



MENTAL ACCOUNTING: THE PSYCHOLOGY OF SOUTH AFRICAN CONSUMER BEHAVIOUR

Suchita Ramphal

A research project submitted to the Gordon Institute of Business Science,
University of Pretoria, in partial fulfilment of the requirements for the degree of
Master of Business Administration

November, 2006

ABSTRACT

When standard economic theories failed to be consistent predictors of consumer behaviour, Thaler (1980, 1985) developed the theory of mental accounting, which takes behavioural factors into consideration.

Prelec & Loewenstein (1998), Heath & Soll (1996) and Gourville & Soman (1998) extended Thaler's (1980,1985) work to develop the theories of prospective accounting, mental budgeting, and payment depreciation of the sunk cost effect.

The purpose of this research is to use the methodologies of Prelec & Loewenstein (1998), Heath & Soll (1996), and Gourville & Soman (1998) to determine whether their theories of mental accounting exist amongst South African consumers. If this is found to be the case, the findings can be used by marketers towards the creation of a strategy that could exploit these effects.

This research shows that there is insufficient evidence for the existence of mental budgeting amongst South African consumers. However, there is significant evidence for the existence of prospective accounting and the sunk cost effect. In addition, a variation of payment depreciation was found to exist. Thus, mental accounting has been shown to exist amongst South African consumers.



DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in this or any other University.

.....

Suchita Ramphal

14 November 2006

I wish to thank:

- Professor David Beaty, my supervisor, for his encouragement and time;
- The countless family and friends who assisted with the data collection process; and
- Ashwin Lakhan, my husband, for his support and valuable input.



DEDICATION

To my parents, for their love and support

ABSTRACT	II
DECLARATION	III
ACKNOWLEDGEMENTS	IV
1 INTRODUCTION	12
1.1 Context of Study	12
1.2 Research Aim	13
1.3 Significance of Study	14
1.4 Definition of Terms	14
2 LITERATURE REVIEW	15
2.1 Mental Accounting	15
2.2 Prospect Theory	18
2.3 Standard Economic Theories	19
2.3.1 Expected Utility Theory	19
2.3.2 The Life Cycle Theory of Savings	20
2.4 Mental Budgeting	22
2.5 Prospective Accounting	26
2.6 Sunk Costs and Payment Depreciation	28
2.7 Other Theories in Mental Accounting	31
3 PROPOSITIONS	32
3.1 Mental Budgeting	32
3.2 Prospective Accounting	33
3.3 The Sunk Cost Effect and Payment Depreciation	33



4	RESEARCH METHOD	34
4.1	The Research Population	34
4.2	Unit of Analysis	34
4.3	Sampling Method	34
4.4	Data Collection	35
4.4.1	Mental Budgeting	36
4.4.2	Prospective Accounting	39
4.4.3	Payment Depreciation and the Sunk Cost Effect	40
4.5	Pilot Study	41
4.6	Sample Exclusions	41
4.7	Assumptions	41
4.8	Limitations	41
4.9	Data Analysis	42
4.9.1	Mental Budgeting	42
4.9.2	Prospective Accounting	43
4.9.3	Payment Depreciation and the Sunk Cost Effect	43
4.9.4	Comparison of Results across Segments	44
4.9.5	Age Segmentation	44
4.10	Validity and Reliability	46
4.10.1	Internal Validity	46
4.10.2	External Validity	47
4.11	Conclusion	48
5	PRESENTATION OF RESULTS	49
5.1	Description of Sample	49
5.2	Mental Budgeting	51
5.2.1	Results for entire sample	51
5.2.2	Comparison of results across gender	52
5.2.3	Comparison of results across ethnic groups	53
5.2.4	Comparison of results across age groups	54
5.2.5	Comparison of results across age and gender groups	56
5.2.6	Comparison of results across ethnic and gender groups	58
5.2.7	Other comparisons	59
5.3	Prospective Accounting	59
5.3.1	Results for entire sample	60
5.3.2	Comparison of results across gender	62
5.3.3	Comparison of results across ethnic groups	63
5.3.4	Comparison of results across age groups	64
5.3.5	Comparison of results across age and gender groups	65
5.3.6	Comparison of results across ethnic and gender groups	67
5.3.7	Other comparisons	68

5.4	Payment Depreciation and the Sunk Cost Effect	68
5.4.1	Results for entire sample	69
5.4.2	Comparison of results across gender	70
5.4.3	Comparison of results across ethnic groups	71
5.4.4	Comparison of results across age groups	72
5.4.5	Other comparisons	73
6	<u>INTERPRETATION OF RESULTS</u>	74
6.1	Mental Budgeting	74
6.1.1	Comparison of results with the original study	74
6.1.2	Comparison of results across gender	76
6.1.3	Comparison of results across gender and ethnic groups	76
6.1.4	Comparison of results across gender and age groups	77
6.2	Prospective Accounting	78
6.2.1	Comparison of results with the original study	78
6.2.2	Comparison of results across gender	79
6.2.3	Comparison of results across age	80
6.2.4	Comparison of results across gender, age and ethnic groups	80
6.3	Payment Depreciation and the Sunk Cost Effect	82
6.3.1	Comparison of results with the original study	82
6.3.2	Comparison of results across gender	84
6.3.3	Comparison of results across ethnic groups	85
6.3.4	Comparison of results across age	85
7	<u>CONCLUSION AND RECOMMENDATIONS</u>	86
7.1	Future Research	89
	<u>REFERENCES</u>	90

LIST OF TABLES

	Page
Table 1: Breakdown of survey respondents by gender and ethnic origin	48
Table 2: Breakdown of survey respondents by gender and ethnic origin	49
Table 3: Breakdown of survey respondents by ethnic origin, gender and age	50
Table 4: Spending reduction as a function of price, satiation and typicality for the entire sample	51
Table 5: Spending reduction as a function of price, satiation and typicality according to gender	52
Table 6: Spending reduction as a function of price, satiation and typicality according to ethnic group	53
Table 7: Spending reduction as a function of price, satiation and typicality according to age group	54
Table 8: Spending reduction as a function of price, satiation and typicality according to age and gender	56
Table 9: Spending reduction as a function of price, satiation and typicality according to ethnic group and gender	58
Table 10: Percentage of subjects who prefer to prepay or to delay a salary	60
Table 11: Percentage of subjects who prefer to prepay or to delay a salary according to gender	62
Table 12: Percentage of subjects who prefer to prepay or to delay a salary according to ethnic group	63

Table 13: Percentage of subjects who prefer to prepay or to delay a salary according to age group	64
Table 14: Percentage of subjects who prefer to prepay or to delay a salary according to gender and age group	65
Table 15: Percentage of subjects who prefer to prepay or to delay a salary according to ethnic group and gender	67
Table 16: Effects of payment and delay on the mean likelihood of attending the game	69
Table 17: Effects of payment and delay on the mean likelihood of attending the game according to gender	70
Table 18: Effects of payment and delay on the mean likelihood of attending the game according to ethnic group	71
Table 19: Effects of payment and delay on the mean likelihood of attending the game according to age group	72



LIST OF APPENDICES

	Page
Appendix A: Questionnaire used for Data Collection	96

1 INTRODUCTION

1.1 Context of Study

Standard economic theories assume that consumers are rational and make optimal and consistent choices (Rabin & Thaler, 2001; Kahneman, 2003a). These models often fail as predictors of consumer spending and behaviour. “The problem seems to be that while economists have gotten increasingly sophisticated and clever, consumers have remained decidedly human” (Thaler, 1990, p. 203).

