=1520855 or http://dx.doi.org/10.2139/ssrn.1520855 [Accessed: 2011/03/07].

BLOOM, J. 2010. *American Wasteland. How America throws away nearly half of its food (and what we can do about it)*. Cambridge: Da Capo Press.

BLOOM, J.D. & HINRICHS, C.C. 2011. Moving local food through conventional food system infrastructure: Value chain framework comparisons and insights. *Renewable Agriculture and Food Systems,* 26:13-23.

BMR (Bureau of Marketing Research). 2012. *Household income and expenditures patterns*. [Online] Available from: http://www.unisa.ac.za/news/index.php/2013/01/household-income-and-expenditure-patterns-bmr-releases-new-stats/ [Accessed: 2012/11/24].

BOCOCK, R. 1997. *Consumption*. London: Routledge.

BOLAANE, B. & ALI, M. 2004. Sampling household waste at source: Lessons learnt in Gaborone. Waste Management. 22(3):142-148

BONINI, S.M., HINTZ, G.M. & MEDONCA, L.T. 2008. Addressing consumer concerns about climate change. The *McKinsey Quarterly: Strategy.* March (1):1-9

BORGMAN, A. 2000. The moral complexion of consumption. *Journal of Consumer Research,* 26:418-422.

© University of Pretoria

BOURNE, L.T., LAMBERT, E.V. & STEYN, K. 2002. Where does the black population of South Africa stand on the nutrition transition? *Public Health Nutrition*, 5(1A):157-162.

BOYKOFF, M.T. & GOODMAN, M.K. 2009. Conspicuous redemption? Reflections on the promise and perils of the 'Celebritization' of climate change. *Geoforum*, 40(3):395-406.

BRADY, M. 2000. *Reality check: the state of e-commerce. E-Commerce Times*. [Online] Available from: www.ecommercetimes.com/perl/story/3738.html [Accessed: 2012/11/20].

BROWN, C. & PITTMAN, B. 2002. *Elmo Roper Papers. Archives & Special Collections at the Thomas J. Dodd Research Center*. [Online] Available from: http://doddcenter.uconn.edu/findaids/Roper/MSS19950050.html#d0e63 [Accessed: 2010/06/23].

BRUNDTLAND, G.H. 1987. Our Common Future. Report of the World Commission on Environment and Development. United Nations. Rome.

BRUVOLL, A., HALVORSEN, B. & NYBORG, K. 2002. Household recycling efforts. *Resources, Conservation and Recycling,* 36:337-354.

BULSARA, C. 2010. Using A Mixed Method Approach to Enhance and Validate your Research. *Brightwater Group Research Centre Management*. Notre Dame University.

BURGESS, J. 2003. Sustainable consumption: is it really achievable? *Consumer Policy Review,* 13:78-84.

BURROWS, D. 2011. Landfill Bans: Handle with Care. *Waste Management World,* 1:22-26.

BURRIS, V. 1988. Reification - A Marxist Perspective. *California Sociologist*, 10(1):22-43.

BUSCH, M. 2008. Adam Smith and consumerism's role in happiness: Modern society re-examined. *Major Themes in Economics,* Spring:65-77.

BUTTEL, F.H. 2000. Classical Theory And Contemporary Environmental Sociology: Some Reflections On The Antecedents And Prospects For Reflective Modernisation Theories In The Study Environment And Society. In: SPAARGAREN, G., MOL, P.J. & BUTTLE, F.H. (eds.) *Environment and Global Modernity.* California: Sage.

BUTTEL, F. H. 2000. Ecological Modernization as social theory. Geoforum, 31:57-65.

© University of Pretoria

C

CADY, K.A. 2009. Labour and women's liberation: Popular Readings of the Feminine Mystique. *Womens' Studies in Communication*, 32(3):348-379.

CAHILL, M. 2001. The implications of consumerism for the transition to a sustainable society. *Social Policy and Administration,* 35:627-639.

CALIF, N. 2001. Consumer speaking their minds. *Fresh Cut*, 2(1):16-19.

CAMPBELL, C. 1987. *The Romantic Ethic and the Spirit of Modern Consumerism.* Oxford: Blackwell.

CAMPBELL, C. 2003. *I shop therefore I know that I am: the metaphysical basis of modern consumerism*. York, University of York: Mimeo.

CAMPBELL, I. 2006. *Discourse Analysis of Sustainable Consumption.* Unpublished doctoral thesis. Karlstad: Karlstad University.

CANT, M. 2010. *Introduction to Retailing*. 2nd ed. Pretoria: Juta.

CAROLAN, M. 2010. Sociological ambivalence and climate change. *Local Environment*, 15(4):309-321.

CARTER, C.R. & CARTER, J.R. 1998. Inter-organizational Determinants of Environmental Purchasing: Initial Evidence from the Consumer Products Industries*. Decision Sciences: Information Systems, Operations & Supply Chain* Management, 29(3):537-764.

CARTER, C.R. 2004. Purchasing and Social Responsibility: A Replication and Extension. *Journal of Supply Chain Management*, 24:4-16.

CASIMIR, G. & DUTILH, C. 2003. Sustainability: A gender studies perspective. *International Journal of Consumer Studies*, 27:316-325.

CHAMBERLAIN, D.M. 2007. A Path Forward or a Dead End? The Western Political Tradition and the Struggle to Accommodate Green Conceptions of Citizenship: A Book Review Essay. *Environmental Practice*, 9(2):136-139.

CHAN, R. & LAU, L. 2000. Antecedents of green purchases: A survey in China. *Journal of Consumer Marketing*, 7: 338-357.

CHARLES, K.K., HURST, E. & ROUSSANOV, N. 2007. *Conspicuous Consumption and Race*. [Online] Available from: http://knowledge-stage.wharton.upenn.edu/papers/1353.pdf [Accessed:2010/05/07].

© University of Pretoria

CHERRIER, H. 2009. Anti-consumption discourses and consumer-resistant identities. *Journal of Business Research,* 62:181-190.

CHIKAZUNGA, D., JOORDAN, D., BIENABE, E. & LOUW, A. 2008. Patterns of restructuring food markets in South Africa: The case of fresh produce supply chains. African Association of Agricultural Economics. Second International Conference, August 20-21, 2007. Accra, Ghana.

CHOO, F. & TAN, K. 2007. 'American Dream' theory of corporate executive Fraud. *Accounting Forum*, 31:203-215.

CHOONG, L.H. 1998. The theory of reasoned action applied to brand loyalty. *Journal of Product & Brand Management*, 7(1):51-61.

CHOPRA, M., WITTEN, C. & DRIMIE, S. 2009. *Combating malnutrition in South Africa, Global alliance for improved nutrition GAIN. Working Paper.*[Online] Available from: http://www.gainhealth.org [Accessed: 2011/06/12].

CHRISTOFF, P. 2006. Post-Kyoto? Post-Bush? Towards an effective 'climate coalition of the willing'. *International Affairs,* 82(5):831-860.

CHUNG, J.E. & PYSARCHIK, D.T. 2000. A model of behavioural intention to buy domestic versus imported products in a Confucian culture. *Marketing Intelligence & Planning*, 18:281-291.

COT (City of Tshwane). 2008. *City of Tshwane household municipality survey.* [Online] Available from: http://www.tshwane.gov.za/AboutTshwane/CityManagement/CityDepartments/City%20Planning,%20Development%20and%20Regional%20Services/Related%20Docs/CoT_HouseholdSurvey2008.pdf [Accessed: 2010/03/06].

COT (City of Tshwane). 2011. *Service delivery and budget plan 2011-2012*. [Online] Available from: http://www.tshwane.gov.za/AboutTshwane/CityManagement/CityDepartments/Financial%20Services/Financial%20Documents/Tshwane%20Budget/SDBIP/SDBIP%202011-2012.pdf [Accessed: 2011/11/20].

CLARK, A.E, FRIJTERS, P. & SHIELDS, M. 2008. Relative Income, Happiness, and Utility. *Journal of Economics*, 95: 115-22.

CLARKE, M. 1999. *Testing the effects of supermarket - based environmental shopping campaigns in changing consumer behaviour in New York*. Unpublished doctoral dissertation. New York: University of New York.

COGOY, M. 1999. The consumer as a social and environmental actor. *Ecological Economics,* 28:385-398.

© University of Pretoria

COHEN, M.A. & VANDENBERGH, M.P. 2008. *Consumption, Happiness, and Climate Change. Resources for the Future. 1-10.* [Online] Available from: http://www.rff.org/RFF/Documents/RFF-DP-08-39.pdf [Accessed: 2010/03/23].

COOK, W.A. 1982. Turning focus groups inside out. *Advances in Consumer Research*, 9:62-64.

CONSLISK, J. 1996. Why Bounded Rationality? *Journal of Economic Literature*, Xxxiv: 669-700.

COSTA, D.L. & KAHN, M.E. 2010. *Energy conservation 'nudges' and environmentalist ideology: evidence from a randomized national bureau of economic research residential electricity field experiment*. [Online] Available from: http://www.nber.org/papers/w15939.pdf?new_window=1 [Accessed: 2011/06/14].

COUTH, R., TROIS, C. & VAUGHAN-JONES, S. 2011. Modelling of greenhouse gas emissions from municipal solid waste disposal in Africa. *International Journal of Greenhouse Gas Control,* 5(6):1443–1145.

COREN, M. 2009. *Growing role for new media foreseen as climate science. Public Opinion Diverge. The Yale Forum. Climate Change and The Media.* [Online] Available from: http://www.yaleclimatemediaforum.org/2009/04/growing-role-for-new-media/ [Accessed: 2012/04/14].

CRAVENS, D. W & HILLS, G.E 1970. Consumerism: A Perspective for Business. *Business Horizons,* 13(4):21-28.

CRAVENS, D.W. & HILLS, G.E. 1973. Consumerism, the eternal triangle. In*:* MURRAY, B.B. (ed.) *Business, Government and Consumers.* California: Pacific Palisades.

CRONIN, J.J. JNR., BRADY, M.K. & HULT, G.T. 2000. Assessing the effect of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, 76:193-218.

CSIKSZENTMIHALYI, M. 2000. Reflexions and Reviews: The cost of consumption. *Journal of Consumer Research,* 27**:**267-277.

D

D'HAESE, M. & VAN HUYLENBROECK, G. 2005. The Rise of Supermarkets and Changing Expenditure Patterns of Poor Rural Households Case Study in the Transkei Area, South Africa. *Food Policy*, 30(1):97-113.

DALY, H.E. 2002. Reconciling the economics of social equity and environmental sustainability. *Population and Environment.* 24(1): 47-53.

DARLEY, W.K. & JOHNSON, D.M. 1993. Cross-National Comparison of Consumer Attitudes Towards Consumerism in Four Developing Countries. *The Journal of Consumer Affairs*, 27:37-54.

© University of Pretoria

DATSCHEFSKI, E. 2002. *The total beauty of sustainable products*. [Online] Available from: http://www.biothinking.com/btintro.htm [Accessed: 2010/05/25].

DE LANGE, A. 1981. A Dynamic input - output model for investigating alternative futures: Applications to the South African Economy. *Technological Forecasting and Social Change*, 18:235-245.

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM (DEAT). 2009a. *Greenhouse Gas Inventory South Africa: 1990-2000*. Pretoria: Government Printer.

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM (DEAT). 2009b. *Strategic plan for the Environmental Sector*. Pretoria: Government Printer.

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM (DEAT). 2010a. *National waste management strategy - First draft for public comments*. Pretoria: Government Printer.

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM (DEAT). 2010b. *National Environmental Compliance and Enforcement Report*. [Online] Available from: https://www.environment.gov.za/sites/default/files/docs/necer2010_11report.pdf [Accessed: 2011/05/22].

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM (DEAT). 2010c. *Strategic plan for the Environmental Sector.* [Online] Available from: https://www.environment.gov.za/sites/default/files/docs/necer2010_11report.pdf [Accessed: 2011/06/23].

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM (DEAT). 2011a. *Environmental Sustainability Indicators*. [Online] Available from: https://www.environment.gov.za/sites/default/files/docs/environmental_sustainability_indicators.pdf [Accessed: 2012/05/23].

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM (DEAT). 2011b. *Greenhouse Gas Inventory South Africa: 1990-2000*. Pretoria: Government Printer.

DEESE, D. 2003. The Cost of Consumerism. *Harvard International Review*, 25:96-97.

DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS (DEFRA). 2006. *Environmental Impacts of Food Production and Consumption 2006*. [Online] Available from: http://www.defra.gov.uk/ [Accessed: 2010/06/23].

DEPARTMENT OF ENERGY & CLIMATE CHANGE (DECC). 2013. Government GHG conversion factors for company reporting: Methodology paper for emission factors. [Online] Available from:

© University of Pretoria

https://www.gove.uk/measuring-and-reporting-environmental-impacts-guidance-for-business. [Accessed:2013/11/13].

DELPORT, C.S.L. 2005. Quantitative data collection methods. In: DE VOS, A.S., STRYDOM, H., FOUCHÉ, C.B. & DELPORT, C.S.L. (eds.) *Research at Grass roots. For the Social Sciences and human service professions*. 3rd ed. Pretoria: Van Schaik.

DESANTIS, A.D. 1998. Selling the American dream to black America : The Chicago *Defender* and the great migration, 1915-1919. *Western Journal of Communication*, 62:474-511.

DIAKANYO, S. 2010. *In defence of conspicuous consumption. The Thought Leader – Mail and Guardian*. [Online] Available from: http://www.thoughtleader.co.za/sentletsediakanyo/2010/12/03/in-defence-of-conspicuous-consumption/ [Accessed: 2011/03/12].

DIKGANG, J., LEHMAN, A. & VISSER, M. 2012. Analysis of the plastic- bag levy in South Africa. Resources, *Conservation & Recycling*, 66:59-65.

DODSON, B. 2000. Are we having fun yet? Leisure and consumption in the post-apartheid city. *Tijdshrift voor Economishe en Sociale Geografie*, 91:412-425.

DOLFMAN, M.L., FORTIER-WASSER, S. & BERGMAN, B. 2007. *The effects of Hurricane Katrina on the New Orleans economy. Monthly Labor Review*. [Online] Available from: http://www.bls.gov/opub/mlr/2007/06/art1full.pdf [Accessed:2012/02/24].

DONCASTER, C.P., JACKSON, A. & WATSON. 2013. *Manipulated into giving: when parasitism drives apparent or incidental altruism. Royal Society.* [Online] Available from: http://rspb.royalsocietypublishing.org/content/280/1758/20130108.short [Accessed: 2013/06/24].

DONOHUE-WHITE, P.D. 1999. Controversy: Does the Free Market Undermine Culture? A Response to D. Eric Schansberg. *Journal of Markets & Morality*, 2(1):132-136.

DORWARD, L.J. 2012. Where are the best opportunities for reducing greenhouse gas emissions in the food system (including the food chain)? A comment. *Food Policy*, 37(4):463-466.

DOS SANTOS, M.A.O. 2011. South Africa Postgraduate consumers' attitude towards global warming. *African Journal of Business Management*, 5(3):4215-4225.

DOS SANTOS, M.A.O. 2012. Investigating consumer knowledge of global warming based on Rodger's knowledge stage of the innovation decision process. *International Journal of Consumer Studies*, 36(4):385-393.

© University of Pretoria

DOUGLAS, M., GASPER, D., NEY, S. & THOMPSON, M. 1998. Human needs and wants. In: RAYNOR, S. & MALONE, E. (eds.) *Human Choice and Climate Change.* Washington DC: Battelle Press.

DUCKHAM, A.N., JONES, J.G.W. & ROBERTS, E. 1976. *The Efficiency of Human Food Chain, and Nutrient Cycles*. Amsterdam: North-Holland.

DWYER, C.A. 2009. *Behavioural Targeting: A Case study of consumer tracking on Levis.com. Pace University.* [Online] Available from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1508496 [Accessed: 2011/04/14].

E

EASTMAN, J.K. & EASTMAN, K.L. 2011. Perceptions of status consumption and the economy. *Journal of Business & Economic Research*, 9(7):9-19.

EDE, F.O. & CALCICH, S.E. 1999. African - American Consumerism: An Exploratory Analysis and Classification. *American Business Review,* 17:113-122.

EDWARDS, E.A. 1993. Development of a new scale for measuring compulsive buying behaviour. *Financial Counselling and Planning*, 4(1993):67-84.

EKINS, P. 1998. From consumption to satisfaction. *Resurgence,* 191:16-19.

ELLISON, G. 2006. *Bounded Rationality in Industrial Organization. CiteseerX.* [Online] Available from: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.132.1380&rep=rep1&type=pdf [Accessed:2010/07/07].