Aaker (1998) suggests that a good marketing strategy be based upon a clear understanding of consumer behaviour. Assumptions about how consumers make decisions affect the products and services a business introduces to the market, the prices they set, the channels they use for delivery, positioning, branding and a whole host of other marketing activities (Kotler & Keller, 2006). Knowledge of consumer psychology provides the benefit of increased market share through targeting of psychological aspects of spending behaviour (Davies, 2003).

In an attempt to develop a more predictive model of consumer behaviour (as opposed to the optimising models of economic theory), Thaler (1980, 1985) developed the theory of mental accounting using a combination of cognitive psychology and microeconomics. This theory describes a set of cognitive operations used by individuals and

households to organise, evaluate, and keep track of financial activities (Thaler, 1999).

Subsequently, authors such as Heath & Soll (1996), Gourville & Soman (1999), Prelec & Loewenstein (1998), and Thaler (1990, 1994, 1999), have explored some of the core principles of mental accounting and extrapolated these principles to derive a set of behaviour patterns in consumer purchasing and consumption.

Consumers are not the rational decision makers they were once posited to be. By acknowledging that their decision-making is often irrational, inconsistent, and emotionally driven, and by understanding the cognitive processes behind their behaviour, marketers can both anticipate and influence consumers' purchase decisions (Spector, 2005).

1.2 Research Aim

The researcher proposes to use mental accounting theory to explain the purchasing and consumption behaviour of South African consumers. The researcher will investigate the extent to which the observation of the theory differs across gender, race and age market segments.

1.3 Significance of study

No published research exists in the South African context that explores the ability of the theory of mental accounting to explain South African consumer behaviour. A deeper understanding of this type of behaviour would assist marketing strategists in consumer industries within the South African business environment.

1.4 Definition of Terms

The following definitions are relevant to this research:

Bounded rationality - Bounded rationality refers to the limitations of human intellectual capability (Kahneman, 2003b).

Decisional efficiency – Decisional efficiency refers to consumer decisions made based on achieving the optimal financial outcome (Prelec & Loewenstein, 1998).

Fungibility – Fungibility in economics refers to the concept that all money is the same, and that the source of wealth should have no effect on the likelihood of spending it (Thaler, 1990).

Hedonic efficiency – Hedonic efficiency refers to consumer decisions made so as to experience the most pleasure from the consumption experience as possible (Prelec & Loewenstein, 1998).

2 LITERATURE REVIEW

The following chapter will review the current literature on mental accounting and the aspects of mental accounting which are the subject of this study.

2.1 Mental Accounting

Mental accounting attempts to describe the process used by people to code, categorise, and evaluate events (Thaler, 1990). Mental accounting theorists argue that people group their assets into a number of non-fungible mental accounts (Shefrin & Thaler, 1988; Thaler, 1980, 1985, 1990).

Thaler (1980, 1985, 1990) states that people process combinations of outcomes rather than separate events and that this leads to irrational financial behaviour (in terms of classical economic theory). Individuals essentially suffer a constant tension between hedonic efficiency and decisional efficiency.

Decisional efficiency favours the outcome that makes the most financial sense, while hedonic efficiency favours the outcome that would result in the most pleasure experienced or gained from the consumption or purchase (Prelec & Loewenstein, 1998).

Mental accounting may be seen as analogous to the accounting and budgeting systems used by companies: at the transaction level, consumers tend to “open” an account mentally for each transaction as it occurs. Evaluations of the perceived costs and benefits of the transaction then tend to occur within the context of that account (Davies, 2003).

A study carried out by Tversky & Kahneman (1981) has often been used to demonstrate the phenomenon of mental accounting. In this study, two groups of subjects were posed with one of the following questions:

(a) Imagine that you have decided to see a play and have paid the admission price of £10 per ticket. As you enter the theatre you discover you have lost the ticket. The seat was not marked, and the ticket cannot be recovered. Would you pay £10 for another ticket?

OR

(b) Imagine you have decided to see a play where the admission is £10 per ticket. As you enter the theatre, you discover that you have lost a £10 note. Would you still pay £10 for a ticket for the play?

According to Tversky & Kahneman (1981), less than half of the first group answered yes to the first question while nearly 90% of the second group answered yes to the second question. In economic terms, however, the

same amount of money has been lost in both cases, and so the responses to both questions should be identical (Davies, 2003).

The reasons for the difference in responses can be explained by mental accounting: in the first question, the price of the second theatre ticket has been added to the open “theatre account” against which the first ticket had already been booked. For many people, this is too much to pay for the play (Davies, 2003).

In the second case, the money lost is not perceived as being related to the play and the “theatre account” is viewed in isolation of this amount. As a result, it does not affect the decision to see the play (Davies, 2003).

Thaler (1990) and Davies (2003) propose the following reason for why people use mental accounting: by enabling transactions to be evaluated in isolation from other transactions, it reduces the cognitive load on the decision-maker, thus making decision making easier.

Davies (2003) however, warns that the cost of this process is the possibility of decisions becoming mentally disassociated from other decisions which might be more appropriately evaluated together. In addition, the perceived benefits and costs of transactions evaluated in the context of these mental accounts are open to psychological bias.

2.2 Prospect Theory

Mental accounting (Thaler, 1980, 1985) is based on Kahneman & Tversky's (1979) concept of prospect theory.

According to prospect theory, one of the reasons that consumers regularly violate the predictions of standard economic theory is "framing" (Kahneman, 2003a; Spector, 2005). Kahneman & Tversky (1979), propose that framing positions choices in ways that bias the outcome. In other words, the way a problem is described or posed, affects the choices that consumers make.

Standard economic theory ignores the possibility of different outcomes for differently framed problems (Spector, 2005), yet when choices involving gains or losses are involved, consumer's choices for essentially identical outcomes may be contradictory.

Using prospect theory, Thaler (1980) constructed a model of how consumers evaluate events such as purchases that typically involve combinations of outcomes. He suggests that people code combinations of events so as to make themselves as happy as possible. This is known as "hedonic framing", or evaluating joint outcomes to maximise utility. In addition, Thaler (1980) adapted the concept of framing to propose that the way that wealth is categorised and labelled will affect consumers'

likelihood of spending that wealth i.e. "labelling" affects consumer choice.

2.3 Standard Economic Theories

Both prospect theory and mental accounting were developed as alternatives to standard economic theories such as expected utility theory and the life-cycle model.

2.3.1 Expected Utility Theory

Utility theory assumes that when consumers make purchase decisions, they try to solve the following formula (Thaler, 1985):

$$\max U(z) \quad s.t. \quad \sum p_i z_i \leq I \quad (1)$$

where $z = \{z_1, \dots, z_i, \dots, z_n\}$ is the vector of goods available in the economy at prices given by $p = \{p_1, \dots, p_i, \dots, p_n\}$. $U(z)$ defines the consumer's utility function and his income or wealth is given by I .

What equation (1) proposes is that consumers try to maximise their utility such that the sum of the prices of all goods purchased will not exceed their income. In other words, they try to get as much utility out of their income without exceeding it, as possible

There have been various extensions to this jurisdiction but the only variables that come into play are price and product characteristics (Thaler, 1985).

Thaler (1985) concedes that utility theory can be used as a predictor of consumer behaviour, but only in cases where the decision to be made is small and fairly simple. However, in more complicated situations, the effect called “bounded rationality” comes into play.

Bounded rationality (Kahneman, 2003b) refers to the limitations of human intellectual capability. In other words, when situations become overly complicated with a number of variables coming into play, people find it difficult to process all of the information optimally. This leads to systematic and predictable differences between models (which describe optimal behaviour) and actual behaviour.

2.3.2 The Life Cycle Theory of Savings

The life cycle theory predicts consumption and savings behaviour as follows (Thaler, 1990): in any year, one should compute the present value of one's wealth, including current income, net assets, and future income. Calculate the level annuity one could purchase with that money, and then consume the amount one would receive if in fact such an annuity were owned.

Thaler (1994) criticises the life-cycle model on three aspects:

1. It presumes that people are capable of solving a multi-period dynamic maximisation problem. Again, the obstacle to this is “bounded rationality” (Kahneman, 2003b);
2. Secondly, if people knew the optimal amount that they *should* save and how much they *can* spend, the life-cycle theory can only hold true if they do not suffer from lack of self-control or impatience;
3. Thirdly, the life-cycle theory assumes fungibility. Fungibility assumes that all money is the same and is the reason why all wealth, whether it be income, assets or pension can be collapsed into a single number. Shefrin & Thaler (1988) and Thaler (1985, 1990), have shown that the source or location of wealth can influence the marginal propensity to spend it.

Standard economic theories are rational maximising or optimising models. While they describe what consumers *should* do, prospect theory and mental accounting describe what consumers *actually* do (Thaler, 1980).

Further to Thaler (1980) defining the original principles of mental accounting, a number of authors extended his work to investigate further

anomalies of consumer behaviour. Some of these will be described below.

2.4 Mental Budgeting

The main assumption of standard economic theory is that of fungibility (Thaler, 1990). Fungibility is the notion that money has no labels. If money is perfectly fungible, then winning n rands at the casino is identical to earning n rands in interest on your savings account, which should be identical to your pension increasing in value by n rands. The marginal propensity to consume all types of wealth should be equal, assuming no transaction costs. This means that you would be equally as likely to spend the n rands of your casino winnings, as you would the n rands of the interest you earned, as you would the n rands from your pension.

Thaler (1980, 1985, 1990) argues that in reality, households have a system of mental accounts. He proposes three broad accounts: a current income account, an asset account, and a future income account. Households would be most likely to spend from the current income account, and least likely to spend from the future income account. The marginal propensity to consume from the asset account lies somewhere in between.

Based on Thaler's (1970) theory of mental accounting and Kahneman & Tversky's (1976) work on the effect of framing on consumer choice, Heath & Soll (1996) derived a theory of mental budgeting.

According to the theory of mental budgeting, consumers have a series of mental accounts more specific than the three basic accounts described by Thaler (1980, 1985). The way in which consumers frame or label these mental accounts leads them to budget a certain amount of their total resources to each of these accounts. Examples would be having a mental budget for entertainment, or a mental budget for clothing.

Dividing spending into budget categories serves two purposes (Thaler, 1999): it helps individuals make decisions when there are competing uses for available funds; and it can be used as a self-control device. Just as organisations establish budgets to keep track of and limit spending, mental budgeting is used by individuals to keep their spending within their means (Thaler & Shefrin, 1981).

The second part of the mental budgeting theory concerns how expenses are labelled and then tracked against the relevant budget.

According to Heath & Soll (1996), budgets are never perfect. Consumers may allocate too much or too little money to a particular account. This can cause consumers to over consume items that they do not desire

from a particular account if too much money has been budgeted for that account, or to under consume items that they do desire from a particular account, if too little money has been budgeted for that account.

Heath & Soll (1996) use the following example to demonstrate the phenomenon of underconsumption of a category: Mrs A. reluctantly declines an invitation to dinner because she had “spent too much money” on tickets to the theatre two days earlier. She would have enjoyed the dinner and could have afforded it but felt compelled to refuse because of the earlier theatre expense.

Here, Mrs. A has assigned a certain amount of money to the mental budget of entertainment. The tickets to the theatre have severely depleted this budget and so she feels that she cannot make any further withdrawals from her entertainment account by going to dinner.

Heath & Soll (1996) use the following example to demonstrate the phenomenon of overconsumption of a category: Mr B recently went shopping for a pair of trousers. When he could not find anything he liked, he spent a similar amount of money on a jersey that he normally would not have bought.

Here, Mr. B had budgeted a certain amount of money for clothing. When his intended purchase is not deducted from his “clothing

account", he now feels as if he has extra or spare money to spend on clothing, and so buys an item that he does not necessarily need or even want.

In summary, Thaler (1990) states that consumers generate two kinds of labels that affect their decisions as consumers: first they label money as relevant for a certain class of goods (budgeting) and second they label goods as relevant for a certain pool of money (expense tracking).