ERASMUS, A.C. 2013. Complexities of the consumer decision-making process. In: Mpinganjira, M. & Dos Santos, M.A.O. (eds.) *Consumer behaviour: Understanding consumer psychology and marketing.* Oxford University Press.

ERASMUS, A.C., DONOGHUE, S. & DOBBELSTEIN, T. 2014. Consumers' perception of the complexity of selected household purchase decisions. Journal of Retailing and Consumer Services, 21:293-305.

EQUAL EDUCATION. 2011. *SA's Education needs your attention people. South African Annual Report 2010 - 2011*. [Online] Available from: http://www.equaleducation.org.za/content/2013/08/08/Equal-Education-Annual-Report-2010-2011.pdf [Accessed:2013/07/07].

© University of Pretoria

F

FAO. 2011. Global Food Losses and Food Waste: Extend, Causes and prevention. Food and Agriculture Organisation of the United Nations (FAO) Rome.

FAO. 2013. Food Wastage Footprint: Impacts on Natural Resources. Technical report. Food and Agricultural Organisation of the United Nations (FAO) Rome.

FAO. 2013. Global hunger down, but millions still chronically hungry. [Online] Available from: https://www.fao.org/news/story/en/item/198105/icode/ [Accessed:2014/05/23]

FERN, E.F. 1983. Focus groups: a review of some contradictory evidence, implications and suggestions for future research. *Advances in Consumer* Research, 10:121-126.

FERNIE, J. 1997. Retail change and retail logistics in the United Kingdom: Past trends and future prospects. *The Service Industries Journal*, 17(3):383-396.

FIRSING, S. 2007. *Disturbing Times: The State of the Planet and Its Possible Future*. Johannesburg: 30° South Publishers.

FISHBEIN, M. & AJZEN, I. 1975. *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

FISHBEIN, M. & AJZEN, I. 1980. *Understanding attitudes and predicting social behaviour.* Englewood Cliffs, NJ: Prentice-Hall.

FISCHLER, A.S. 2012. *Mixed Methods. Nova Southern University – School of Education.* [Online] Available from: http://www.fischlerschool.nova.edu/resources/uploads/app/35/files/ARC_Doc/mixed_methods.pdf [Accessed: 2013/03/14].

FISKE, E.B., & LADD, H.F. 2004. Racial equity in education: How far has South Africa come? [Online] Available from: http://files.eric.ed.gov/fulltext/ED493386.pdf [Accessed: 2013/09/10].

FITCHET, J. 2001. Consumerism as a way of life. *Journal of Consumer Policy,* 24:457-460.

FOLLOWS, S.B. & JOBBER, D. 2000. Environmentally responsible purchase behaviour: a test of a consumer model. European Journal of Marketing. 5(6):723-746

© University of Pretoria

FOUCHÉ, C.B. & DE VOS, A.S. 2005. Problem Formulation. In: DE VOS, A.S., STRYDOM, H., FOUCHÉ, C.B. & DELPORT, C.S.L. (eds.) *Research at Grass roots. For the Social Sciences and human service professions*. 3rd ed. Pretoria: Van Schaik.

FRAYNE, B., BATTERSBY-LENNARD, J., FINCHAM, R. & HAYSOM, G. 2009. Urban Food Security in South Africa: Case study of Cape Town, Msunduzi and Johannesburg. *Development Planning Division. Working Paper Series No.15.* DBSA: Midrand.

FREY, B.S. 1999. Morality and Rationality in Environmental Policy. *Journal of Consumer Policy*, 22:395-417.

FRIJTERS, P. & LEIGH, A. 2008. Materialism on the March: from conspicuous leisure to conspicuous consumption. *The Journal of Socio-Economics,* 37:1937-1945.

FUCHS, D.A. & LOREK, S. 2005. Sustainable consumption governance: a history of promises and failures. *Journal of Consumer Policy,* 28:261-288.

FWRA (Food Waste reduction Alliance), 2014. *Best Practices & Emerging Solutions*: Toolkit. Spring (1):3-23

G

GABRIEL, Y. & LANG, L. 1995. *The unmanageable consumer: Contemporary consumption and its fragmentations*. California: Sage.

GAUNTLETT, D. 2008. *Media, Gender and Identity*. London: Routledge.

GARNETT, T. 2006. Fruit and vegetables and UK greenhouse gas emissions: Exploring the Relationship. Centre for Environmental Strategy. University of Surrey. FCRN.

GARRISON, M.E.B., PIERCE, S.H., MONROE, P.A., SASSER, D.D., SHAFFER, A.C. & BLALOCK, L.B. 1999. Focus group discussions: three examples from family and consumer science research. *Family and Consumer Sciences Research* Journal, 27:428-450.

GARTON, S. 2010. Climate change concerns amongst South Africans remains high. Practical Marketing. [Online] Available from: http://www.practicalmarketing.co.za/climate_change_concerns.html [Accessed: 2014/05/14].

GASPARTOS, A., EL HARAM, M. & HORMER, M. 2008. A critical review of reductionist approaches for assessing the progress towards sustainability. Environmental Impact Association Review. 28 (4):286-311.

© University of Pretoria

GER, G. & BELK, R. W. 1995. Cross-cultural differences in materialism. *Journal of Economic Psychology,* 17:55-77.

GER, G. & BELK, R. W. 1996. I'd Like to buy the world a Coke: Consumptionscapes of the 'Less Affluent World'. *Journal of Consumer Policy,* 19:271-304.

GERBENS-LEENES, P. & NONNHEBEL, S. 2002. Consumption patterns and their effects on land required for food. *Ecological Economics,* 42:185-199.

GERMANER, S. 2013. Black Middle Class Soars. *IOL News.* [Online] Available from: http://www.iol.co.za/news/south-africa/black-middle-class-soars-1.1596790#.U49FGb-D4fF [Accessed: 2014/05/20]

GHORBANSHIROUDI, S., KHALATBARI, J., SALEHI, M., BAHARI, S. & MOJTABA, K. 2011. The Relationship between Emotional Intelligence and Life Satisfaction and Determining their Communication Skill Test Effectiveness. *Journal of Science and Technology*, 4(11):560-1564.

GIACOMO, C. & OLIVIER, J. 1996. Snobs, bandwagons, and the origin of social customs in consumer behaviour. *Journal of Economic Behaviour & Organisation*, 32:333-347.

GIDDENS, A. 1984. *The Constitution of Society: Outline of the theory of structuration*. Cambridgeshire: Polity Press.

GIROD, B. & HAAN, P.D. 2009. GHG reduction potential of change in consumption patterns and higher quality levels: Evidence from Swiss household consumption survey. *Energy Policy,* 37:5650-5661.

GLYNN, S. & BRISTOW, S. 2006. Serving the climate-change-conscious consumer. *Lippincott Mercer:* 1-3.

GORE, A. 2006. *An Inconvenient Truth*. London: Bloomsbury.

GRAAF, J.D., NAYLOR, T.H. & WANN, D. 2001. *Affluenza: the all- consuming epidemic*. San Francisco: Berrett-Koehler.

GREIDER, W. 2009. *The Future of the American Dream*. *The Nation:* 1-2. [Online] Available from: http://www.thenation.com/article/future-american-dream# [Accessed: 2013/11/21].

GRIFFIN, M., BABIN, B. & CHRISTTENSEN, F. 2004. A cross-cultural investigation of the materialism construct. Assessing the Richins and Dawson's materialism scale in Denmark, France and Russia. *Journal of Business Research,* 57:893-900.

© University of Pretoria

GRØNHØJ, A. 2006. Communication about consumption: a family process perspective on 'green' consumer practices. *Journal of Consumer Behaviour*, 5(6):491-503.

GUPTA, S., CZINKOTA, M., & MELEWAR, T. C. 2013. Embedding knowledge and value of a brand into sustainability for differentiation. *Journal of World Business.* [online] Available from: http://dx.doi.org/10.1016/j.jwb.2012.07.013 [accessed: 2013/11/12]

GUNDERS, D. 2012. *Wasted: How America is losing up to 40 per cent of its food from farm to fork. NRDC.* [Online] Available from: http://www.nrdc.org/policy [Accessed: 2013/08/31].

GUSTAFSSON, K., JÖNSON, G., SMITH, D. & SPARKS, L. 2006. *Retailing Logistics and Fresh food packaging, managing change in the supply chain.* USA: Thomson-Shore.

GUSTAVSSON, J., CEDERBERG, C., SONESSON, U., VAN OTTERDIJK & MEYBECK, A. 2011. Global food losses and food waste: Extent, causes and prevention. Study conducted for the International Congress SAVE FOOD! At Interpack 2011. Dusseldorf, Germany. Food and Agricultural Organisation of the United Nations, Rome.

GUSTAVSSON, J. 2011. *Global food losses and food waste. FAO. Rome Italy.* [Online] Available from: www.fao.org/docrep/014/mb060e/mb060e00.pdf [Accessed: 2011/06/23].

H

HAANPÄÄ, L. 2007. Cross-national differences in environmental consciousness. *Futura*, 26(2).

HACKL, F. & PRUCKNER, G.J. 2002. How global is the solution to global warming? *Economic Modelling*, 20:93-117.

HAIGH , C. & VALLELY, B. 2010. *Gender and the Climate Change Agenda: The impacts of climate change on women and public policy. Women's Environmental Network.* [Online] Available from: http://www.wen.org.uk/wp-content/uploads/Gender-and-the-climate-change-agenda-21.pdf. [Accessed: 2010/04.14].

HALL, K.D., GUO, J., DORE, M. & CHOW, C.C. 2009. *The Progressive Increase of Food Waste in America and Its Environmental Impact. Plos One.* [Online] Available from: http://www.plosone.org/article/info:doi/10.1371/journal.pone.0007940 [Accessed: 2011/11/12].

HAMILTON, C. 2010. Consumerism, self-creation and prospects for a new ecological consciousness. *Journal of Cleaner Production*, 18:571-575.

HAMMETT, D. 2010. Reworking and resisting globalising influences: Cape Town hip-hop. *Geo Journal*, 10:1-12.

© University of Pretoria

HANSON, S.L. & ZOGBY, J. 2010. Attitudes about the American Dream Public Opinion. *Quarterly*, 74:570-584.

HARON, L.P. & YAHAYA, N. 2005**.** Towards sustainable consumption: an examination of environmental knowledge among Malaysians. *International Journal of Consumer Studies*, 29(5):426-436.

HARRIS, L.C. & OGBONNA, E. 2001. Competitive advantage in the UK food retailing sector: past, present and future. *Journal of Retailing and Consumer Services*, 8(3):157-173.

HASSON, R., LEIMAN, A. & VISSER, M. 2007. The economics of plastic bag legislation in South Africa. *South African Journal of Economics.* 75 (1): 66-83.

HAWKINS, D.I., BEST, R.J. & CONEY, K.A. 1997. *Consumer Behaviour*. London: McGraw Hill.

HARGREAVES, T. 2011. Practice-ing behaviour change: Applying social practices theory to pro-environmental behaviour change. *Journal of Consumer Culture*. 11(1):79-99

HERTEL, T., BURKE, M.B. & LOBELL, D.B. 2010. The poverty implications of climate-induced crop yield changes by 2030. *Global Environmental Change.* 20(4): 577-585.

HENDON, D.W. 1975. Toward a theory of consumerism. *Journal of Marketing*, 18(4):46-54.

HOLZER, B. 2006. Political consumerism between individual choice and collective action: social movements, role mobilization and signalling. *International Journal of Consumer Studies,* 30:405-415.

HEATH, M.T.P. & CHATZIDAKIS, A. 2011. Blame it on marketing: consumers' views on unsustainable consumption. *International Journal of Consumer Studies*, 36:656-667.

HOLGATE, C. 2007. Factors and actors in climate change mitigation: a tale of two South African Cities. Local Environment: the International. *Journal of Justice and Sustainability*. 12 (5):471 - 484

HOPE, C. 2005. The climate change benefits of reducing methane Emissions. *Climate Change*, 68(1):21-39.

HOWELL, R.A. 2011. Lights, camera . . . action? Altered attitudes and behaviour in response to the climate change film The Age of Stupid. *Global Environmental Change*, 21(1):177-187.

HUANG, J.J., HUANG, M.Y. & SYU, F.K. 2010. Liberated anomie in generation next: Hyper individualism, Extreme consumerism, and social isolation. *Journal of Health Sciences,* 2(2):41-47.

HUBER, J. 2008. Pioneer countries and the global diffusion of environmental innovations: Theses from the viewpoint of Ecological Modernisation Theory. *Global Environmental Change*, 18(3):360-367.

© University of Pretoria

HULSE, J.H. 1993. Agriculture, Food and the Environment. *Food Research International*, 26:455-469.

HUME, M. 2010. Compassion without action: Examining the young consumers' consumption and attitudes to sustainable consumption. *Journal of World Business*, 45:385-384.

HUXLEY, A. 1989. Consumers and consumerism. *Nutritional Bulletin*, 14:75-76.

I

ITC – Report. 2012. *Sustainability Report – For all Tomorrows*. [Online] Available from: http://www.itcportal.com/sustainability/sustainability-report-2012/sustainability-report-2012.pdf [Accessed: 2012/11/21].

INTERNATIONAL MARKETS BUREAU (IMB). 2012. *Global consumer trends: Age Demographics. Agriculture and Agri-Food. International Markets Bureau: 1-21.* [Online] Available from: http://www.imb.org [Accessed: 2013/11/12].

INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT (IISD). 2010. *The sustainable development timeline. 6th ed.* [Online] Available from: www.iisd.org/ [Accessed: 2012/05/28].

ALL THINGS HEALING (ATH). 2012. *Introducing conscious consumerism*. [Online] Available from: http://www.allthingshealing.com/consumerism-articles-videos.php [Accessed: 2012/04/12].

INTERNATIONAL UNION FOR CONSERVATION OF NATURE (IUCN). 2007. *Gender and climate change: Women as agents of change. Climate change briefing.* [Online] Available from: http://www.iucn.org [Accessed: 2012/04/24].

J

JACKSON, T. 2005a. Motivating Sustainable Consumption: *A review of evidence on Consumer behavior and behavioural change. Centre for Environmental Strategy. University of Surrey.* [Online] Available from: http://hiveideas.com/attachments/044_motivatingscfinal_000.pdf [Accessed: 2011/12/12].

JACKSON, T. 2005b. Live better by consuming less? Is there a "double dividend" in sustainable consumption. *Journal of Industrial Ecology*, 9(1-2):19-36.

JACOBY, J. & STERN, L. 2000. *Is it rational to assume consumer rationality? Some consumer psychological perspectives on rational choice theory*. [Online] Available from: https://papers.ssm.com/paper.taf?abstract_id=239538. [Accessed: 2011/11/12].

© University of Pretoria

JACOBY, J. 2000. Is it Rational to Assume Consumer Rationality? Some consumer psychological perspectives on Rational Choice Theory. *Roger Williams University Law Review*, 6(1):81-161.

JACOBY, J. & SABLEMAN, M. 2007. Keyword-Based Advertising: Filling in Factual Voids (GEICO v. Google). *The Trademark Reporter*, 97(3):681-731.

JEDLICKA. W. 2009. Packaging Sustainability: Tools, Systems and Strategies for Innovative Package Design. New Jersey.Wiley.

JOBBER, D. 2010. *Principles and Practice of Marketing*. 6th ed. London: McGraw Hill.

JONES, K & LEONARD, L.N. 2009. From tacit knowledge to organisational knowledge. *Knowledge Management and Organisational Learning:* 27-39.

JONES, P., HILLIER, D., COMFORT, D. & EASTWOOD, I. 2005. Sustainable Retailing and Consumerism. *Management Research News*, 28:34-44.

JONES, M.R. & KARSTEN, H. 2008. Giddens' structuration theory and information systems research. *MIS Quarterly.* 32(1):127-157.

JIN, B. & SUH, Y.G. 2005. Integrating effect of consumer perception factors in predicting private brand purchase in a Korean discount store context. *Journal of Consumer Marketing*, 22(2):62-71.

K

KAHN, B.E. & MCALISTER, L. 1997. *Grocery revolution: the new focus on the consumer*. Reading, MA: Addison-Wesley.

KAISER, F.G., WO'LFING, S. & FUHRER, U. 1999. Environmental attitude and ecological behaviour. *Journal of Environmental Psychology,* 19:1-19.

KAISER, F.G., DOKA, G., PATRICK, H. & RANNEY, M.A. 2003. Ecological behaviour and its environmental consequences: a life style assessment of a self-report measure. *Journal of Environmental Psychology*, 23:11-20.

KALAFATIS, S.P., POLLARD, M., EAST, R. & TSOGAS, M.H. 1999. Green marketing and Ajzen's theory of planned behaviour: a cross-market examination. *Journal of Consumer Marketing,* 16:441-460.

KALLIS, G., SCHNEIDER, F. & MARTINEZ- ALIER, J. 2010. Growth recession or degrowth for sustainability and equity? *Journal of Cleaner Production*, 18(6):511-606.

© University of Pretoria

KAMINSKI, J. 2011. Theory applied to informatics – Lewin's Change Theory. *Canadian Journal of Nursing Informatics, 6*(1): 1210.

KAMP, D. 2009. Rethinking the American Dream. *Vanity Fair*, April: 1-17.

KAPTEIN, M. & ECKLES, D. 2010. Selecting Effective Means to Any End: Futures and Ethics of Persuasion Profiling. *Persuasive Technology*, 6137:82-93.

KASPERSEN, L.B. 2000. *Anthony Giddens: an introduction to a social theorist.* Malden, MA: Blackwell Publishers Inc.

KATROS, V. 2000. A Note on Internet Technologies and Retail Industry Trends. *Technology in Society*, 22(1):75-81.

KATZER, J. 1982. *Evaluating Information: A Guide for Users of Social Sciences Research.* London: Addison – Wesley.

KEIM, K.S., SWANSON, M.A., CANN, S.E. & SALINAS, A. 1999. Focus group methodology: Adapting the process for low-income adults and children of Hispanic and Caucasian ethnicity. *Family Consumer Sciences Research Journal*, 27(4):451-465.

KEMP, K., INSCH, A., HOLDSWORTH, D.K. & KNIGHT, J.G. 2010. Food miles: Do UK consumers actually care? *Food Policy*, *35*(6):504-513.

KENNEDY, E.M. 2011. *Reclaiming Consumption: Sustainability, Social Networks and Urban Context. Department of Rural Economy. University of Alberta. Canada.* [Online] Available from: https://era.library.ualberta.ca/public/view/item/uuid:ec268c7c-c513-4d22-beb5-12cb969ff971 [Accessed: 2012/04/14].

KERKHOF, A.C., NONHEBEL, S. & MOLL, H.C. 2009. Relating the environmental impact of consumption to household expenditures: An input-output analysis. *Ecological Economics*, 68(4):1160-1170.

KILBOURNE, W. & PICKETT, G. 2008. How materialism affects environmental beliefs, concern, and environmentally responsible behavior. *Journal of Business Research,* 61:885-893.

KILSHEIMER, J.C. 1993. *Status consumption: The development and status implications of a scale measuring motivation to consume for status.* Unpublished doctoral dissertation. Florida: Florida State University.

© University of Pretoria

KIMANI, E. & KOMBO, K. 2010. *Challenges facing nuclear families with absent fathers. The African Symposium : An Online Journal of the African Educational Research Network.* [Online] Available from: http://www.ncsu.edu/aern/TAS10.2/TAS10.2.pdf#page=13 [Accessed:2013/05/15].

KIRSTER, J. & ABDULRAHMEN, M. 2008. The impact of market power and dominance of supermarkets on agricultural producers in South Africa. A Case study of the South African dairy industry. National Agricultural Marketing Council.

KLEANTHOUS, A. PECK, J. 2006. Let them eat cake: Satisfying the new consumer appetite for responsible brands. WWF Report. [Online] Available from: https://www.wwf.org.uk/filelibrary/pdf/let_them_eat_cake_abridged.pdf. [Accessed: 2014/05/23].

KOENIGSTORFER, J. GROEPPEL-KLEIN, A. AND KAMM, F. 2013 Healthy Food Decision-Making in Response to Traffic Light Color-Coded Nutrition Labelling. *Journal of Public Policy & Marketing,* In-press. [Online] Avaliable from: http://journals.ama.org/doi/abs/10.1509/jppm.12.091 [Accessed: 2013/12/03].

KOERNER, B. 2007. The Other Greenhouse Gases. *Slate Magazine*, 27 November*:* 1.

KONG, N., SALZMANN, O., STEGER, U. & IONESCU-SOMERS, A. 2002. Moving business/industry towards sustainable consumption: the role of NGO's. *European Management Journal*, 20:109-127.

KOTZAB, H. & TELLER, C. 2005. Development and empirical test of a grocery retail in-store logistics model. *BRITISH FOOD JOURNAL*, 107(8):594-605.

KOTLER, P. *2011*. Reinventing Marketing to Manage the Environmental Imperative. *Journal of Marketing:* 75(4): 132-135.

L

LABADARIOS, D., SWART, R., MAUNDER, E.M.W., KRUGER, H.S. & GERICKE, G.J. 2008. Executive summary of the National Food Consumption Survey Fortification Baseline. *South African Journal of Clinical Nutrition,* 21(2):245-300.

LAFFERTY, W.M. 1994. *Research and information for alternative patterns of production and consumption.* [Online] Available from: htpp://www.iisd.ca/linkages/consume/lafferty.html. [Accessed: 2011/11/12].

LAKHANI, M. 2007. Why a Zero Waste Energy Approach is the Only Sustainable Energy Future. *Synthesis/Regeneration: A Magazine of Green Social thought*, 44(10):20.

© University of Pretoria

LALLANILLA. M. 2013. What are greenhouse gases? Live Science. [Online] Available from: https://livescience.com/37821-greenhouse_gases.html

LAMBIN, E.F. 2005. Conditions for sustainability of human environment systems: information, motivation and capacity. *Global Environmental Change,* 15:177-180.

LANE, R. 2000. The Loss of Happiness in Market Democracies. *Miami Herald*, 28 May.

LAROCHE, L.H. 1987. *The effect of economy on the institution of the family*. [Online] Available from: http://www.holysmoke.org/wb/wb0103.htm [Accessed: 2013/11/21].

LAUTMAN, M.R. 1982. Focus Groups: Theory and method. *Advances in Consumer Research*, 9:52-56.

LE ROUX, M. 2007. Our Continent Will Suffer. *Daily News*, 10: 1-7.

LEE, M., PANT, A. & ALI, A. 2009. Does the Individualist Consume More? The Interplay of Ethics and Beliefs that Governs Consumerism across Cultures*. Journal of Business Ethics*, 93:567-581.

LENS, I., DRIESMANS, K., PANDELAERE, M. & JANSSENS, K. 2012. Would male conspicuous consumption capture the female eye. *Journal of Experimental Social Psychology*, 48(1):346-349.

LEISEROWITZ, A., SMITH, N. & MARLON, J. 2010. Americans' Knowledge of Climate Change. *Yale Project on Climate Change Communication*. New Haven: Yale University.

LEONG, S.M., HOON, S. & LIN, L.H. 1997. Effects of physical environment and locus of control on service evaluation: A replication and extension. *Journal of Retailing and Consumer Services*, 4(4):231-237.

LERTWANNAWIT, A. & MANDHACHITARA, R. 2012. Interpersonal effects on fashion consciousness and status consumption moderated by materialism in metropolitan men. *Journal of Business Research,* 65:1408-1416.

LETETE, T., GUMA, M. & MARQUARD, A. 2010. Information on climate change in South Africa: greenhouse gas emissions and mitigation options. *Energy research centre*. Cape Town: University of Cape Town.

LI, M. 2009. Capitalism, climate change and the transition to Sustainability: Alternative Scenarios for the US, China and the World. *Development and Change,* 40:1039-1061.

LILLFORD, P.J. 2008. Food supply chains: recent growth in global activity. *Innovation: Management, Policy & Practice,* 10:29-39.

LINCOLN, Y.S. & GUBA, E.G. 1985. *Naturalistic inquiry.* Beverly Hills, CA: Sage.

© University of Pretoria

LIZARDO, O. 2010. Beyond the antinomies of structure: Levi-Strauss, Giddens, Bourdieu and Sewell. *Theory and Society*, 39:651-688.

LEAR, J. 1988. Aristotle the desire to understand. Cambridge. University Press.

LÉVI-STRAUSS, C. 1963. Social structure. *In Structural anthropology* : 277–323. New York: Basic Books.

LÉVI-STRAUSS, C. 1963, 1967. *Structural Anthropology*. New York: Doubleday Anchor Books.

LEVINE, S.P. & FELDMAN, R.S. 1997. Self-presentational goals, self-monitoring, and nonverbal behavior. *Basic and Applied Social Psychology*, 1:505-518.

LEWIN, K. 1951. Field theory in social science: Selected theoretical papers. New York: Harper & Row.

LOMBARD, A. & WEYERS, M.L. 1991. *Gemeenskapswerk en Gemeenskapsontwikkeling – Perspektiewe op Mensontwikkeling.* Pretoria: HAUM.

LOMBARDO, T. 2007. Consumerism and the 'good life'. Odessey of the Future. [Online] Available from: http://www.centerforfutureconsciousness.com/pdf_files/2010_Preso/ConsumerismGoodLife.pdf [Accessed: 2013/07/09].

LOMBARDO, R. & D' ORIO, G. 2012. Corporate and State Social Responsibility: A Long Term Perspective. *Modern Economy*, 3(1):91-99.

LUKACS, G. 1971. *History and Class Consciousness: Studies in Marxist Dialectics.* Trans Rodney Livingstone. Cambridge: the MIT Press.

M

MACKEY, J. 2007. *Conscious Capitalism: Creating a new paradigm for business. Whole Foods Market*. [Online] Available from: http://www.wholeplanetfoundation.org/files/uploaded/John_Mackey-Conscious_Capitalism.pdf [Accessed: 2011/06/17].

MADEVU, H., LOUW, A. & KIRSTEN J. 2007. Mapping the competitive food chain for fresh produce retailers in Tshwane, South Africa. Paper presented at the Seventeenth Annual World Symposium for the International Food & Agribusiness Management Association (IFAMA) Parma, Italy, June 23-24.

MADEVU, H., LOUW, A. & NDANGA, L. 2009. *Mapping the competitive food chain for fresh produce retailers in Tshwane, South Africa. Contributed Paper prepared for presentation at the International Association of*

© University of Pretoria

Agricultural Economists Conference, Beijing, China, 16-22. [Online] Available from: http://ageconsearch.umn.edu/bitstream/51555/2/Mapping%20FP%20retailing_IAAE.09.pdf [Accessed: 2011/11/12].

MADZWAMUSE, M. & BENJAMIN, G. 2010. *Adaptation strategies and Institutions*. Climate Governance in Africa Cape Town. Heinrich Böll Stiftung.

MADZWAMUSE, M. 2014. *Climate change vulnerability and adaptation preparedness in South Africa.* [Online] Available from: http://za.boell.org/2014/02/03/climate-change-vulnerability-and-adaptation-preparedness-southern-africa [Accessed: 15/05/2014].

MAKWIRAMITI, A.M. 2011. *In the name of economic empowerment: A case for South Africa and Zimbabwe.* [Online] Available from: http://www.polity.org.za/article/in-the-name-of-economic-empowerment-a-case-for-south-africa-and-zimbabwe-2011-02-24 [Accessed: 2013/02/12].

MANN, M.E. 2009. *Do Global warming and climate change represent a serious threat to our welfare and environment. Social Philosophy & Policy Foundation. 193 -230*. [Online] Available from: http://www.meteo.psu.edu/holocene/public_html/shared/articles/MannSocialPhilos09.pdf [Accessed: 2011/11/21].

MANOLIS, C. & ROBERTS, J.A. 2008. Compulsive buying: does it matter how its measured? *Journal of Economic Psychology,* 29:555-576.

MARSHAK, M. 2012. *Systems in Transition: From Waste to Resource. A Study of Supermarket food waste in Cape Town. University of Cape Town.* [Online] Available from: http://srvrhldig001.uct.ac.za/R/?func=dbin-jump-full&object_id=88582 [Accessed:2013/03/13].

MARX, K. 1990 (1844). Capital: A Critique of Political Economy. Trans. Ben Fowkes. New York: Penguin

MATETE, N. & TROIS, C. 2008. Towards zero waste in emerging countries – a South African experience. *Waste Management.* 28 (8):1480-1492.

MAXWELL, D., WEBB, P., COATES, J. & WIRTH, J. 2010. Fit for Purpose? Rethinking Food Security Responses in Humanitarian Crises. *Food Policy*, 35(2):91-97.

MAYNES, E.S. 1990. The Future of Consumerism. *At home with Consumers,* 11(4):6-10.

MAYER, F.S. & FRANTZ, C. The connectedness to nature scale: A measure of individuals' feeling in community with nature. *Journal of Environmental Psychology*, 24(2004):503-515.

© University of Pretoria

MAZZOCCHI, M. 2008. *Statistics for Marketing and Consumer Research*. London: Sage Publications.

MCDANIEL, C. & GATES, R. 2005. *Marketing research*. Hoboken, NJ: Wiley.

MCGREGOR, S.L.T. 1998. Towards adopting a global perspective in the field of consumer studies. Journal of Consumer Studies and Home Economics 22 (2):111-119

MCGREGOR, S.L.T. 1999. Globalizing consumer education: Shifting from individual consumer rights to collective human responsibilities. Paper presented at the Nineteenth International Consumer Studies and Home Economics Research Conference, Belfast, Northern Ireland, University of Ulster, 1999.

MCGREGOR, S.L.T. 2000. Globalising consumer education: shifting from individual consumer rights to collective human responsibilities. *Journal of Consumer Studies,* 29:437-447.

MCGREGOR, S.L.T. 2002. Consumer Citizenship: A Pathway to Sustainable Development? Paper presented at the International Conference on Developing Consumer Citizenship, Hamar, Norway, 2002.

MCGREGOR, S.L.T. 2005. Sustainable consumer empowerment through critical consumer education: a typology of consumer education approaches. *International Journal of Consumer Studies,* 29:437-447.

MCGREGOR, S.L.T. 2006. Reconceptualizing risk perception: perceiving Majority World Citizens at risk from 'Northen' consumption. *International Journal of Consumer Studies*, 30:235-246.

MCGREGOR, S.L.T 2008. Conceptualizing immoral and unethical consumption using neutralizing theory. *Journal of Family and Consumer Sciences Research*, 36:261-276.

MCGREGOR, S.L.T. 2009. Reorienting consumer education using social learning theory: sustainable development via authentic consumer pedagogy. *International Journal of Consumer Studies*, 33(3):258-266.

MCILHENNY, J.H. 1990. The New Consumerism: How will Business Respond. *At Home With Consumers*, 11(4):5-10.

MCLEOD, S.A. 2008. *Id Ego Superego - Simply Psychology.* [Online] Available from: http://www.simplypsychology.org/psyche.html [Accessed: 2011/11/21].

MDA, T. 2011. *The structure and entrenchment of disadvantage in South Africa. Human Sciences Research Council South Africa.* [Online] Available from: http://books.publishing.monash.edu/apps/bookworm/view/Closing+the+Gap+in+Education%3F/55/xhtml/part02chapter02.html [Accessed: 2013/06/23].

© University of Pretoria

MEDENI, T.D. 2007. Tacit –Explicit and Specific-General Knowledge Interactions in CoPs. J*apanese Advanced Institute of Science and Technology* (*JAIST).* 1-15.

MILLER, D. 2005. *Acknowledging Consumption*. Routledge: London.

MINTON, A.P. & ROSE, R.L. 1997. The effects of environmental concern on environmentally friendly consumer behavior: An exploratory study. *Journal of Business Research*, 40:37.

MOL, A.P.J. & SPAARGAREN, G. 2000. Ecological Modernisation Theory in Debate: A Review. *Environmental Politics*, *9(1):*17-49.

MONAGHAN, P. & LLOYD, R. 2007. *Consumer Education on climate change 'failing'*. [Online] Available from: http://www.justfood.com. [Accessed: 2011/10/13].

MONBIOT, G., LYNAS, M., MARSHALL, G., JUNIPER, T. & TINDALE, S. 2005. Time to speak up for climate-change science: If debate is left to greens and skeptics', people think the evidence is equal on each side. *Nature:* 434 - 559.

MOODY, D. 2002. *Empirical research methods. NTNU. Monash University. Melbourne, Australia*. [Online] Available from: http://www.itu.dk/~oladjones/semester%203/advanced%20it%20mgt%20and%20software%20engineering/project/materials/what%20is%20empirical%20research1.pdf [Accessed: 2009/03/12].

MORALES, P.E. 2010. Capitalism is root cause of climate change Tiquipaya Bolivia: *Worlds Peoples Climate Change Summit.* [Online] Available from http://www.foei.org/en/what-we-do/capitalism-is-the-root-cause-of-cliamte-change [Accessed: 2013/09/12]

MORGAN, J. 2003. Citizenship, consumerism, and the pursuit of excellence. *Technology in Society*, 25:55-64.

MORRISON, D. 2001. Technology Push and Customer Pull: The Wireless Internet Comes of Age. Presentation at McMaster University, Goldman Sachs Research.

MOSHMAN, D. & FRANKS, B.A. 1986. Development of concepts of inferential validity. *Child Development*, 57(1): 153-165.