Heath & Soll (1996) argue that expenses that are easy to categorise (known as "typical" goods) will be more subject to budgetary constraints than expenses that are less easy to categorise. An example of an expense that is typical of entertainment could be two tickets to the theatre. In contrast, dinner at a restaurant is not as easy to categorise: it could fall into the food category or the entertainment category and could therefore be tracked against either budget.

Heath & Soll (1996) carried out three studies which demonstrated the following effects:

- Each of the studies showed evidence of underconsumption within a mental account;
- When purchases are highly typical, underconsumption was found to be more common;

- The magnitude of underconsumption was found to increase with the typicality of the purchase.

The researcher thus puts forward the following proposition:

Proposition 1: Consumer decision-making in the South African context is affected by mental budgeting.

2.5 Prospective Accounting

Prelec & Loewenstein (1998) used mental accounting principles to derive a concept known as “prospective accounting”. This concept describes how individuals tend to evaluate each transaction within its own mental account. This evaluation consists of the perceived benefit of consumption, and the perceived cost of payment. Unlike standard economic theory, these two components are affected by each other, and by the timing of the consumption acts and payments (Davies, 2003).

Specifically, within each transaction account, thinking about the cost of the purchase at the time of consumption can undermine the pleasure derived from it; thinking about the benefits of a purchase can blunt the pain of making payments (Prelec & Loewenstein, 1998).

Prelec & Loewenstein (1998) argue that consumption that has already been paid for can be enjoyed as if it were free, and that the pain associated with payments made before consumption (but not after) can

be buffered by the thoughts of the benefits that the payments will finance.

Consumers tend to make decisions to “maximise their happiness”. While standard economic theory predicts that people will finance purchases to minimise the present value of payments, the prospective accounting model predicts a tendency to prepay so that the consumption can be enjoyed without being spoiled by thoughts of having to pay for it in the future. In addition, the payment is mitigated by the thoughts of the benefits from the future consumption (Davies, 2003).

Prelec & Lowenstein (1998) carried out two studies which support their prediction of debt aversion and preferences for prepayment. Their findings were consistent with those of Hirst, Joyce & Schaedewald (1993) who described several studies in which subjects showed a preference for matching the duration of a loan with the life of the durable.

In addition, the strength of prospective accounting was found to differ according to the nature of the purchase (Prelec & Loewenstein, 1998). The effect was found to be stronger for consumption that is intense and short-lived rather than longer term. Consumer durables provide long-term consumption benefits, so that even if the payments are spread out over an extended period, the pain of these payments may always be offset by the benefits of use that will continue into the future (Prelec & Loewenstein, 1998; Davies, 2003).

The researcher thus puts forward the following proposition:

Proposition 2: Consumer decision-making in the South African context is affected by prospective accounting.

2.6 Sunk Costs and Payment Depreciation

According to Arkes & Blumer (1985, p.124), the sunk cost effect is “manifested in a greater tendency to continue an endeavour once an investment in money, effort or time has been made.”

Thaler (1980) used the following scenario to describe this effect: A family pays \$40 for tickets to a basketball game to be played 60 miles from their home. On the day of the game there is a snowstorm. They decide to go anyway, but note in passing that if the tickets had been given to them, they would have stayed at home.

According to standard economic theory, only incremental costs and benefits should affect decisions. Historical costs should be irrelevant (Thaler, 1980).

To make the decision about whether to go to the game, the family should weigh the enjoyment of the game (the marginal benefit) against the effort it would take to travel the 60 miles through the snowstorm (the marginal cost). The amount that they paid for the tickets is a sunk cost and should have no effect on their decision.

In contrast, behavioural decision theorists (Thaler, 1980; Arkes & Blumer, 1985; Brockner, 1992) argue that paying for the right to use a good or service will increase the rate at which the good will be utilised. This is referred to as the “sunk cost effect”.

In terms of mental accounting, when the family bought the tickets, they opened a mental account. There is a “pain of payment” associated with buying the tickets, but this is mitigated by thoughts of the game to come (Prelec & Loewenstein, 1998). Going to the game “balances” the account. Not going to the game, leaves the account with a negative balance.

One of the mitigating factors of the sunk cost effect is time. Gourville & Soman (1998) showed that with increasing temporal separation between payment and consumption, there is a decreasing impact of the sunk cost effect on decision making. They refer to this effect as “payment depreciation”. Research by Thaler (1980) has shown that a newly obtained purchase will gradually be incorporated into one’s wealth over time.

With respect to the example of the basketball game described earlier, if the ticket purchases had occurred well in advance of the game, the purchaser would have adapted to the cost of the tickets with the passage of time, reducing the sunk cost effect and thus increasing his likelihood of staying at home. If the ticket purchase had occurred just a

short while before the game, the purchaser would not have had time to adapt to the cost, and thus would be prone to the sunk cost effect, meaning that there would be a greater likelihood of him attending the game.

The implication of payment depreciation is as follows: the longer that payment for the item occurs before consumption, the more the item will increasingly take on the characteristics of a free good. This should lead to an increased likelihood of foregoing the item (Gourville & Soman, 1998).

According to Gourville & Soman (1998), if the consumption cannot be deferred, as in the case of a ticket to a sporting event, payment depreciation should lead to an increased likelihood of foregoing the benefit.

In cases where consumption *can* be deferred, payment depreciation should lead to an increased likelihood of consumption of the item. Gourville & Soman (1998) use the example of buying an expensive bottle of wine. If consumed at or near the time of purchase, the purchaser would require a special occasion worthy of opening the bottle. As time passes, and payment depreciation increases, the magnitude of the occasion required to drink the wine should decrease, thus increasing the purchaser's likelihood of consuming the wine.

The researcher thus puts forward the following proposition:

Proposition 3: Consumer decision-making in the South African context is affected by the sunk cost effect and payment depreciation.

2.7 Other Theories in Mental Accounting

The aspects of mental budgeting, prospective accounting, the sunk cost effect and payment depreciation are only some of theories that have arisen out of Thaler's (1980) original work on mental accounting.

Prelec & Loewenstein (1998) have also delved into the psychological phenomenon of "coupling", which refers to the degree to which consumption and payment are bound together psychologically.

Soman (2001) extended Prelec & Loewenstein's (1998) work to develop a theory of retrospective evaluation which examines the effect of payment mechanism on spending behaviour.

However, these, and other concepts in mental accounting, lie outside the scope of this study.

3 PROPOSITIONS

The propositions to be tested are described below:

3.1 Mental Budgeting

Proposition 1: Consumer decision-making in the South African context is affected by mental budgeting.

The researcher proposes that underconsumption of a category will occur due to the presence of mental budgeting. Underconsumption refers to consumers not buying an item even though they desire it and can afford it.