MOTAVALLI, J.E. 1996. ENOUGH! Americans are the world's consumption champs, and our frenzied work-till-you-drop, buy-till-you-pass-out culture is placing a heavy burden on the global environment. But now some people are opting out and 'downshifting' their way to a simpler, less wasteful life. *The Environmental Magazine*, 7(2):28-34.

© University of Pretoria

MOUTON, J. & MARAIS, H.C. 1990. *Basiese begrippe: metodologie van die geesteswetenskappe*. Pretoria: RGN.

MOUTON, J. 1996. *Understanding social research.* Pretoria: Van Schaik.

MULHERN, F.J. 1996. Retail marketing: from distribution to integration. *International Journal of Research in Marketing*, 14(2):103-124.

MURPHY, J. 2001. *Ecological modernisation: The Environment and the transformation of Society.* OCEES Research Paper, University of Oxford.

MUSTER, V. 2012. Negative influences of working life on sustainable consumption. Interantional Journal of Consuemr Studies. 36(2):166-172.

N

NAESS, P. 2006. Unsustainable growth, unsustainable capitalism. *Journal of Critical Realism,* 5(2):197-221.

NAHMAN, A. & OELOFSE, S.H.H. 2012. Estimating the magnitude of food waste generated in South Africa. Waste Management and Research. *CSIR.*

NAHMAN, A., DE LANGE, W., OELOFSE, S.H.H. & GODFREY, L. 2012. The cost of household food waste in South Africa. *Waste Management*, 32(11):2147-2153.

NAIR, C. 2011. Consumptionomics: Asia's role in reshaping capitalism and saving the planet. *Interantional Journal of Environmental Studies*, 69(3):542-545 [Accessed: June 2012].

NAYAK, P.K. 2011. *Change and Marginalisation: Livelihoods, Commons Institutions and Environmental Justice in Chilika Lagoon, India*. Unpublished doctoral dissertation. Canada: University of Manitoba.

NDANGA, L.Z.B, LOUW, A., & VAN ROOYEN, J. 2008. *Increasing domestic consumption of South African wines: Exploring the market potential of the Black Diamonds. American Association of Wine Economists*. [Online] Available from: http://www.wine-economics.org/workingpapers/AAWE_WP41.pdf [Accessed: 2012/07/07].

NEUMANN, R. 2000. The causal influences of attributions on emotions: a procedural priming approach. *Psychological Science*, 11(3):179-182.

NEWELL, S.J. & GREEN, C.L. 1997. Racial differences in consumer environmental concern. *The Journal of Consumer Affairs*, 31(1):53-59.

© University of Pretoria

NEWS24. 2013. *SAA Air Chefs Dumb Food*. [Online] Available from: http://www.timeslive.co.za/local/2013/01/27/saa-air-chefs-dumps-food-report [Accessed: 2013/02/13].

NIEFTAGODIEN, S. & VAN DER BERG, S. 2007. *Consumptions patterns and the black middle class: The role of assets.* Stellenbosch Economic Working Paper 2/2007. Department of Economics & Bureau for Economic Research, University of Stellenbosch.

NIKOLS, F. 2010. *The Knowledge in Knowledge Management. Distance Consulting LLC*. [Online] Available from: www.nickols.us [Accessed: 2012/03/23].

NICHOLSON, C. & YOUNG, B. 2012. The relationship between supermarkets and suppliers: What are the implications for consumers? Consumers International. [Online] Available from: http://www.consumersinternational.org/media/1035301/consumer%20detriment%20briefing%20paper%20sept2012.pdf [Accessed: 2013/05/14]

NONAKA, I. & TAKEUCHI, H. 1995. *The Knowledge creating company: How Japanese Companies Create the Dynamics of Innovation.* London: Oxford University Press.

NONAKA, I. 1991. *The Knowledge creating company.* Boston: Havard Business School Press.

NONAKA, I,. TOYAMA, R. & BYOSIERE, P. 2003. *A Theory of Organizational Knowledge Creation: Understanding the Dynamic Process of creating Knowledge. Handbook of Organisational Learning and Knowledge*. Oxford: Oxford University Press: 491-517.

NOTTEN, P., BOLE-RENTEL, T. & RAMBARAN. 2014. Developing an understanding of the energy implications of wasted food and waste disposal. *Understanding the Food Energy Water Nexus.* WWF-SA, South Africa.

NTULI, M.F & PILUSA, T.J. 2012.Waste Management, Strategies and Situation in South Africa: An Overview Edison World Academy of Science. Engineering and Technology, 68:149-152.

O

O'CASS, A. & MCEWEN, H. 2006. Exploring consumer status and conspicuous consumption. *Journal of Consumer Behaviour*, 4(1):25-39.

O'CONNOR, R.E., BORD, R.J. & FISHER, A. 1999. Risk Perceptions, general environmental beliefs and willingness to address climate change. *Risk Anal*, 19:461-471.

O'LOUGHLIN, S. 2007. The wearin'o' green. *Brand Week, 48*:26-27.

© University of Pretoria

OAKLEY, I., MONCHU, C. & NISI, V. 2008. *Motivating sustainable behaviour. University of Madeira.* [Online] Available from: http://www.whereveriam.org/work/UMa/MotivatingSustainableBehaviour_Oakley_Nisi_Chen_v1.2.pdf [Accessed: 2011/10/14].

ODHIAMBO, N.M. 2011. Economic Growth and Carbon Emissions in South Africa: an Empirical Investigation South Africa. *South Africa International Business & Economics Research Journal*, 10(7):75-84.

ODHIAMBO, N.M. 2011. Growth, Employment and Poverty in South Africa: In Search of a 'Trickle-Down Effect'. *Journal of Income Distribution,* 20(1):49-62.

OELOFSE, S.H.H. & GODFREY, L. 2009. Towards improved waste management services by local government – A waste governance perspective. *CSIR*. Annual report.

OELOFSE, S.H.H. & STRYDOM. W. 2010. Trigger to recycling in a developing country: in the absence of command and control instruments. Waste and Resource Management: Putting Strategy into Practice, Stratford-upon-Avon, Warwickshire, England, 28-29 September 2010, pp 355-364

OELOFSE, S.H.H., NAHMAN, A. & DE LANGE, W. 2013. The Magnitude and cost of food waste in South Africa. *Natural Resources and the Environment: Briefing Note.* CSIR.

O'HALLORAN, S. 2013. Food Waste reduction, trust building top trends for 2014. Food Engineering. [online] Available from: http://www.foodengineeringmag.co/articles/91571-food-waste-reduction-trust-building-top-trends-for-2014. [Accessed: 2013/11/25].

O'KEEFFE, M. & FEARNE, A. 2002. Insight from industry: From commodity marketing to category management. *Supply Chain Management: An International Journal*, 7:296-301.

O'NEILL, S.J. & BOYKOFF, M. 2010. Climate denier, skeptic, or contrarian*? Proceedings of the National Academy of Sciences of the USA*, 107(39):151.

OLIVER, H., VOLSCHENK, H. & SMIT, E. 2011. Consumer attitudes toward paying a premimium for green electricity. *Agenda*, 1(1):30-33. [Online] Available from: http://www.usb.ac.za/Media/thoughtleadership/leaderslab/30_Leaders_Lab.pdf [Accessed: 2013/03/12].

OLSON, D.L. & WILEY, P. 2006. Benefits, Consumerism and an 'Ownership Society'. *Benefits Quarterly*, 22:7-14.

OPARA, L. 2007. Bruise susceptibilities of gala apples as affected by orchard management practices and harvest dates. *Post Harvest Technology*, 43:47-54.

© University of Pretoria

O'SHAUGNESSY, J. & O'SHAUGNESSY, N.J. 2002. Marketing, the consumer society and hedonism. *European Journal of Marketing*, 36:524-547.

OTT, K. 2004. The Case for Strong sustainability. *Environmental Ethics,* 59-64.

OTT, K. 2003. The case for strong sustainability. In: OTT, K., & THAPA, P. (eds.) *Greifswald's Environmental* Ethics. Germany: Greifswald.

OXFAM. 2013. *Oxfam reaction to 2013 Intergovernmental panel on climate change report.* [Online] Available from: http://www.oxfam.org/en/grow/pressroom/reactions/oxfam-reaction-2013-intergovernmental-panel-climate-change-report [Accessed: 2013/03/15].

P

PAAVOLA, J. 2001. Economics, Ethics and Green Consumerism Exploring Sustainable Consumption. *Environmental Policy and the Social Sciences*, 1:79-94.

PARISER, E. 2011. *The Filter Bubble: What the Internet is Hiding from You*. New York, NY*:* Penguin Press.

PARKIN, K. 2004. *The Sex of Food and Ernest Dichter: The Illusion of Inevitability. Advertising & Society Review: 1-12.* [Online] Available from: http://muse.jhu.edu/journals/asr/v005/5.2parkin.html [Accessed: 2011/10/24].

PATCHEN, M. 2006. *Public attitudes and behaviour about climate change: what shapes them and how to influence them. Purdue Climate Change Research Center.* [Online] Available from: http://www.purdue.edu/discoverypark/climate/assets/pdfs/Patchen%20OP0601.pdf [Accessed: 2012/10/14].

PATENAUDE, G. 2011. Climate change diffusion: While the world tips, business schools lag. *Global Environmental Change*, 21(1):259-271.

PETERS, G.P. & HERTWICH, E.G. 2008. Post Kyoto greenhouse gas inventories: Production versus consumption. *Climatic Change*. 86(1-2):51-66

PICK N PAY ONLINE. 2012. *Goodness*. [Online] Available from: http://www.picknpay.co.za/goodness/web/ [Accessed: 2012/10/13].

PEATTIE, K. 2001. Towards sustainability: the third age of green marketing. *The Marketing Review*, 2(2001): 129-146.

PEATTIE, K. 2001. Golden Goose or Wild Goose? The Hunt for the Green Consumer. *Business Strategy and Environment*, 10(2001):187.

© University of Pretoria

PEATTIE, K. & PEATTIE, S. 2009. Social marketing: A pathway to consumption reduction? *Journal of Business Research*, 62(2):260-268.

PHIPPS, E.J., STITES, S.D., WALLACE, S.L. & BRAITMAN, L.E. 2013. The Use of Financial incentives to increase fresh fruit and vegetable purchases in Lower-Income Households: Results of a Pilot study. *Journal of Health Care for the Poor and Underserved*, 24(2):864-874.

PLUG, C., LOUW, D.A., GOUWS, L.A. & MEYER, W.F.1997. *Psigologiese Woordeboek.* Johannesburg: Mc Graw Hill.

POLANYI, M. 1997. Tacit knowledge. In: PRUSAK, L. (ed.) *Knowledge in Organisations*. Boston: Butterworth-Heinemann.

POORTINGA, W., SPENCE, A., WHITMARSH, L., CAPSTICK, S. & PIDGEON, N.F. 2011. Uncertain Climate: An investigation into public scepticism about anthropogenic climate change. *Global Environmental Change*, 21(3): 1015-1024.

PORRIT, J. 2007. *Consumerism – Big Ideas*. [Online] Available from: http://www.mymultiplesclerosis.co.uk/big-ideas/consumerism.html. [Accessed: 2011/11/24].

PORTER, C. & BOGUSKY, A. 2010*. The 21st Century Consumer Bill of Rights. All Caps. 1-4*. [Online] Available from: http://alexbogusky.tumblr.com/post/44711580880/the-21st-century-consumer-bill-of-rights [Accessed: 2011/11/24].

POSNER, M. & SNYDER, C. 1975. Facilitation and inhibition in the processing of signals. In: RABBIT, P. & DORNIC, S (eds.) *Attention and performance*. London: Academic Press.

POWER, K. & MONT, O. 2010. The Role of Formal and Informal Forces in Shaping Consumption and Implications for Sustainable Society: Part II. *Sustainability*, 2:2573-2592.

PRETORIUS, R., HART, L., MAMPYE, A. & MADADZHE, N. 2009. Environmental Sustainability Indicators. *AFFAIRS*, Pretoria: DEAT.

PRICEWATERHOUSE COOPERS (PWC) & ECONOMIST INTELLIGENCE UNIT. 2012. South African retail and consumer products outlook 2012-2016. [Online] Available from: http://www.pwc.co.za/en/publications/retail-and-consumer-outlook.jhtml. [Accessed: 2013-04-30].

PRINCEN, T., MANIATES, M. & CONCA, K. 2002. *Confronting Consumption.* Boston: MIT Press.

PRINSLOO, N., VAN DER MERWE, D., BOSMAN, M. & ERASMUS, A. 2012. A critical review of the significance of

© University of Pretoria

food labelling during consumer decision making. *Journal of family ecology and consumer sciences*, 40:83-98.

R

RACINE, E.F., MUMFORD, E.A. & LADITKA, S.B. 2013. Understanding characteristics of families who buy local produce. *Journal of Nutrition Education and Behaviour*, 45(1): 30-38.

RECMA. 2006. Consumer perception of climate change and its potential impact on business. [Online] Available from: http://kiviluoma.typepad.com/tutka/files/hm_climate_change_full_report.pdf [Accessed: 2013/11/23].

REFSGAARD, K. & MAGNUSSEN, K. 2008. Household behaviour and attitudes with respect to recycling food waste - experiences from focus groups. *Journal of Environmental Management*, 90:760-771.

RICHINS, M.L. & DAWSON, S. 1992. A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research,* 19(3):303-316.

RIDOUTT, B.G., JULIANO, P., SANGUANSRI, P. & SELLAHEWA, J. 2010. The water footprint of food waste: case study of fresh mango in Australia. *Journal of Cleaner Production*, 18(16-17):1714-1721.

RIMA, D.A. & COLEMAN, J. 2009. As Members of the Social Whole: A History of Social Reform as a Focus of Home Economics 1895-1940. *Family and Consumer Sciences Research Journal*, 32(2):104-126.

RITZER, G. 2002. *Sociological theory.* New York: Plenum Publishers.

ROBERTS, G. 1998. Competitive altruism: From reciprocity to the handicap principle. *Proceedings of the Royal Society of London, Series B: Bio-logical Sciences.* 265:427-431.

ROBERTS, J.A. & BACON, D.R. 1997. Exploring the subtle relationship between environmental concern and ecologically conscious consumer behaviour. *Journal of Business Research*, 40:79-89.

ROBERTS, J.A. & SEPULVEDA, C.J. 1999. Money attitudes and compulsive buying: An Exploratory Investigation of the Emerging Consumer Culture in Mexico. *Journal of International Consumer Marketing,* 11:53-74.

RØPKE, I. 1999. The dynamics of willingness to consume. *Ecological Economics,* 28:399-420.

RØPKE, I. 2005. Consumption in ecological economics. *International Society for Ecological Economic.* [Online] Available from: http://isecoeco.org/pdf/consumption_in_ee.pdf [Accessed: 2013/11/23].

© University of Pretoria

ROSE, J. & SCHEEPERS, R. 2001. Structuration Theory and Information Systems Development: Frameworks for Practice. Paper presented at the European Conference on Information Systems Development, Bled, Slovenia, 2001.

ROSENBERG, L.J. 1975. Retailers' responses to consumerism. *Business* Horizons, 18(5):37-44.

ROSENBERG, R., GONZALEZ, A. & NARAIN, S. 2007. The new moneylenders: Are the poor being exploited by high microcredit interest rates? *Contemporary Studies in Economic and Financial Analysis*, 92:145-181.

ROUSSEAU, G. & VENTER, D. 2001. A Multi - Cultural investigation into consumer environmental concern. *Journal of Industrial Psychology,* 27:1-7.

ROUX, D.J., ROGERS, K.H., BIGGS, H.C., ASHTON, P.J., & SERGEANT, A. 2006. Bridging the science-management divide: Moving from unidirectional knowledge transfer to knowledge interfacing and sharing. *Ecology and Society*. 11 (1):4-11.

ROY, J. & PAL, S. 2009. Lifestyles and climate change: link awaiting activation. *Current Opinion in Environmental Sustainability*, 1:192-200.

RUCKER, D.D. & GALINSKY, A.D. 2009. Conspicuous consumption versus utilitarian ideals: How different levels of power shape consumer behaviour. *Journal of Experimental Social Psychology*, 45:549-555.

RÜLING, C.C. 2000. *Theories of (Management?) Fashion: The contributions of Veblen, Simmel, Blumer, and Bourdieu.* [Online] Available from: http:/hec.info.unige.ch/recherches.publications/cahiers/2000/2000.01.pdf adresinden erişildi [Accessed: 2009/04/14].

RYALL, A.L. & UPTON, W.J. 1979. Handling Transportation and Storage of Fruits at Vegetables. 2nd ed. Connecticut: AVI.

S

SOUTH AFRICAN ADVERTISING RESEARCH FOUNDATION (SAARF). 2012. *Living Standards Measure*. [Online] Available from: http://www.saarf.co.za. [Accessed: 2012/09/17].

SAGOFF, M. 1988. *The economy of the Earth: philosophy, law, and the environment*. Cambridge: Cambridge University Press.

SAGOFF, M. 1997. Do we consume too much? *The Atlantic Monthly*, 279:80-96.

© University of Pretoria

SALAZAR, H.A., OERLEMANS, L. & STROE-BIEZEN, S. 2013. Social influence on sustainable consumption: evidence from a behavioural experiment. *International Journal of Consumer Studies*, 37:172-180.

SANNE, C. 2002. Willing Consumers - or locked - in? Policies for a sustainable consumption. *Ecological Economic,*. 42:273-287.

SARI, R. & SOYTAS, U. 2009. Are global warming and economic growth compatible? Evidence from five OPEC countries. *Applied Energy*, 86:1887-1893.

SARKIS, J., ZHU, Q. & LAI, K.H. 2010. An organisational theoretic review of green supply chain management. International. *Journal of Production Economics*, 130(1):1-15.

SASSI (Sustaibale South African Seafood Initiative). 2013. The State of our Oceans. [Online] Available from: http://www.sassi.co.za

SAXBY, D. 2003. *Customer Appreciation can make you money.* [Online] Available from: http://measure-x.com. [Accessed: 2010/10/12].

SCANNELL, L. & GROUZET, F.M.E. 2010. The metacognitions of climate change. *New Ideas in Psychology*, 28:94-103.

SCHIFFMAN, L.G. & KANUK, L.L. 2010. *Consumer behaviour*. 10th ed. New Jersey: Pearson Prentice Hall.

SCHLEGELMILCH, B.B., BOHLEN, G.M. & DIAMANTOPOULOS, A. 1996. The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing,* 30:35-55.

SCHNEIDER, S.H. & LAN, J. 2006. *An Overview of 'Dangerous' Climate change.* [Online] Available from: http://stephenschneider.stanford.edu/Publications/PDF_Papers/Schneider-lane.pdf. [Accessed: 2010/05/24].

SCHNEIDER, S.H. 2001. What is dangerous climate change? *Nature,* 411:17-19.

SCHOORL, D. & HOLT, J.E. 1982. Fresh Fruit and Vegetable Distribution. *Management of Quality Scientia Horticulturae,* 17:1-8.

SCHOR, J. 1999. *The Overspent American: Why We Want What We Don't Need*. New York, NY: Harper Perennial.

SCHULMAN, J. 2001. *The Seventies: The Great Shift in American Culture, Society, and Politics.* New York: Free Press.

© University of Pretoria

SCHWARTS, T. 2013. *Companies that practices "Conscious Capitalism" perform 10x better. Havard Business Review.* [Online] Available from: http://blogs.hbr.org/schwartz/2013/04/companies-that-practice-conscious-capitalism-perform.html [Accessed: 2013/09/07].

SCRIVEN, F.M. & HARRISON, R. 1988. Pilot study of consumer wastage of horticultural produce. *Food quality and preference, 1*(1):43-46.

SEMENZA, J.C., HALL, D.E., WILSON, D.J., BONTEMPO, B.D., SAILOR, D.J. & GEORGE, L.A. 2008. Public Perception of Climate Change Voluntary Mitigation and Barriers to Behavior Change. *American Journal of Preventive Medicine*, 35:479-487.

SHIELDS, P., DERVIN, B., MITCHELL, W. & GOSWAMI, D. 1996. Telecommunication privacy from the perspective of residential users: A preliminary exploration. *International Association for Mass Communication Research, Communication Technology Policy Section, Sydney, Australia,* August: 18-22.

SHOVE, E. & WARDE, A. 2002. *Inconspicuous consumption: the sociology of consumption, lifestyles, and the environment.* New York: Oxford.

SHUGAN, S.M. 2006. Are Consumers Rational? Experimental Evidence? *Marketing Science*, 25:1-7.

SIBERT, S.A., MAXWELL, J.G., WALTER, H.E., WEIZMANN, B. & DUGAL, L.F. 2008. The food, beverage and consumer products industry: Achieving superior financial performance in a challenging economy. Price Waterhouse Coopers.

SIMON, H.A. 1955. A Behavioral Model of Rational Choice. *Quarterly Journal of Economics*, 69:99-118.

SIMON, M. & GOES, J. 2013. SCOPE, LIMITATIONS, and DELIMITATIONS *Dissertation and Scholarly Research: Recipes for Success*. Seattle, WA: Dissertation Success LLC. [Online] Available from: https://www.dissertationrecipes.com [Accessed: 2013/11/02].

SINGH, N. 2009. Exploring socially responsible behavior of Indian consumers: an empirical investigation. *Journal of Socially Responsibility*, 5(2):200-211.

SIVANATHAN, N. & PETTIT, N.C. 2010. Protecting the self through consumption: Status goods as affirmational commodities. *Journal of Experimental Social Phycology*, 46:564-570.

SLADE, G. 2006. Made to break: are we sinking under the weight of our disposable society? *Knowledge @ Wharton*: 1-4.

SLADE, K. & BRITTON, R. 2010. Concerns about climate change hit home. BBC World News - Report. London

© University of Pretoria

SMITH, J. 2003. The end of over-consumption: towards a lifestyle of moderation and self-restraint. *The Ecologist*, 33:61.

SNELS J.C.M.A. & WESTRA E.H. 2010. *Sustainable conventional and organic vegetable flow to Europe: Supply Chain Optimization. Wageningen UR Food & Biobased Research*. [Online] Available from: http://edepot.wur.nl/16371 [Accessed: 2012/06/17].

SONNENBERG, N.C., ERASMUS, A.C. & DONOGHUE, S. 2011. Significance of environmental sustainability issues in consumers' choice of major household appliances in South Africa. *International Journal of Consumers Studies*, 35:153-163.

SPAARGAREN, G. 1997. *The Ecological Modernation of production and consumption.* Unpublished doctoral thesis. Lanbouw: Universiteit Wageningen.

SPAARGAREN, G. 1999. Ecological modernization theory and domestic consumption. *Journal of Environmental Policy Plan*, 2(4):323-335.

SPAARGAREN, G. & VAN VLIET, B. 2000. Lifestyle, Consumption and the Environment: the ecological modernisation of domestic consumption. *Society and Natural Resources*, 9:50-76.

SPAARGAREN, G. 2003. Sustainable Consumption: a theoretical and environmental policy perspective. *Society and Natural Resources*, 16(8):687-701.

SPAARGAREN, G. 2004. Sustainable Consumption: a theoretical and environmental policy perspective. In: SOUTHERTON, D., CHAPPELLS, H. & VAN VLIET, B. (eds.) *Sustainable Consumption: the implications of changing infrastructures of provision*. Cheltenham: Edward Elgar.

SPAARGAREN, G. & MOMMAAS, H. 2006. Book Review: Structuration Theory. *Sociology*, 40(6):1219-1220.

SPAARGAREN, G., OOSTERVEER, P., VAN BUUREN, J. & MOL, A.P.J. 2006. *Mixed modernities: towards viable urban environmental infrastructure development in East Africa.* Wageningen: Wageningen University.

SPAARGAREN, G. & MAARTENS, S.G. 2005. Consumption domains in transition. The social practices approach as a tool for the analyzing sustainability in everyday life. *Wetenschap met beleid, beleid met wetenschap,* 100 - 107.

SPAARGAREN, G. & OOSTERVEER, P. 2010. Citizen-Consumers as Agents of Change in Globalizing Modernity: The Case of Sustainable Consumption. *Sustainability*, 2:1887-1908.

© University of Pretoria

SPALDING-FECHER, R., CLARK, A., DAVIS, M. & SIMMONDS, G. The Economics of Energy Efficiency for the Poor: A South African case study. *Energy,* 27(12):1099.

SPETH, J.G. 2010. Towards a new economy and a new politics. *The Solutions Journal*, 5(28):15-19.

SPERLING, F. 2003. *Poverty and climate change: Reducing the vulnerability of the poor through adaptation.* [Online] Available from: http://www.oecd.org/env/cc/2502872.pdf [Accessed: 2011/12/23].

STAINFORTH, D.A., AINA, T., CHRISTENSEN, C., COLLINS, M., FAULL, N., FRAME, D.J., KETTLEBOROUGH, J.A., KNIGHT, S., MARTIN, A., MURPHY, J.M., PIANI, C., SEXTON, D., SMITH, L.A., SPICER, R.A., THORPE, A.J. & ALLEN, M.R. 2005. Uncertainty in predictions of the climate response to rising levels of greenhouse gases. *Nature,* 433**:** 403-406.

STATISTICS SOUTH AFRICA. 2011. *Mid-year population estimates.* [Online] Available from: www.statssa.gov.za [Accessed: 2012/05/17].

STEG, L., DREIJERINK, L. & ABRAHAMSE, W. 2005. Factors influencing the acceptability of energy policies: A test of VBN theory. *Journal of Environmental Psychology,* 25:415-425.

STERN, N. 2009. Managing climate change and overcoming poverty: Facing the realities and building a global agreement. September 2009 Policy Paper for the Centre for Climate Change Economics and Policy and Grantham Institute on Climate Change and the Environment.

STERN, N.Z. 2006. Stern review: The Economics of Climate Change. Grantham Research Institute on Climate Change and the Environment. *London School of Economics*. HM Treasury, London.

STERN, N.Z. & ANDER, W.N. 2008. Greentailing and other revolutions in retail: Hot ideas that are grabbing customers' attention and raising profits. New Jersey. Wiley.

STONE, G., BARNES, J.H. & MONTGOMERY, C. 1995. ECOSCALE: A scale for the measurement of environmentally responsible consumers. *Psychology & Marketing*, 12(7):595-612.

STORM, S. 2009. Capitalism and climate change: Can the invisible hand adjust the natural thermostat? *Development and Change*, 40(6)**:**1011-1038.

STUART, T. 2009. *Waste - uncovering the global food scandal.* London: Penquin.

SUNDBLAD, E.L., BIEL, A. & GÄRLING, T. 2007. Cognitive and affective risk judgements related to climate change. *Journal of Environmental Psychology*, 27:97-106.

© University of Pretoria

SUNDBLAD, E.L. 2008. *People's knowledge about climate change: uncertainty as a guide to future commitments.* Department of Psychology, University of Gothenburg, Gothenburg, Sweden.

SUTTON, S.G. & TOBIN, R.C. 2011. Constraints on community engagement with Great Barrier Reef climate change reduction and mitigation. Global Environmental Change, 21(3):894-905.

SUZUKI, D.T. 1999. Saving the Earth for future generations. *Public Management*, 81(8):11-16.

T

TELLER, C., KOTZAB, H. & GRANT, D.B. 2012. Improving the execution of supply chain management in organizations. *International Journal of Production Economics*, 140:713-720.

TEODORESCU, B. 2007. *Marketing and Politics. Curs University*, Faculty of Public Relations and Communication. SNSPA, Bucharest: 2001-2007.

THALER, R.H. & SUNSTEIN, C.R. (2008) *Nudge: Improving decisions about health, wealth, and happiness.* New Haven: Yale University Press.

THANG, D.C.L. & TAN, B.L.B. 2003. Linking consumer perception to preference of retail stores: an empirical assessment of the multi-attributes of store image. *Journal of Retailing and Consumer Services*, 10:193-200.

THE CENTURY OF THE SELF. 2009. Directed by ADAM CURTIS. United Kingdom: BBC. [Documentary].

THEMELIS, N. & ULLOA, P. 2006. Methane generation in landfills. *Renewable Energy*, 32:1243-1257.

THEOBALD, M. 2011. *Innovation of the week: Reducing food waste. Worldwatch Institute : Vision for a Sustainable World*. [Online] Available from: http://blogs.worldwatch.org/nourishingtheplanet/innovation-of-the-week-reducing-food-waste-africa-climate-change-compost-culture-drought-education-energy-farmers-hunger-income-innovation-of-the-week-poverty-waste-food-and-agriculture-organization-f/. [Accessed: 2011/12/22].

THOMPSON, K.E., HAZIRIS, N. & ALEKOS, P.J. 1994. Attitudes and Food Choice Behaviour. *British Food* Journal, 96(1):9-13.

TIMBERS, J., CHAI, J. & MORRIS, D. 2001. *Boozy: The Life, Death, & Subsequent Vilification of Le Corbusier.* [Online] Available from: http://www.morrischia.com/david/portfolio/boozy/research/democracity.html [Accessed: 2011/12/23].

© University of Pretoria

TOBLER, C., VISSCHERS, V.H.M. & SIEGRIST, M. 2011. Eating green: Consumers' willingness to adopt ecological food consumption behaviours. *Appetite,* 57(11):674-682.

TODD, D. 2012. You are what you buy: Postmodern consumerism and the construction of self. *HOHONU*, 10:47-50.

TONGLET, M., PHILLIPS, P.S. & READ, A.D. 2004. Using the theory of planned behaviour to investigate the determinants of recycling behaviour: a case study from Brixworth. *Resources, Conservation and Recycling*, 41:191-214.

TRACE. 2006. Tracing food commodities in Europe. Brussels: Food and Quality Priority of the EU Framework VI research programme.

TSIROS, M. & HEILMAN, C.M. 2005. The effect of expiration dates and perceived risk on purchasing behaviour in grocery store perishable categories. *Journal of Marketing*, 69(4):114-129.

TSOUKAS, H. 2002. *Do we really understand tacit knowledge? Haridimos, Athens Laboratory of Business Administration, Greece & University of Strathclyde Graduate School of Business, UK*. [Online] Available from: http://mba.eci.ufmg.br/downloads/dowereally.pdf [Accessed: 2013/11/12].

TUKKER, A., COHEN, M.J., DO ZOYSA, U., HERTWICH, E., HOFSTETTER, P., INABA, A., LOREK. S. & STØ, E. 2006. The Oslo Declaration on Sustainable Consumption. *Journal of Industrial Ecology*, 10(1):9-14.

TURNER, J.H. 1987. Towards a sociological Theory of Motivation. *American Sociological Review*, 52:15-27.

TUSTIN, D.H. & DE JONGH, D. 2008. Ethical consumerism as a key consideration for future brand strategy development in South Africa. *Southern Africa Business Review*, 12:24-49.

U

UMEMOTO, K. 2002. *Managing Existing Knowledge is not enough: Knowledge Management Theory and Practice in Japan. The Strategic Management of Intellectual Capital and Organisational Knowledge: 463-476*. [Online] Available from: http://www.jaist.ac.jp/ks/labs/umemoto/km_e.html [Accessed: 2013/11/12].

UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP), United Nations Development Programme (UNDP), World Bank & World Resources Institute. 2000. World resources 2000-2001: people and ecosystems: the fraying web of life. Amsterdam: Elsevier.

UNITED NATIONS. 2012. Rio+20 United Nations' Conference on Sustainable Development. *Agenda item 10: outcome of the conference*. [Online] Available from:

© University of Pretoria

http://www.uncsd2012.org/content/documents/727The%20Future%20We%20Want%2019%20June%201230pm.pdf [Accessed: 2013-07-13].

UNGAR, S. 2000. Knowledge, ignorance and the popular culture: climate change versus the ozone hole. *Public Understanding Science*, 9:297-312.

UNITED NATIONS POPULATION DIVISIONS. 2009. *Mapping Population growth and climate change hotspots*. [Online] Available from: http://populationaction.org/wp-content/uploads/2011/12/mapping_climate_change.pdf [Accessed: 2011/12/12].

UNITED NATIONS. 1997. Kyoto protocol. UN Doc FCCC/CP/1997/7/Add.1, Dec. 10, 1997; 37 ILM 22 (1998). Online] Available from: http://unfccc.int/essential_background/kyoto_protocol/background/items/1351.php. {Accessed: 2014-07-27].

UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP). 2008. *Global Environmental Outlook: GEO4 Report.* [Online] Available from: http://www.unep.org/geo/geo4.asp [Accessed: 2013/11/12].

UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP).2013. *Division of Technology, Industry and Economics, Newsletter and Technical Publications. Municipal Solid Waste Management.* [Online] Available from: http://www.unep.or.jp/Ietc/ESTdir/Pub/MSW/SP/SP4/SP4_3.asp [Accessed:2013/10/12].

UUSITALO, O. 2001. Consumer perceptions of grocery retail formats and brands. *International Journal of Retail & Distribution Management*, 29:214-225.

UZZELL, D. & RATHZEL, N. 2009. Transforming environmental psychology. *Journal of Environmental Psychology* 29(3): 340-350.

V

VALKENBURG, P.M. 2000. Media and youth consumerism. *Journal of Adolescent Health*, 27:52-56.