It is proposed that underconsumption will be greater for items that are highly typical of the category (where “typical” means an extremely good example of), and that the magnitude of underconsumption will be proportional to the typicality of the item.

3.2 Prospective Accounting

Proposition 2: Consumer decision-making in the South African context is affected by prospective accounting.

The researcher proposes that consumers display strong debt aversion and have a tendency to prepay due to the presence of prospective accounting. It is proposed that this tendency will be dependent on the nature of the consumption experience: where the consumption experience is intense and short-lived, the tendency to prepay will be stronger; where the consumption experience is longer-lasting, the tendency to prepay will not be as strong.

3.3 The Sunk Cost Effect and Payment Depreciation

Proposition 3: Consumer decision-making in the South African context is affected by the sunk cost effect and payment depreciation.

The researcher proposes that people pay irrational attention to sunk costs in the short term, and that this effect is mitigated by increasing the temporal separation between payment and consumption (known as “payment depreciation”).

4 RESEARCH METHODOLOGY

This chapter describes the methodology that was followed to ascertain the validity of the research propositions presented in the previous section. The chapter begins with a description of the data required. This is followed by descriptions of the processes that were used in the analysis and interpretation of the data. The chapter is concluded with a discussion on validity and reliability of the chosen research method.

4.1 The Research Population

The population of relevance consists of all South African individuals that make payment and consumption decisions.

4.2 Unit of Analysis

The unit of analysis is the South African consumer.

4.3 Sampling Method

The non-probability sampling method of snowball sampling as described by Welman & Kruger (2001) was used. Individuals within the relevant population were asked to complete the survey questionnaire. These

individuals were then asked to identify other members from the population who were in turn asked to complete the questionnaire.

Targeted individuals were from both genders, all race groups, and ranged in age from 17 to 65.

4.4 Data Collection

Survey questionnaires were used to gather the data needed for this study as they are useful in obtaining information about the typical behaviour of respondents (Welman & Kruger, 2001).

Questionnaires were circulated via e-mail (electronic mail) to potential respondents. It was also posted on a website. In cases where interested respondents did not have access to e-mail or the internet, printed copies were distributed.

Welman & Kruger (2001) state that the disadvantage of this form of data gathering is the low response rate. Also, the researcher has little control over the completion of questionnaires, which may result in incomplete or poorly completed questionnaires. The advantages of this form of data gathering are the low cost and ease of distribution and the fact that it provides respondents with anonymity – as a result, there is a greater likelihood of honest responses (Welman & Kruger, 2001).

The questionnaire design was based closely on the work of Heath & Soll (1996), Prelec & Loewenstein (1998) and Gourville & Soman (1998).

The questionnaire has six sections (see Appendix 1).

The first section requests demographic information such as age, gender and race. This information was for the purposes of comparing responses across age, gender and race groups for differences and similarities in consumer behaviour.

The next five sections address the propositions regarding mental budgeting, prospective accounting, the sunk cost effect and payment depreciation.

The section regarding the sunk cost effect and payment depreciation required four variations of a scenario to be posed to survey respondents. These were split into two scenarios each, and used to generate two variations of the survey.

4.4.1 Mental Budgeting

Heath & Soll (1996) carried out three studies to test for the presence of mental budgeting in consumer behaviour. Their main focus was to measure whether underconsumption of a category occurred once the budget for a mental account had been depleted. Underconsumption

refers to the phenomenon where a consumer does not purchase as much of a good as they would like to consume.

Each of the studies also measured whether underconsumption occurred for reasons other than mental budgeting viz. not being able to afford the good (the income effect) or not wanting to consume any more of the good (satiation effect).

The first two studies measured the satiation effect by assessing how people changed their consumption after receiving a gift. Heath & Soll (1996) admitted, however, that this was not an ideal measurement method. When people consume a gift, their likelihood of consuming additional items in the same category *should* decrease, but if their budgets are sufficiently sticky (i.e. the consumer stays very close to the set budget), they might not reduce their consumption of further items in that category, *even though* they might not enjoy the consumption of those items as much.

A third study was then conducted with a revised method of measuring the satiation effect. Apart from measuring the presence of underconsumption, the study was also designed to measure whether underconsumption increased in magnitude with the typicality of the purchase.

A combination of two of the studies performed by Heath & Soll (1996) was used to test for the presence of mental budgeting amongst South African consumers.

In pilot studies, Heath & Soll (1996) found that most people had weekly budgets for food and entertainment and monthly budgets for clothing. The researcher used these generic categories.

There are three sections of the survey that address the question of mental budgeting. Respondents are given a list of items that vary in price and in their typicality as members of the categories of food, entertainment and clothing (where typical means a particularly good example of).

In the first section, respondents rate how their spending would be affected if they had to buy each of the items listed against an eleven point attitudinal scale which ranged from "1 = Increase a lot", through "6 = Doesn't affect my spending" to "11 = Decrease a lot".

In the second section, respondents rate the extent to which each of the items satisfies their need for each of the categories of food, entertainment and clothing against a seven point attitudinal scale ranked from "1 = Does not satisfy my need for food/entertainment/clothing" to "7 = Very much satisfies my need for

food/entertainment/clothing. This question controls for the satiation effect.

In the third section, respondents rate the degree to which each item was *typical* of the categories of food, entertainment and clothing against a seven point attitudinal scale ranked from "1 = Not a good example of food/entertainment/clothing" to "7 = A very good example of food/entertainment/clothing".

4.4.2 Prospective Accounting

The study by Prelec & Loewenstein (1998) was used to measure the presence of prospective accounting amongst South African consumers. The study consists of five questions where respondents are asked to choose between pre-payment and post-payment when faced with different scenarios. The scenarios included paying for the hedonic purchase of a vacation and the non-hedonic purchase of an appliance.

The researcher included a scenario which describes paying for miscellaneous living expenses to rule out the possibility of debt-aversion being restricted to the category of luxury purchases.

In addition, two scenarios describing being paid for (a) an intensive weekend of work; and (b) a few hours of work each weekend for the next six months, were included to rule out the possibility of preferences for prepayment being due to a desire to expedite financial transactions.

4.4.3 Payment Depreciation and the sunk cost effect

A variation of the study that had been performed by Gourville & Soman (1998) was used to test for the presence of payment depreciation and the sunk cost effect amongst South African consumers. This study is a variation of a similar work by Thaler (1980) that had been used to test for the sunk cost effect.

The original study tested for payment depreciation in eight different scenarios: each scenario was manipulated according to price (two variations of \$50 and \$100), payment (two variations of fully paid for tickets and free tickets) and delay (two variations of six months before and the previous day).