VAN DER ZEE, D. 2007. From intellect to intelligence: A radical natural human alternative. Pretoria: Griffel.

VAN RYAN, J. 2010. Message to EPA: Haste makes waste. *Energy Tomorrow.* [Online] Available from: *http://www.energytomorrow.org/blog/2010/october/message-to-epa-haste-makes-waste* [Accessed: 2013/12/12].

VARADARAJAN, P.R., BHARADWAJ, S.G. & THIRUNARAYANA, P. 1994. Executives' attitudes towards consumerism and marketing: An exploration of theoretical and empirical linkages in an industrializing country. *Journal of Business Research,* 29: 83-100.

© University of Pretoria

VÁZQUEZ-ROWE, I., VILLANUEVA-REY, P., MOREIRA, T, FEIJOO, GUMERSINDO. 2013. The role of consumer purchase and post-purchase decision making in sustainable seafood consumption. A Spanish case study using carbon footprinting. *Food Policy*. 41(8)94-102.

VEBLEN, T. 1902. *The Theory of the Leisure Class: An Economic Study of Institutions*. New York, NY: Macmillan.

VEBLEN, T. 1992. *The theory of the leisure class: An economic study of institutions.* New Brunswick: Transaction Publishers.

VERIAN, M.C.D., BARTELS, J., DAGEVOS, H., SIJTSEMA, S.J., ONWEZEN, M.C. & ANTONIDES, G. 2012. *International Journal of Consumer Studies*, 36:123-132.

VERMEIR, I. & VERBEKE, W. 2006. Sustainable food consumption: Exploring the consumer 'attitude-behavioral intention' gap. *Journal of Agriculture and Environmental Ethics*, 19(2):169-194.

VLEK, C. & STEG, L. 2007. Human behaviour and environmental sustainability: Problems driving forces and research topics. *Journal of Social Issues*, 63(1):1-19.

W

WACKERNAGEL, M. & REES, W.E. 1996. *Our Ecological Footprint*. Gabriola Island: New Society Publishers.

WACKERNAGEL, M., LEWAN, L. & HANSSON, C.B. 1999. Evaluating the use of natural capital with the Ecological Footprint. *Ambio*, 28:604.

WACKERNAGEL, M., ONISTO, L., BELLO, P., LINARES, A.C., FALFAN, I.S., GARCIA, J.M., SUAREZ GUERRERO, A.I.S. & SUAREZ GUERRERO, G. 1999. National natural capital accounting with the ecological footprint concept. *Ecological Economics,* 29:375-390.

WALDFOGEL, J. 2005. Does consumer irrationality trump consumer sovereignty? *The Review of Economics and Statistics,* 87:691-696.

WALKER, G. & KING, D. 2008. *The Hot Topic.* London: Bloomsbury.

WANN, D. 2001. Out of mind all the stuff we consume comes with hidden costs. *Denver Post*, 23 October.

WARDE, A. 1994. Consumption, Identity-formation and Uncertainty. *Sociology*, 28(4):877-898.

WEATHERSPOON, D.D. & REARDON, T. 2003. The rise of supermarkets in Africa: Implications for agrifood systems and rural poor. Development Policy Review. 21(3):1-12.

© University of Pretoria

WEBER, M. 1905. *The protestant ethic and the spirit of capitalism*. Los Angeles, CA: Roxbury.

WEBBER, C.B., SOBAL, J. & DOLLAHITE, J.S. 2010. Shopping for fruit and vegetables. Food and Retail qualities of importance to low-income households at the grocery store. Appetite, 54(2):297-303.

WEBSTER, F. 1994. Defining a new marketing concept. *Journal of Marketing Management*, 2(4):22-32.

WEI, S., SINGGIH, S., WOODS, E. & ADAR, D. 2003. How important is appearance? Consumer preference for mandarins in Indonesia. *International Journal of Consumer Science*, 27:406-411.

WELLS, V.K., PONTING, C.A. & PEATTIE, K. 2012. Behaviour and climate change: Consumer Perceptions of Responsibility. *Journal of Marketing Management*, 27(7-8):808-833.

WELSH, A. 2007. Communication and Public information - The Environment in the News. Nairobi: *United Nations Environment Programme*.

WETZEL, J.R. 1990. American Families 75 Years of change. *Monthly Labor Review,* 113(3):4-13.

WETZEL, S.M. 2010. *Women of World War II: The Foremothers of Women in the Workforce*. [Online] Available from: http://voices.yahoo.com/women-world-war-ii-foremothers-women-in-7137562.html [Accessed: 2011/06/12].

WHICH. 2013. *Breakfast briefing: Consumer group Which? Says supermarket's Special offers' misleading shoppers.* [Online] Available from: http://www.retail-week.com/home/breakfast-briefing-retail-news-on-marks-and-spencer-business-rates-and-supermarkets/5055060.article [Accessed: 2013/11/12].

WICKER, P. & BECKEN, S. 2013. Conscientious vs. ambivalent consumers: Do concerns about energy availability and climate change influence consumer behaviour? *Ecological Economics*, 88:41-48.

WILK, R. 2001. Consuming morality. *Journal of Consumers Culture,* 2(1):245-260.

WILK, R. 2002. Consumption, human needs, and global environmental change. *Global Environmental* Change, 12:5-13.

WILKINS, R.J. 2008. Eco-efficient approaches to land management: a case for increased integration of crop and animal production systems. *Philosophical Transactions of the Royal Society*, 363(1491):517-525.

WILLS, J. 2008. *The Green Food Bible.* Germany: Transworld publishing.

© University of Pretoria

WILSKA, T.A. 2002. Me - a consumer? Consumption, Identities and lifestyles in today's Finland. *Acta Sosiologica*, 45:195-210.

WILSON, D., SCHEINBERG, A. & RODIC, L. 2011. Global challenges of managing organic waste. *Waste Management World*, 1(2):13-17.

WILSON, J. & LAW, S. 2007. Global warming: A straightforward guide to the most important issue of our age. London: Robinson.

WONG, K.W. 2012. Faces on facebook: A study of self-presentation and social support on facebook. Discovery-SS, 1 (1): 184-214. [Online] Available from: http://ssweb.cityu.edu.hk/download/RS/E-Journal/journal9.pdf [Accessed: 2014/08/13].

WOODRUF, R.B. 1997. Customer value: The next source for competitive advantage. *Journal of the Academy of Marketing Science,* 25(2):139-153.

WOOLWORTHS ONLINE.2012. *Our Good Business Journey*. [Online] Available from: http://www.woolworths.co.za/Home/Our-Good-Business-Journey/cat320428.cat [Accessed: 2012/10/13].

WORLD BANK. 2013. *Infographic: What Climate Change Means for Africa and Asia*. [Online] Available from: http://www.worldbank.org/en/news/feature/2013/06/19/what-climate-change-means-africa-asia-coastal-poor [Accessed: 2013/10/12].

WRAP. 2007. *Understanding food waste*. London: Waste & Resources Action Program.

WORLD WIDE FUND FOR NATURE (WWF). (2012). The living planet report 2012. Retrieved from http://www.awsassets.panda.org/downloads/1_lpr_2012_online_full size_single_pages_final_1250516.pdf

WYMA, L. 2011. Consumers' preference for private and national brand food products. Unpublished Mini-Dissertation. North-West: North West University.

X

XU, Y. 2007. The influence of public self-consciousness and materialism on young consumers' compulsive buying. *Young consumers*, 9 (1):37-48.

Y

YU, M. & NAGURNEY, A. 2011. Competitive food supply chain networks with application to fresh produce. *European Journal of Operational Research*, 224:273-282.

© University of Pretoria

YU, T.K. & WU, G.S. 2007. Determinants of Internet Shopping Behavior: An Application of Reasoned Behaviour**.** *International Journal of Management,* 24(4):744.

YUE, D. 2007. Biodegradation of organic matters from mixed un-shredded municipal solid waste through air convection before landfilling. *Journal of Air Waste Management Association*, 1:39-46.

Z

ZAICHKOWSKY, J.L. 1991. Consumer Behaviour Yesterday, Today and Tomorrow. *Business Horizons,* 5:1-8.

ZAVESTOSKI, S. 2001. Environmental Concern and Anti-consumerism in the self-Concept: Do They Share the Same basis? Exploring Sustainable Consumption. *Environmental Policy and the Social Sciences*, 1:173-189.

ZIERVOGEL, G & ZERMOGLIO, F. 2009 Climate-change scenarios and the development of adaptation strategies in Africa: challenges and opportunities. *Climate Research*, 40(2-3): 133-146.

ZIERVOGEL, G. & FRAYNE, B. 2011. Climate change and Food Security in Southern African Cities. *Urban Food Security - African Food Security Urban Network*, 8:1-18.

ZIKMUND, W.G. & D'AMICO, M. 2001. *Marketing creating and keeping customers in an e-commerce world.* 7th ed. Cincinnati: South Western.

ZIMMER, M.R., STAFFORD, T.F. & STAFFORD, M.R. 1994. Green Issues: Dimensions of Environmental Concern. *Journal of Business Research,* 30:63-74.

ZUKIN, S. & MAGUIRE, J.S. 2004. Consumers and Consumption. *Annual reviews in Sociology*, 30:173-197.

ZUNJICH, B. 2009. *I Desire For Knowledge*. [Online] Available from: http://www.uri.edu/personal/szunjic/philos/metaph.htm. [Accessed: 2012/05/12].

© University of Pretoria

Addendum A

Expert Groups – Email Survey

Department of Consumer science

TITLE: **A global perspective on Tshwane households' fresh produce consumption and waste management amidst concerns over climate change**

Dear respondent,

Thank you kindly for taking the time and effort to share your / your organization's perspectives, knowledge and general aims regarding the effect of climate change on the globe's resources and consumerism as a relevant concept. The intention of this survey and your participation as an expert will be used to add credence to the research and to fuel this investigation in terms of its urgency.

This research project is done for a Doctoral degree. The intention is to gain a clear understanding of retailers' and consumers' fresh produce consumption, waste habits and practices and how it relates / contribute to global environmental change (i.e. "GEC", better known as global warming / climate change). The ultimate purpose of this study is to guide / assist both retailers and consumers to evaluate their current behaviour and to ultimately consider the implementation of consumption practices and strategies that will reflect more sustainable behaviour.

Your decision to complete and return this questionnaire will be interpreted as an indication of your agreement to participate. Your participation is voluntary and in no way does this waive your legal rights nor release the researchers, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time. You can be assured that all results will be handled with the utmost respect and discretion. Participant identities or the identities of their related industries / companies will be kept anonymous unless you indicate that you are willing to be acknowledged.

Your participation and contribution is greatly appreciated.

If you have further questions concerning matters related to this research, please contact:
Nadene Marx-Pienaar on 012 420 5988 / 0722039366

If you have any questions concerning your rights as a possible participant in this research, please contact the University of Pretoria Research Ethics Board who has approved this research study.

Kind regards

Nadene Marx - Pienaar (student) & Prof AC Erasmus (Study leader)

© University of Pretoria

The following questions are intended to gain some insight into your organizations current perceptions on…

- **Climate change (CC)**
- **Consumers' environmental knowledge and behaviour**

1. What is your organization's view regarding current environmental challenges and CC in general and especially in terms of how South Africa is affected/ should be concerned about the matter…..
2. What would your organization consider or list as the three main problem areas and the main driving forces for CC
3. What is your organization's view regarding consumer's awareness and contribution towards CC? Please explain
4. What is your organization's perception regarding the concept "consumerism" and its relation to green house gas emissions
5. How (if relevant) does your organization educate / inform consumers about their contribution towards CC?
    - What effort does your organization make to educate / inform consumers about their contribution towards CC / what suggestions do you have in this regard?
    - What is your experience in this regard?
    - What recommendations do you have in this regard?
6. Do you think that conspicuous consumption (thus excessive/ lavish consumption) as a current consumer culture (Consumerism) contributes to consumers' abuse of resources and waste?
7. What suggestions do you have about consumers' so called "improper disposal and wastage" of fresh produce?
8. What does your organization consider to be essential in terms of efforts to decrease the effects of consumerism (thus excessive/ lavish consumption) relating to CC?
9. In terms of South African consumers: where and how do you suggest we start to change the mindset of consumers about the critical subject of environmental change?
10. What (in your opinion) should retailers do to promote sustainable consumption and to limit wastage of fresh produce?

Thank you

© University of Pretoria

Addendum B

Retailer Interview

Department of Consumer science

TITLE:**A global perspective on Tshwane households' fresh produce consumption and waste management amidst concerns over climate change**

Dear participant,

Thank you kindly for taking the time and effort to share your / your industries perspectives, knowledge and general aims regarding climate change and consumerism as a relevant concept.

The intention of this interview and your participation as a retailer will be used to gain insight into current environmental consciousness; and efforts towards sustainability. This information will be used to add credence regarding the urgency of the issue on hand.

This study forms part of a research project for a Doctoral degree. The intention is to gain a clear understanding of retailers' consciousness and fresh produce practices and consumers' fresh produce consumption, and ultimate waste habits and how it relates / contribute to methane production and eventually global environmental change GEC (better known as global warming / climate change). The ultimate purpose of this study is to guide / assist both the retailing industry and consumers to evaluate their current behaviour and in due course consider the implementation of consumption practices and strategies that proof to be more sustainable.

Your decision to meet with us, will be interpreted as an indication of your agreement to participate. Your participation is voluntary and in no way does this waive your legal rights nor release the researchers, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time. You can be assured that all results will be handled with the utmost respect and discretion. Participant identities or the identities of their related industries / companies will be kept anonymous.

Your participation and contribution is greatly appreciated.

If you have further questions concerning matters related to this research, please contact:
Nadene Marx-Pienaar on 012 420 5988 / 0722039366

If you have any questions concerning your rights as a possible participant in this research, please contact the University of Pretoria Research Ethics Board who has approved this research study.

Kind regards

Nadene Marx - Pienaar & Prof AC Erasmus

© University of Pretoria

interview – Retailer

Introduction and rapport Approval regarding recording	
1. Please elaborate on your company's view regarding current environmental challenges and Global warming in general …..	
2. Please explain your view regarding the notion that humans / consumers and their consumption practices are depleting natural resources and therefore fueling Global warming	
3. Please tell me which are the three main problem areas that your company views as the main driving forces for Global warming, why?	
4. Does your company reflect on the notion that someone should be held responsible / accountable for these problems? Why……. Who……when……. 4.1As a retailer please explain, indicate who the main role player/s are regarding GEC (Industries / Consumers…other….. why?)	
5. Which role player do you consider is in a better position to take charge and facilitate change? Why…….How…….. Do you think retailers can take the lead to encourage / educate consumers? Or do you feel consumers should be held responsible and induce change from their side?	
6. Please list and elaborate on the three main problem areas/ departments in your company that contributes to GHG (green house gas) emissions through wastage.	
7. Please provide a general overview about the company's general management of FP. **a.** General FP ordering practices **b.** Storage **c.** Display **d.** Promotions **e.** Sales **f.** Culling **g.** Wastage **h.** Disposal	
8. Explain your understanding regarding FP wastage and it's contribution towards GEC	
9. Which protocols or practices have your company set in place to curb GLOBAL WARMING. Do you have any suggestion towards altering your company's practices in order to be more eco friendly	
Any other comments or questions?	

Please indicate that you have received clear / detailed information regarding the aim of the study, your rights and that you approve all notes and recordings taken during the interview……YES/ NO…….

© University of Pretoria

Addendum C

Consumer Survey

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

DEPARTMENT OF CONSUMER SCIENCE

QUESTIONNAIRE: SOUTH AFRICAN CONSUMERS' FRESH PRODUCE CONSUMPTION

INTRODUCTION AND NOTIFICATION

Dear Participant,

This study forms part of a research project for a Doctoral (PhD) Degree. The aim of this questionnaire is to gain some understanding of households' fresh produce consumption and environmental awareness. Through this research project we would like to identify problem areas and to subsequently provide guidelines so that both retailers and consumers would know how they could become involved in supporting this worthy cause. Thank you for taking the time to share your perspectives and views in this regard.

Your decision to complete and return this questionnaire will be interpreted as confirmation that you have agreed to participate. Please note that your participation is voluntary and does in no way release the researchers or involved institutions from their legal and professional responsibilities. All information will be treated as highly confidential and the identity of respondents need not be disclosed and will remain anonymous. If you choose to participate in the lucky draw, your telephone or cell number must please be entered separately without any further identification.

If you have any further questions concerning matters related to this research, please feel free to contact: Nadene Marx- Pienaar at (012) 420 5988 during office hours.

Please take note that when referring to FRESH PRODUCE in this questionnaire I am referring to FRUIT AND VEGETABLES only.

Kind regards,

Nadene Marx-Pienaar

Prof. Alet C Erasmus

Study leader

© University of Pretoria

1	*Questionnaire number*		V1

SECTION 1: DEMOGRAPHIC INFORMATION	For office use only

2	What is your **gender?**		
	Male	**1**	**V2**
	Female	**2**	

3	What was your **age (in years)** at your most recent birthday?		**V3**

4	What is your **highest level of education?**		
	Lower than Grade 12	**1**	**V4**
	Grade 12	**2**	
	Grade 12 plus a Degree or Diploma	**3**	

5	Please indicate your **area of residence** within the greater Tshwane Metropolitan area		
	Suburb: Moreletta park – Pretoria East		**V5**

6 How many members are there in your current household? (Total number of people living together)_____ **V6**

7	What is your **approximate** total **monthly household income rounded up** to the nearest R1000**?**_____	**R50,000**	**V7**

8	In terms of the employment Equity Act of SA, to which **population group** do you belong?		
	African	1	**V8**
	Asian	2	
	Coloured	3	
	White	**4**	
	Other (please specify): _____	5	

9	What is your preferred home language? Please specify: _English		**V9**

		Never	Sometimes	Always	
10	Do you struggle to interpret or understand advertisements and product information that are presented in **English**?	**1**	**2**	**3**	**V10**

11	Please indicate your **marital status**		
	Single without children / Divorced / Widowed	**1**	**V11**
	Single with children	**2**	
	Couple / Married (without children)	**3**	
	Couple / Married (with children)	**4**	

Please turn to page 3 to complete question 12

© University of Pretoria

12 Please indicate the primary source that you consult for information / knowledge regarding **environmental issues.**		For office use only
Television	**1**	**V12.1**
Printed media e.g. Newspapers / Magazines	**2**	
Radio	**3**	
Word of mouth from family, friends or co-workers	**4**	
In-store, retailers	**5**	
Product labelling	**6**	
Internet	**7**	
Social Media e.g. Facebook or Twitter	**8**	
Billboards	**9**	
Other please specify: _____	**10-15**	**V12.2**

SECTION 2

Please provide the following information regarding your *general purchasing behaviour* by marking the correct or most applicable answer with an 'X' in the box provided.

13 **Who is responsible for your household's grocery shopping** and how frequently do they do it (**Please mark every applicable answer with an X**)	Almost never	Maximum once per month	Maximum once per week	More than twice per week	Almost daily	
Example: Neighbour	**1 ✗**	**2**	**3**	**4**	**5**	
Yourself	**1**	**2**	**3**	**4**	**5**	V13.1
Husband / Wife / Partner	**1**	**2**	**3**	**4**	**5**	V13.2
Children	**1**	**2**	**3**	**4**	**5**	V13.3
Other (please specify):_____	**1**	**2**	**3**	**4**	**5**	V13.4

14 How **frequently do you visit** the following retailers? **Please mark every applicable answer with an X** (*You may choose more than option)*	Almost never	Maximum once per month	Maximum once per week	More than twice per week	Almost daily	
Checkers	**1**	**2**	**3**	**4**	**5**	V14.1
Pick n Pay	**1**	**2**	**3**	**4**	**5**	V14.2
Spar	**1**	**2**	**3**	**4**	**5**	V14.3
Woolworths	**1**	**2**	**3**	**4**	**5**	V14.4
Food lovers' market/ Fruit and Veg City	**1**	**2**	**3**	**4**	**5**	V14.5
Farmers Market	**1**	**2**	**3**	**4**	**5**	V14.6

© University of Pretoria

15 How often do you **purchase fruit and vegetables (fresh produce)** from the following retailers? **Please mark the applicable answers with an X** (*You may choose more than one option*)	Almost never	Maximum once per month	Maximum once per week	More than twice per week	Almost daily	
Checkers	1	2	3	4	5	V15.1
Pick n Pay	1	2	3	4	5	V15.2
Spar	1	2	3	4	5	V15.3
Woolworths	1	2	3	4	5	V15.4
Food lovers' market/ Fruit and Veg City	1	2	3	4	5	V15.5
Farmers Market	1	2	3	4	5	V15.6

16 **How would you describe the quality of the fruit and vegetables (fresh produce) sold by the following retailers?**	Very Poor	Poor	Average	Good	Excellent	
Checkers	1	2	3	4	5	V16.1
Pick n Pay	1	2	3	4	5	V16.2
Spar	1	2	3	4	5	V16.3
Woolworths	1	2	3	4	5	V16.4
Food lovers' market/ Fruit and Veg City	1	2	3	4	5	V16.5
Farmers Market	1	2	3	4	5	V16.6

17 **How would you describe the following retailers in terms of evidence that they are paying attention to environmental issues?**	Very Poor	Poor	Average	Good	Excellent	
Checkers	1	2	3	4	5	V17.1
Pick n Pay	1	2	3	4	5	V17.2
Spar	1	2	3	4	5	V17.3
Woolworths	1	2	3	4	5	V17.4
Fruit and Veg City	1	2	3	4	5	V17.5
Farmers Market	1	2	3	4	5	V17.6

	18 **How do the following statements reflect the general fresh produce buying and consumption practices of your household? Please mark the applicable answer with an X**	Strongly Disagree	Disagree	Agree	Strongly Agree	
1	We purchase a substantial amount of fresh produce in individual units (e.g. loose fruit).	1	2	3	4	V18.1
2	We purchase a substantial amount of fresh produce in bulk e.g. 500g punnets/packets/bags.	1	2	3	4	V18.2
3	We purchase a substantial amount of fresh produce in a preserved format (e.g. frozen, dried or canned).	1	2	3	4	V18.3
4	We plan fresh produce purchases in advance and only purchase whatever we need in the short term.	1	2	3	4	V18.4
5	Because fresh produce is affordable, we tend to purchase more than we can consume.	1	2	3	4	V18.5
6	Because fresh produce is healthy/ nutritious we tend to purchase more than we can consume.	1	2	3	4	V18.6

Please turn to page 5 to complete question 18

© University of Pretoria

	V18 Continued……. **How do the following statements reflect the general fresh produce buying and consumption practices of your household? Please mark the applicable answer with an X**	Strongly Disagree	Disagree	Agree	Strongly Agree	
7	Because fresh produce is displayed attractively in stores we tend to purchase more than we can consume.	1	2	3	4	V18.7
8	In our household, fresh produce is wasted and thrown away due to slower consumption of the quantities of fresh produce that we generally purchase.	1	2	3	4	V18.8
9	In our household, fresh produce is wasted and **composted** due to slower consumption of the quantities of fresh produce purchased.	1	2	3	4	V18.9
10	In our household, fresh produce is wasted and **then placed in trees for birds to eat** due to slower consumption of the quantities purchased.	1	2	3	4	V18.10
11	We are always on the lookout for exotic and imported fresh produce because we believe it is of superior quality.	1	2	3	4	V18.11
12	We prefer to purchase imported products because they tend to have more status.	1	2	3	4	V18.12
13	We would pay more for fresh produce that has a superior appearance.	1	2	3	4	V18.13
14	Fresh produce that is imported is more attractive to us because it is admired by the people I know.	1	2	3	4	V18.14
15	We admire people who display fresh produce attractively in their kitchens.	1	2	3	4	V18.15
16	We place a lot of emphasis on the type of fresh produce when making a purchase decision.	1	2	3	4	V18.16
17	The type and quality of fresh produce that we purchase signifies how well we are doing in life.	1	2	3	4	V18.17
18	We try to purchase only the most basic or simplest types of fresh produce.	1	2	3	4	V18.18
19	We believe that an attractive bowl brimming with top quality fruit is an essential part of our kitchen and will impress our friends.	1	2	3	4	V18.19
20	We believe that an attractive bowl brimming with top quality fruit is an essential part of our kitchen and will impress our family.	1	2	3	4	V18.20
21	We work very hard and therefore deserve that only the best fruit and vegetables are made available in the stores that we visit.	1	2	3	4	V18.21

	SECTION 3					
V19	**How do the following statements reflect the general thoughts or beliefs about fresh produce in your household? Please mark the applicable answer with an X**	Strongly Disagree	Disagree	Agree	Strongly Agree	
1	The quality of fresh produce is a true indication of its nutritional value.	1	2	3	4	V19.1
2	Stores should only stock good quality fresh produce.	1	2	3	4	V19.2
3	I regard slightly bruised fresh produce as poor quality.	1	2	3	4	V19.3
4	I regard slightly deformed fresh produce as poor quality.	1	2	3	4	V19.4
5	Bruised or deformed fresh produce is poor value for money.	1	2	3	4	V19.5
6	I'm of the opinion that one **neglects one's guests** when serving fresh produce that are not perfect.	1	2	3	4	V19.6
7	I'm of the opinion that one **neglects one's family** when serving fresh produce that is not perfect.	1	2	3	4	V19.7
8	It is important to take note of the sell-by date when purchasing fresh produce.	1	2	3	4	V19.8
9	I do not buy fresh produce of which the sell-by date has expired because it is of inferior quality.	1	2	3	4	V19.9
10	I tend to select produce from the back of refrigerators' shelves and displays to ensure that I get the best quality produce.	1	2	3	4	V19.10

Please turn to page 6 to complete question 19

© University of Pretoria

	V 19 continued…….. **How do the following statements reflect your household's general thoughts or beliefs about fresh produce? Please mark the applicable answer with an X**	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**	
11	At home I discard produce that is past its **sell-by** date.	**1**	**2**	**3**	**4**	V19.11
12	At home I discard produce that is past its **use-by** date.	**1**	**2**	**3**	**4**	V19.12
13	Stores should make an effort to import fresh produce in accordance with consumers' needs.	**1**	**2**	**3**	**4**	V19.13
14	South African retailers should only sell fresh produce that is produced locally.	**1**	**2**	**3**	**4**	V19.14
15	Purchasing imported produce has consequences that contribute to climate change.	**1**	**2**	**3**	**4**	V19.15
16	Purchasing imported produce is negative for the economy of South Africa.	**1**	**2**	**3**	**4**	V19.16
17	Purchasing loose fruit without extra packaging signifies environmentally friendly behaviour.	**1**	**2**	**3**	**4**	V19.17
18	Purchasing pre-cut / pre-prepared fresh produce is recommended because it reduces waste in general.	**1**	**2**	**3**	**4**	V19.18
19	The amount of excessive (surplus) fresh produce at **retailers** is significant.	**1**	**2**	**3**	**4**	V19.19
20	The surplus fresh produce at retailers is put to good use by distributing it to **charity organisations.**	**1**	**2**	**3**	**4**	V19.20
21	The surplus fresh produce at retailers goes to **landfills.**	**1**	**2**	**3**	**4**	V19.21
22	The surplus fresh produce at retailers is converted into useful **compost.**	**1**	**2**	**3**	**4**	V19.22
23	The surplus fresh produce at retailers is **incinerated.**	**1**	**2**	**3**	**4**	V19.23
24	Fresh produce waste **is not harmful** to the environment.	**1**	**2**	**3**	**4**	V19.24
25	Fresh produce wastage is a **concern in my household.**	**1**	**2**	**3**	**4**	V19.25
26	Fresh produce wastage is a **neglected topic in our country.**	**1**	**2**	**3**	**4**	V19.26
27	We as consumers need to **tolerate lower stock volumes** in stores to limit fresh produce waste.	**1**	**2**	**3**	**4**	V19.27
28	We as consumers need to **tolerate a smaller variety** of fresh produce in stores to demonstrate that we care about our environment.	**1**	**2**	**3**	**4**	V19.28
29	We as consumers need to **tolerate fresh produce of a slightly lower quality** to demonstrate that we care about the environment.	**1**	**2**	**3**	**4**	V19.29
30	We as consumers **should notdemand imported fresh produce** in order to demonstrate that we care about the environment.	**1**	**2**	**3**	**4**	V19.30
31	Retailers could make more effort to keep consumers informed about the environmental consequences of their purchases.	**1**	**2**	**3**	**4**	V19.31
32	Consumers need to **purchase locally produced** fresh produce rather than imported fresh produce.	**1**	**2**	**3**	**4**	V19.32
33	If one is really concerned about the environment, one should buy **locally produced fresh produce** irrespective of the price	**1**	**2**	**3**	**4**	V19.33
34	Growing a personal **vegetable garden** indicates that someone is concerned about the environment.	**1**	**2**	**3**	**4**	V19.34
35	All consumers who have their own **compost heaps** are environmentally conscious.	**1**	**2**	**3**	**4**	V19.35
36	**Limiting my household's fresh produce waste** can make a noteworthy difference in saving our planet.	**1**	**2**	**3**	**4**	V19.36

Please turn to page 7 to complete question 20

© University of Pretoria

	SECTION 4				
V20	**How do each of the following statements reflect your household's general thoughts or beliefs about the issue of climate change?** **Please mark the applicable answer with an X**	**True**	**False**	**Uncertain**	
1	Pollution is currently one of the most critical problems in terms of the sustainability of South Africa's natural resources.	**1**	**2**	**3**	V20.1
2	Pollution does not affect me personally to the same extent that it affects fellow citizens in South Africa.	**1**	**2**	**3**	V20.2
3	The USA is the biggest producer of gasses that contribute to air pollution.	**1**	**2**	**3**	V20.3
4	An increase in the South African population will put further strain on our natural resources.	**1**	**2**	**3**	V20.4
5	The economic growth of South Africa is not influenced by environmental problems.	**1**	**2**	**3**	V20.5
6	The earth's resources are infinite and should be used to the fullest to increase the standard of living of all South African citizens.	**1**	**2**	**3**	V20.6
7	The amount of energy used by my household does not have a significant impact on the environment.	**1**	**2**	**3**	V20.7
8	The average citizen can do very little to reduce climate change.	**1**	**2**	**3**	V20.8
9	My current purchase decisions will have consequences for product availability of future generations.	**1**	**2**	**3**	V20.9
10	Environmental pollution taking place in China does not have any impact on South Africa.	**1**	**2**	**3**	V20.10
11	Global warming is mostly caused by the sun radiating (giving out) more heat.	**1**	**2**	**3**	V20.11
12	Climate change is caused by the presence of greenhouse gasses in the air.	**1**	**2**	**3**	V20.12
13	Climate change is a direct consequence of the hole in the ozone layer.	**1**	**2**	**3**	V20.13
14	Methane, which is largely responsible for the damage to the environment, is only emitted by industrial equipment and cars which are powered by fossil fuels.	**1**	**2**	**3**	V20.14
15	Organic materials like grass and compost heaps do not emit green-house gasses that are harmful to the environment.	**1**	**2**	**3**	V20.15
16	Saving electricity in our everyday living will contribute to saving our planet.	**1**	**2**	**3**	V20.16
17	All locally produced products are environmentally friendly.	**1**	**2**	**3**	V20.17

	SECTION 5					
V21	**How the following statements reflect your general thoughts or beliefs?** **Please mark the applicable answer with an X**	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**	
1	I admire people who own expensive homes, cars and clothes.	**1**	**2**	**3**	**4**	V21.1
2	Some of the most important achievements in life include acquiring material possessions.	**1**	**2**	**3**	**4**	V21.2
3	I do not place much emphasis on the amount of material objects that people own as a sign of their success.	**1**	**2**	**3**	**4**	V21.3
4	The things I own say a lot about how well I am doing in life.	**1**	**2**	**3**	**4**	V21.4
5	I like to own things that impress people.	**1**	**2**	**3**	**4**	V21.5
6	I do not pay much attention to the material objects other people own.	**1**	**2**	**3**	**4**	V21.6
7	I usually only buy things I need.	**1**	**2**	**3**	**4**	V21.7
8	I try to keep my life simple as far as possessions are concerned.	**1**	**2**	**3**	**4**	V21.8
9	The possessions I own are not that important to me.	**1**	**2**	**3**	**4**	V21.9
10	I enjoy spending money on things that are not necessary / practical.	**1**	**2**	**3**	**4**	V21.10
11	Buying things gives me a lot of pleasure.	**1**	**2**	**3**	**4**	V21.11
12	I like lots of luxury in my life.	**1**	**2**	**3**	**4**	V21.12