For the purposes of this study, four different scenarios which manipulated payment (two variations of fully paid for tickets and free tickets) and delay (two variations of six months before and the previous day) were presented to respondents. These scenarios were sufficient to test for the effects described in the proposition. Subjects fell into one of two groups. Each group was presented with two of the four variations.

4.5 Pilot Study

A pilot study was performed to detect flaws in the survey design such as ambiguous wording or instructions. The pilot group consisted of members of the target population. Feedback from this pilot study was then incorporated into the survey design.

4.6 Sample Exclusions

Respondents were removed from the data set if they did not complete the questionnaire. The respondent otherwise remained in the sample.

4.7 Assumptions

The categories of food, clothing and entertainment used by Heath & Soll (1996) were assumed to exist for South African consumers.

4.8 Limitations

Cross-cultural studies using quantitative methodology have been found to be sensitive to bias (Harari & Beaty, 1981, 1990). This could have an effect on the eventual outcomes derived from the study.

The study is limited to investigating the presence of mental budgeting, prospective accounting, the sunk cost effect and payment depreciation in South African consumer behaviour.

4.9 Data Analysis

4.9.1 Mental Budgeting

Each subject's responses on the three scales were converted to standardised z-scores to control for erroneous use of the scales (Heath & Soll, 1996). These z-scores were then used in a multi-variable linear regression. Reduction in spending was regressed as a function of price, satisfaction and typicality.

The equation that was solved is shown below:

$$\textit{Spending Reduction} = a + b\textit{Price} + c\textit{Satisfaction} + d\textit{Typicality} \quad (2)$$

where a , b , c and d are the regression coefficients.

In equation (2), spending reduction is being described as a function of price, satisfaction and typicality.

The results of the analysis were compared to those from the original study. The analysis was repeated for the subgroups of age, gender and race.

4.9.2 Prospective Accounting

Frequency analysis was performed to determine which option (pre- or post-payment) was favoured for each scenario. A two-sample t-test was then performed for each question to test whether the percentages were significantly different from the washer-dryer question.

The results of the analysis were compared to those from the original study. The analysis was repeated for the subgroups of age, gender and race.

4.9.3 Payment Depreciation and the Sunk Cost Effect

Subjects' responses were analysed in a two (payment) X two (delay) ANOVA (Analysis of Variance).

The ANOVA test tests for variance *within* sample means as well as variance between sample means. Only if the variance *between* sample means is large relative to the variance *within* sample means, can it be concluded that there is a significant difference between population means (Albright, Winston & Zappe, 2003).

4.9.4 Comparison of Results across Segments

For each of the propositions above, the results of the current study were compared:

- Across gender: male and female
- Across race: Black, Indian/Asian and White (the Coloured race group has been excluded due to a lack of sufficient respondents to draw accurate statistical conclusions)
- Across age groups: below 29 years, 29 to 41 years and above 41 years

4.9.5 Age Segmentation

The age groups of below 29 years, 29 to 41 years and above 41 years, are a result of demographic segmentation based on generation. Kotler & Keller (2006) describe how each generation is profoundly influenced by the time in which it grows up – in particular, by the music, movies, politics, and defining events of that period. As a result, people from the same generation have similar outlooks and values, while those from different generations have different outlooks and values.

The three age groups which have been proposed as a basis for segmentation correspond to the commonly referred to “Baby Boomers”, “Generation X” and “Generation Y” (Kotler & Keller, 2006). Kotler & Keller (2006) describe these generations as follows:

- Baby Boomers – Born 1946-1964. Great acquirers, they are value- and cause-driven despite indulgences and hedonism;
- Generation X – Born 1965-1977. Cynical and media-savvy, they are more alienated and individualistic;
- Generation Y – Born 1978-1994. Edgy, focussed on urban style, they are more idealistic than Generation X.

Although these generation groupings have their origin in American pop culture, there have been a number of South African studies which have used these same categories to profile South African retail and consumer behaviour (Cant & Brink, 1998; Pepler, 2003; Tassiopoulos, Nuntsu & Haydam, 2004).

4.10 Validity and Reliability

4.10.1 Internal Validity

Leedy & Ormrod (2001) define internal validity as the extent to which the researcher is able to draw accurate conclusions from the study. They state that the internal validity of a study can be improved by reducing the possibility that the research results came about due to reasons other than those concluded in the study.

The methodologies used by Heath & Soll (1996), Prelec & Loewenstein (1998) and Gourville & Soman (1998) were closely followed. Any deviations from the original studies were made following the feedback from a pilot study in which the original questions were tested for clarity, understanding and ease of completing the questionnaire. Scenarios were also localised so that respondents could relate to them.

The method of distribution allowed respondents to remain anonymous. Survey respondents were not given details of the research propositions. These two measures help to mitigate the effect of measurement reactivity.

Measurement reactivity is where respondents' awareness that they are participating in a study may affect their responses to the survey (Welman

& Kruger, 2001). Respondents may provide responses they believe to be socially desirable or they might try to provide the researcher with answers that they believe the researcher is looking for.

The researcher proposes that an accurate implementation of the methodology will ensure that the study is internally valid.

4.10.2 External Validity

External validity refers to the extent to which generalisations into other areas can be made from the results of a specific study (Leedy & Ormrod, 2001). Leedy & Ormrod (2001) state that the external validity of a study can be improved by using a representative sample and by finding results that are consistent with similar studies.

The sample in this study is believed to be statistically large and representative of South African consumers. It is also believed to be representative of male and female South African consumers, and representative of Black, White and Indian South African consumers. There were insufficient Coloured respondents to draw any statistical conclusions regarding their purchasing and consumption behaviour. A breakdown of the sample as described is shown below in Table one.

Table 1: Breakdown of survey respondents by gender and ethnic origin

	African/Black	Indian/Asian	White	Coloured	Other	Total
Male	21	41	51	2	4	119
Female	16	34	30	3	2	85
Total	37	75	81	5	6	<u>204</u>

This research in many ways replicates aspects of studies conducted by behavioural theorists in the United States of America. The findings of this research were generally consistent with those obtained from these similar studies.

4.11 Conclusion

In general the researcher employed the methodologies of Heath & Soll (1996), Prelec & Loewenstein (1998), and Gourville & Soman (1998) to test for the presence of mental budgeting, prospective accounting, payment depreciation, and the sunk cost effect in South African consumer behaviour.

The results are presented in Chapter Five.

5 PRESENTATION OF RESULTS

5.1 Description of Sample

A total of 204 completed survey responses were received - incomplete or incorrectly filled surveys are excluded from this total. Two variations of the survey had been circulated (different scenarios were posed for Proposition 3) – the first variation of the survey had 101 completed responses, the second variation had 103 completed responses.

Table two below shows a breakdown of the sample by gender and ethnic origin.

Table 2: Breakdown of survey respondents by gender and ethnic origin

	African/Black	Indian/Asian	White	Coloured	Other/Did not wish to specify	Total
Male	21	41	51	2	4	119
Female	16	34	30	3	2	85
Total	37	75	81	5	6	<u>204</u>

Table three shows a breakdown of the sample by ethnic origin and gender against the three age groups described in Chapter four.

Table 3: Breakdown of survey respondents by ethnic origin, gender and age

	Below 29 years	29 to 41 years	Above 41 years
Male	44	63	12
Female	39	39	7
African/Black	16	18	3
Indian/Asian	39	35	1
White	27	41	13
Coloured	1	3	1
Other/Did not wish to specify	0	5	1
Total	83	102	19

5.2 Mental Budgeting

Proposition 1: Consumer decision-making in the South African context is affected by mental budgeting.

Spending reduction was regressed as a function of price, satiation and typicality as described in Section 4.9.1. The tables below list the intercept and coefficients for the regression equation. The significance levels of the regression coefficients are shown in brackets.

5.2.1 Results for entire sample

Table 4: Spending reduction as a function of price, satiation and typicality for the entire sample

	Intercept	Standardised Coefficient for Price	Standardised Coefficient for Satisfaction	Standardised Coefficient for Typicality
Entire sample (N = 204)	-0.45 (0%)	0.38 (0%)	0.19 (0%)	-0.09 (0%)

Spending reduction was found to be a function of price, satiation and typicality. Spending reduction was found to increase as price and satiation increase and as typicality decreases. Price was the most influential term, while typicality was found to be the least influential term.

5.2.2 Comparison of results across gender

Table 5: Spending reduction as a function of price, satiation and typicality according to gender

	Intercept	Standardised Coefficient for Price	Standardised Coefficient for Satisfaction	Standardised Coefficient for Typicality
Male Subgroup (N = 119)	-0.49 (0%)	0.35 (0%)	0.16 (0%)	-0.06 (2%)
Female Subgroup (N = 85)	-0.40 (0%)	0.43 (0%)	0.21 (0%)	-0.12 (0%)

The results for males and females were similar to those from Table four. The relative strengths of the different factors were found to be similar for both genders.

5.2.3 Comparison of results across ethnic groups

Table 6: Spending reduction as a function of price, satiation and typicality according to ethnic group

	Intercept	Standardised Coefficient for Price	Standardised Coefficient for Satisfaction	Standardised Coefficient for Typicality
African/ Black Subgroup (N = 37)	-0.49 (0%)	0.30 (0%)	0.08 (6%)	-0.06 (22%)
Indian /Asian Subgroup (N = 75)	-0.38 (0%)	0.46 (0%)	0.18 (0%)	-0.10 (0%)
White Subgroup (N = 81)	-0.51 (0%)	0.35 (0%)	0.22 (0%)	-0.08 (1%)

Spending reduction for all ethnic groups was found to be a function of price, satiation and typicality, with the exception of the African/Black subgroup. In this subgroup, spending reduction was found to be a function of price, with evidence of satiation being a factor at a 6% significance level.

Spending reduction for the African/Black group increases as price and satiation increases, while spending reduction for all other ethnic groups increases as price and satiation increase and as typicality decreases.

Price was consistently the dominant factor across all ethnic groups.

5.2.4 Comparison of results across age groups

Table 7: Spending reduction as a function of price, satiation and typicality according to age group

	Intercept	Standardised Coefficient for Price	Standardised Coefficient for Satisfaction	Standardised Coefficient for Typicality
Below 29 years of age (N = 83)	-0.45 (0%)	0.48 (0%)	0.19 (0%)	-0.11 (0%)
Between 29 and 41 years of age (N = 102)	-0.40 (0%)	0.24 (0%)	0.27 (0%)	-0.07 (0%)
Above 41 years of age (N = 19)	Sample too small			

The results for the different age groups are similar to those from Table four. For the group younger than 29, price was found to be the dominant factor in spending reduction, and is more than two and a half times greater than the satiation factor.

This was in contrast to the 29-41 age group where the regression coefficients for price and satiation have a similar effect on spending reduction.

5.2.5 Comparison of results across age and gender groups

Table 8: Spending reduction as a function of price, satiation and typicality according to age and gender

	Intercept	Standardised Coefficient for Price	Standardised Coefficient for Satisfaction	Standardised Coefficient for Typicality
Males below 29 (N = 44)	-0.47 (0%)	0.43 (0%)	0.13 (0%)	-0.07 (13%)
Females below 29 (N = 39)	-0.43 (0%)	0.55 (0%)	0.22 (0%)	-0.14 (0%)
Males between 29 and 41 (N = 63)	-0.45 (0%)	0.35 (0%)	0.29 (0%)	-0.12 (0%)
Females between 29 and 41 (N = 39)	-0.38 (0%)	0.36 (0%)	0.26 (0%)	-0.18 (1%)
Males above 41 (N = 12)	Sample too small			
Females above 41 (N = 7)	Sample too small			

The results for the different age and gender groups were similar to those from Table four with the exception of males below 29. For this subgroup, spending reduction was found to be only a function of price and satiation. Spending reduction for males below 29 years was found to increase as price and satiation increased.

5.2.6 Comparison of results across ethnic and gender groups

Table 9: Spending reduction as a function of price, satiation and typicality according to ethnic group and gender

	Intercept	Standardised Coefficient for Price	Standardised Coefficient for Satisfaction	Standardised Coefficient for Typicality
Black Males (N = 21)	-0.53 (0%)	0.28 (0%)	-0.03 (65%)	0.04 (57%)
Black Females (N = 16)	Sample too small			
Indian Males (N = 41)	-0.48 (0%)	0.43 (0%)	0.15 (0%)	-0.06 (16%)
Indian Females (N = 34)	-0.27 (0%)	0.51 (0%)	0.21 (0%)	-0.15 (0%)
White Males (N = 51)	-0.48 (0%)	0.29 (0%)	0.23 (0%)	-0.07 (13%)
White Females (N = 30)	-0.55 (0%)	0.44 (0%)	0.20 (0%)	-0.10 (6%)

Spending reduction for black males was found to be only a function of price. Price was found to be the dominant factor in spending reduction for all other subgroups, with the exception of White males. The regression coefficients of price and satiation are of similar magnitude for White males.