Please turn to page 8 to complete question 21

© University of Pretoria

V21	***V 21 continued……..*** **How the following statements reflect your general thoughts or beliefs?** **Please mark the applicable answer with an X**	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**	
13	I put less emphasis on material things than most people I know.	**1**	**2**	**3**	**4**	V21.13
14	I have all the things I really need to enjoy life.	**1**	**2**	**3**	**4**	V21.14
15	My life would be better if I owned certain things that I do not already have.	**1**	**2**	**3**	**4**	V21.15
16	I would not be any happier if I owned nicer things.	**1**	**2**	**3**	**4**	V21.16
17	It slightly bothers me that I cannot afford to buy all the things I would like to.	**1**	**2**	**3**	**4**	V21.17
18	I feel driven to shop, even when I do not have the time or the money.	**1**	**2**	**3**	**4**	V21.18
19	I receive little or no pleasure from shopping.	**1**	**2**	**3**	**4**	V21.19
20	I hate to go shopping.	**1**	**2**	**3**	**4**	V21.20
21	I go on buying binges / shopping sprees.	**1**	**2**	**3**	**4**	V21.21
22	I feel “high" when I go on a buying binge / shopping spree.	**1**	**2**	**3**	**4**	V21.22
23	I buy things even when I do not need anything.	**1**	**2**	**3**	**4**	V21.23
24	I go on a buying binge / shopping spree when I am upset, disappointed, depressed or angry.	**1**	**2**	**3**	**4**	V21.24
25	I worry about my spending habits but nevertheless still go out, shop and spend money.	**1**	**2**	**3**	**4**	V21.25
26	I feel anxious after I have gone on a buying binge.	**1**	**2**	**3**	**4**	V21.26
27	I buy things even though I cannot afford them.	**1**	**2**	**3**	**4**	V21.27
28	I feel guilty or ashamed after I go on a buying binge.	**1**	**2**	**3**	**4**	V21.28
29	I buy things that I do not need or will not use.	**1**	**2**	**3**	**4**	V21.29
30	I sometimes feel compelled to go shopping.	**1**	**2**	**3**	**4**	V21.30
31	I am interested in new products with status.	**1**	**2**	**3**	**4**	V21.31
32	I would buy a product just because it has status.	**1**	**2**	**3**	**4**	V21.32
33	I would pay more for a product if it has status.	**1**	**2**	**3**	**4**	V21.33
34	The status of a product is irrelevant to me.	**1**	**2**	**3**	**4**	V21.34
35	A product is more valuable to me if it has some snob appeal.	**1**	**2**	**3**	**4**	V21.35

SECTION 6

V22	**How do the following statements reflect your general thoughts or beliefs?** **Please mark the applicable answers with an X**	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**	
1	I often feel a sense of “oneness” with the natural world around me.	**1**	**2**	**3**	**4**	V22.1
2	I think of the natural world as a community to which I belong.	**1**	**2**	**3**	**4**	V22.2
3	I recognize and appreciate the intelligence of other living organisms.	**1**	**2**	**3**	**4**	V22.3
4	I often feel disconnected from nature.	**1**	**2**	**3**	**4**	V22.4
5	When I think of my life, I imagine myself to be part of a larger cyclical process of living.	**1**	**2**	**3**	**4**	V22.5
6	I often feel that I have a kinship/ connection with plants and animals.	**1**	**2**	**3**	**4**	V22.6
7	I feel as though I belong to the Earth as equally as it belongs to me.	**1**	**2**	**3**	**4**	V22.7
8	I have a deep understanding of how my actions affect the natural world.	**1**	**2**	**3**	**4**	V22.8
9	I often feel part of the web of life.	**1**	**2**	**3**	**4**	V22.9
10	I feel that all inhabitants of Earth, human and non-human, share a common life force.	**1**	**2**	**3**	**4**	V22.10
11	Like a tree can be part of a forest, I feel rooted within the broader natural world.	**1**	**2**	**3**	**4**	V22.11
12	When I think of my place on Earth, I think of myself as being at the top of the hierarchy that exists in nature.	**1**	**2**	**3**	**4**	V22.12

Please turn to page 9 to complete question 22

© University of Pretoria

	V22 continued _____ **How do the following statements reflect your general thoughts or beliefs?** **Please mark the applicable answers with an X**	Strongly Disagree	Disagree	Agree	Strongly Agree	
13	I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass, birds or other animals.	1	2	3	4	V22.13
14	My personal welfare does not depend on the welfare of the natural world.	1	2	3	4	V22.14
15	I enjoy not having to worry about others.	1	2	3	4	V22.15
16	I enjoy being able to own an item before most of my friends are able to buy it.	1	2	3	4	V22.16
17	I enjoy knowing that others are somewhat envious of me.	1	2	3	4	V22.17
18	I retrieve a great deal of satisfaction out of caring for others.	1	2	3	4	V22.18
19	I enjoy giving assistance to the poor and under-privileged.	1	2	3	4	V22.19
20	I would enjoy being able to spot and exploit the weaknesses of others.	1	2	3	4	V22.20
21	I would prefer to be free of any social obligations.	1	2	3	4	V22.21
22	I would like to have the ability to blame others for their mistakes.	1	2	3	4	V22.22
23	I do not like to be influenced by others.	1	2	3	4	V22.23
24	Defending my rights is very important to me.	1	2	3	4	V22.24
25	I do not like to be considerate to the needs and feelings of others.	1	2	3	4	V22.25
26	I do not like to be fair to people who do things which I consider to be wrong.	1	2	3	4	V22.26
27	I would not like to compete with others for various rewards.	1	2	3	4	V22.27

	SECTION 7					
V23	**How do the following statements reflect the general thoughts or beliefs about socially responsible behaviour in your household? Please mark the applicable answers with an X**	Strongly Disagree	Disagree	Agree	Strongly Agree	
1	**Every person** should either keep consistent, or reduce their consumption of products so that our resources will last longer.	1	2	3	4	V23.1
2	**Government** should either keep consistent, or reduce their consumption of products so that our resources will last longer.	1	2	3	4	V23.2
3	**Industry** should either keep consistent, or reduce their consumption of products so that our resources will last longer.	1	2	3	4	V23.3
4	The benefits of modern consumer products are more important than the pollution that results from their production.	1	2	3	4	V23.4
5	In my opinion we are not doing enough to save scarce natural resources from being depleted.	1	2	3	4	V23.5
6	Consumers should be forced to pay higher prices for products that pollute the environment.	1	2	3	4	V23.6
7	Non-returnable bottles and cans for soft drinks and beer should be banned by law.	1	2	3	4	V23.7
8	I would be willing to sign a petition or demonstrate for an environmental cause.	1	2	3	4	V23.8
9	I have often thought that if we could just get by with a little less there would be more left for future generations.	1	2	3	4	V23.9
10	The government should subsidise research on technology for recycling waste products.	1	2	3	4	V23.10
11	The whole pollution issue has never upset me too much since I feel it is somewhat over-rated.	1	2	3	4	V23.11
12	I would be willing to donate a **week's pay** to an organisation to help improve the environment.	1	2	3	4	V23.12
13	Products that use or pollute the environment during their manufacturing should be heavily taxed by government.	1	2	3	4	V23.13
14	I think that a person should urge his / her friends to discontinue the use of products that pollute or harm the environment.	1	2	3	4	V23.14
15	The government should provide each citizen with a list of organisations and retailers that could assist consumers in contributing to the sustainability of the world's resources.	1	2	3	4	V23.15

© University of Pretoria

	V23 continued……. **How do the following statements reflect the general thoughts or beliefs about socially responsible behaviour in your household? Please mark the applicable answers with an X**	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**	
16	Our public schools should require all learners to take a course dealing with environmental and conservation issues.	**1**	**2**	**3**	**4**	V23.16
17	I would be willing to stop buying products from companies that are guilty of polluting the environment even though it might be inconvenient for me.	**1**	**2**	**3**	**4**	V23.17
18	I would be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results may not seem significant.	**1**	**2**	**3**	**4**	V23.18
19	I would prefer to contribute to a community project financially.	**1**	**2**	**3**	**4**	V23.19
20	I would prefer to devote some of my personal time to a community project even if it impedes on my free time.	**1**	**2**	**3**	**4**	V23.20
21	I am willing to pay tax on all my fresh produce purchases.	**1**	**2**	**3**	**4**	V23.21

V24 **Please provide, in one short sentence, any idea that you feel could be implemented to reduce the unsustainable consumption and wastage of fresh produce.**

V24.1

V24.2

V24.3

V24.4

V25 **Please provide us (briefly) with some examples of how your household is already partaking in activities that suggest that you care about the environment. If you DO NOT provide any examples, I would assume that you are not yet making serious effort to do so.**

V25.1

V25.2

V25.3

V25.4

Thank you for participating in this important project!

© University of Pretoria

Addendum D

Consumer Focus Group Discussion

Prompts used to guide consumer discussions

1. Where do you buy your fresh fruits and vegetables?
2. Why do you prefer buying from those retailers?
3. How often do you buy fresh fruits and vegetables?
4. The fresh produce that you buy, how is it packaged?
5. Do you ever buy imported/exotic/out of season fruits and vegetables?

6. Please explain what you understand about climate change and feel free to state your opinion whether you consider it as an issue?
7. Who should be held accountable?
8. Do you feel responsible?
9. Does fresh produce waste contribute and how does it contribute towards climate change?

- As part of the prompts, the facilitator also showed the participants pictures and asked them to comment.

- Please take a look at the following illustration and tell me what you think the general consumer will understand from it
- What can the general consumer learn from it? ii. How would you improve it so that consumers will be able to understand the poster as well as be educated by it
- Please make me an informal poster aimed at educating general consumers on how to behave more sustainably i.t.o. the purchase and consumption of fresh produce

To review a copy of the transcriptions please contact the author – nadene.marxp@up.ac.za

© University of Pretoria

Addendum E

Map of Tshwane

© University of Pretoria

Detailed Map of Tshwane Suburbs

© University of Pretoria

TO WHOM IT MAY CONCERN

I have edited the draft - chapters of Ms N Marx-Pienaar's thesis in terms of language use (grammar, spelling, clarifying meaning), using the "Track Changes" mode in MSWord. Recommended changes and explanations were given as comments. The edited manuscript was returned electronically. The edit included suggesting changes to sentence structure, spelling (adopting the English (UK) spelling form and standardising on the form -ise-), vocabulary and word usage, punctuation and hyphenation without changing the meaning of the original text. The edit excluded paying attention to content, correctness or truth of information, spelling of specific technical terms, unfamiliar names and proper nouns, specific formulae, symbols or illustrations or references.

U J Fairhurst(Sent electronically, not signed)

U J Fairhurst (DPhil)

Professor Emeritus (University of Pretoria)

Academic Associate (University of South Africa)

Freelance academic editor

Full Member: Professional Editors' Group

Life member: Society of South African Geographers

Member: South African Translators' Institute

Contact: +27117834051; joanfair@global.co.za

29 November 2013

© University of Pretoria

Glossary

- **Climate change:** is a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years.
- **Consumer behaviour:** is the study of individuals, groups, or organizations and the processes they use to select, secure, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and society.
- **Conspicuous consumption:** is lavish spending on goods and services acquired mainly for the purpose of displaying income or wealth. In the mind of a conspicuous consumer, such display serves as a means of attaining or maintaining social class.
- **Consumer socialization:** is the process by which young people acquire skills, knowledge, and attitudes relevant to their functioning as consumers in the market place
- **Consumerism:** in this study consumerism is defined in terms of two contrasting ideals. The first of which has to do with the protection of the consumers' interest (i.e. consumer bill of rights) whereas the second refers to the dominant ideology in consumption society of today. It is based on the belief that the meaning of life consists in consumption, possessing goods and services.
- **Consumerist society:** is defined as one directed largely by the accumulation and consumption of material goods, the underlying connotation is that such societies are too much about themselves and not enough about others (Lee, Pant & Ali,2009).
- **Modern consumerism:** concerns the very essence of modern consumption itself - its character as an activity which involves an apparently endless pursuit of wants (Haanpää, 2007)
- **Discursive consciousness:** pertains to the fact that an external influence in the form of i.e. discussion with peers resulted in the changing of ingrained behaviour such as viewed in practical consciousness.
- **Economism:** is defined as the greed and commercialization of everyday life in the most advanced countries where advertisements makes everything a commodity (Reese, 2003:96)
- **Engineering of consent:** "The Engineering of Consent" is an essay by Edward Bernays first published in 1947. He defines "engineering consent" as the art of manipulating people
- **Environmental consciousness:** is conceptualized as a pro-environmental, strong positive attitude and behaviour directed towards preserving the natural environment, which includes a willingness to purchase more sustainable product alternatives and to reduce wastage.
- **Explicit knowledge:** is knowledge that has been articulated, codified, and collected in media. It can be freely communicated to others. The information contained in textbooks and encyclopedias are good examples of explicit knowledge.
- **Fresh produce:** includes all varieties and cultivars of perishable fruits and vegetables.
- **Frugality:** is the practice of acquiring goods and services in a restrained manner, and resourcefully using already owned economic goods and services, to achieve a longer term goal
- **Global environmental change:** is the steady rise of temperatures that result in the reduction and depletion of the earth's natural resources such as agricultural land, groundwater, air, minerals and even life it self (Wills, 2008: 17;Gerbens-leenes & Nonhebel, 2002:185; and Clarke,1999:5).The main

© University of Pretoria

contributing factors is current conspicuous consumers lifestyles and negligent behaviour that contribute to the emission of key gases (greenhouse gases) namely carbon dioxide, Methane and nitrous oxide.

- **Green consumerism:** is the collection of efforts by environmental NGOs, businesses and governments to persuade individuals to buy goods and services that have a less harmful environmental impact (Hamilton, 2010)
- **Invidious consumption**: refers to consumption deliberately intended to cause envy
- **Knowledge-ignorance paradox**: refers to the process by which the growth of specialized scientific knowledge results in a simultaneous increase in ignorance
- **Perceived obsolescence:** is the part of planned obsolescence that refers to "desirability". In other words, an object may continue to be functional, but it is no longer perceived to be stylish or appropriate, so it is rendered obsolete by perception, rather than by function. Fashion is all about perceived obsolescence, and it could be said that perceived obsolescence is the number one "product" of the advertising industry.
- **Planned obsolescence:** refers to designing and producing products in order for them to be used up (obsolete) within a specific time period. Products may be designed for obsolescence either through function, like a paper coffee cup or a machine with breakable parts, or through "desirability," like a piece of clothing made for this year's fashion and then replaced by something totally different next year. Planned obsolescence is also known as "design for the dump."
- **Procedural knowledge:** refers to consumers knowledge regarding action strategies, e.g. How do we recycle
- **Practical consciousness:** entails any practices and behaviour that are taught during early childhood. Behaviour based on this "practical consciousness" can be classified as habitual – in the sense that it does not require any thought or reasoning. Practical consciousness is also interrelated and referred to as tacit knowledge, in the sense that people have the basic knowledge to act in general public.
- **Reflexivity:** refers to the possibility if individuals to reflect upon their activities and cognitions and to govern future doings and thought intentionally.
- **Reification:** implies that people believe that social structures are beyond their control and is therefore unchangeable
- **Resources:** refers to the disposal of the activities of other people (authoritive resources) and the availability of material objects or artifacts to achieve aims or further interest. Resources are important towards the gaining or generation of power.
- **Rules:** are techniques or generalized procedures social actors routinely employ to cope with social situations
- **Syncretism:** refers to the process in which new information is assimilated to fix familiar concepts... this often leads to inappropriate inferences e.g. climate change is linked to the hole in the ozone layer /ozone depletion
- **Social space:** in relation to the Structuration theory of practice, refers to society or the social.
- **Structure (Systems of Provisions):** refers to a set of stable and stabilizing patterns of social life that shape human activity or also defined as the agency. In the structuration theory structures are seen as rules and resources inherent in social practices.
- **Store loyalty:** refer to a consumer's loyalty towards a retail store in terms of a commitment to repeat purchase behaviour at a store irrespective of the offerings at other stores (Levy & Weitz, 2001:176). For this research, store loyalty was interpreted as the extent to which customers would recommend specific

© University of Pretoria

supermarkets to best friends/family.

- **Supermarket:** is defined as any large, departmentalized retail establishment that primarily sells food items (Zikmund & d' Amico, 2001:658) while a department store is a large retail unit with extensive assortment (variety and range) of goods and services that are organised into separate departments for purposes of buying, promotion, customer service, and control (Thang & Tan, 2003:196). This may include foods and groceries. For this study customers were prompted to provide their opinions regarding the supermarket/s were they frequently shop. These then included large departmentalized retail establishments as mentioned and described in the above definition.
- **Sustainability:** is the endurance of systems and processes. The organising principle for sustainability, is sustainable development, which includes the four interconnected domains, ecology, economics, politics and culture
- **Tacit knowledge:** refers to consumers general knowledge regarding environmental aspects such as the general condition of the ecology or specific waste figures
- **Waste:** is, (an) undesirable residue of any process or product, which has been discarded, accumulated or been stored for purpose of discharging or processing. It may be in the following three forms, gaseous, liquid or solid, or any combination thereof. The origin for waste tends to be industrial, commercial or residential. The exact definition for waste is currently still under debate because of the increasing global trend to reduce, recycle, recover – waste products. In general waste is defined as something that nobody wants at a particular moment in time and needs to dispose of (Barr & Gilg, 2005:229).

© University of Pretoria