The only subgroup to have typicality affect spending reduction is Indian females.

5.2.7 Other comparisons

A comparison across ethnic and age groups (e.g. Black respondents below the age of 29) was not performed as any analysis would not be statistically meaningful, due to the small sample sizes.

5.3 Prospective Accounting

Proposition 2: Consumer decision-making in the South African context is affected by prospective accounting.

The first three columns in tables 10 to 15 show the percentage of respondents who chose to pre-pay for a vacation, washer-dryer, and expenses for a brief period of unemployment. Column four shows the percentage of respondents who chose to delay receiving payment until after they had performed some work six months in the future. Column

five shows the percentage of respondents who chose to receive payment *while* performing some work over the next six months, instead of afterwards.

Asterisks indicate percentages that are significantly different ($p < 0.05$) from those in the washer-dryer question.

5.3.1 Results for entire sample

Table 10: Percentage of subjects who prefer to prepay or to delay a salary

	Prefer to Prepay				
	Vacation	Washer-Dryer	Miscellaneous Expenses	Prefer to delay Salary	Prefer salary with work
Entire sample (N = 204)	78%*	42%	88%*	66%*	90%*

The majority of respondents preferred to pre-pay rather than post-pay for the vacation and miscellaneous expenses, and to receive payment after the intensive weekend of work, rather than before having done the work. The majority of respondents also preferred to receive payment *while* working, rather than after having finished the work. There was no clear preference for pre- or post-payment for the washer-dryer.

Respondents showed a greater preference for prepaying for the vacation and miscellaneous expenses than for prepaying for the washer-dryer. There is also a greater preference for delaying payment for the intensive weekend of work or for receiving payment while doing the work, than for prepaying for the washer-dryer.

5.3.2 Comparison of results across gender

Table 11: Percentage of subjects who prefer to prepay or to delay a salary according to gender

	Prefer to Prepay				
	Vacation	Washer-Dryer	Miscellaneous Expenses	Prefer to delay Salary	Prefer salary with work
Male Subgroup (N = 119)	75%*	42%	86%*	60%*	86%*
Female Subgroup (N = 85)	84%*	41%	91%*	75%*	89%*

Results for both genders are similar to those from Table 10. In all instances, women were found to be more likely to prepay and to delay their salaries or receive their salary while working, than men.

5.3.3 Comparison of results across ethnic groups

Table 12: Percentage of subjects who prefer to prepay or to delay a salary according to ethnic group

	Prefer to Prepay			Prefer to delay Salary	Prefer salary with work
	Vacation	Washer-Dryer	Miscellaneous Expenses		
African/Black Subgroup (N = 37)	81%*	43%	89%*	68%*	86%*
Indian/Asian Subgroup (N = 75)	72%*	41%	95%*	75%*	89%*
White Subgroup (N = 81)	84%*	40%	79%*	59%*	93%*

Results for all ethnic groups were found to be similar to those from Table 10.

5.3.4 Comparison of results across age groups

Table 13: Percentage of subjects who prefer to prepay or to delay a salary according to age group

	Prefer to Prepay			Prefer to delay Salary	Prefer salary with work
	Vacation	Washer-Dryer	Miscellaneous Expenses		
Below 29 years of age (N = 83)	83%*	49%	92%*	71%*	87%*
Between 29 and 41 years of age (N = 102)	75%*	39%	85%*	66%*	93%*

Results for both age groups were found to be similar to those from Table 10. The 29 to 41 year age group was found to have a lower preference to prepay or delay their salaries than the group below 29 years of age.

5.3.5 Comparison of results across age and gender groups

Table 14: Percentage of subjects who prefer to prepay or to delay a salary according to gender and age group

	Prefer to Prepay			Prefer to delay Salary	Prefer salary with work
	Vacation	Washer-Dryer	Miscellaneous Expenses		
Males below 29 (N = 44)	82%*	50%	91%*	66% (13%)	89%*
Males between 29 and 41 (N = 63)	71%*	40%	81%*	59%*	92%*
Females below 29 (N = 39)	85%*	49%*	92%*	77%*	85%*
Females between 29 and 41 (N = 39)	82%*	38%	92%*	77%*	95%*

Unlike the rest of the age and gender subgroups, males below the age 29 show no clear preference for delaying their salary until after completing the intensive weekend of work, over receiving their salary immediately.

The findings from Section 5.3.4 which show that respondents between the ages of 29 and 41 show a lower preference for prepayment and delaying their salary than respondents younger than 29, appears to be driven by the male subgroup.

All other results were similar to those from Table 10.

5.3.6 Comparison of results across ethnic and gender groups

Table 15: Percentage of subjects who prefer to prepay or to delay a salary according to ethnic group and gender

	Prefer to Prepay			Prefer to delay Salary	Prefer salary with work
	Vacation	Washer-Dryer	Miscellaneous Expenses		
Black Males (N = 21)	81%*	52%	90%*	62% (54%)	86%*
Black Females (N = 16)	81%*	31%	88%*	75%*	88%*
Indian Males (N = 41)	61% (13%)	44%	93%*	71%*	88%*
Indian Females (N = 34)	85%*	38%	97%*	79%*	91%*
White Males (N = 51)	82%*	35%	76%*	49% (16%)	94%*
White Females (N = 30)	87%*	47%	83%*	77%*	90%*

Unlike the rest of the ethnic and gender subgroups, Indian males were found to show no preference for either pre-paying or post-paying for the vacation. Black and White males were found to be just as likely to choose to receive payment *before* performing the intensive weekend of work, as compared to after. All other results are similar to those from Table 10.

Note: Although the results for Black males and females have been included in the above table for comparison, they might be erroneous due to the small sample sizes.

5.3.7 Other comparisons

A comparison across ethnic and age groups (e.g. Black respondents below the age of 29) was not performed as any analysis would not be statistically meaningful, due to the small sample sizes.

5.4 Payment Depreciation and the Sunk Cost Effect

Proposition 3: Consumer decision-making in the South African context is affected by the sunk cost effect and payment depreciation.

The tables below list the mean likelihood of respondents attending a sports event at a venue 150km away during a storm under one of four conditions:

1. The tickets for the game (which are worth R500) had been obtained for free six months ago;
2. The tickets for the game (which are worth R500) had been obtained for free the previous day;
3. The tickets for the game had been bought for R500 six months ago;
4. The tickets for the game had been bought for R500 the previous day.

5.4.1 Results for entire sample

Table 16: Effects of payment and delay on the mean likelihood of attending the game

	Free Tickets		Paid-For Tickets	
Payment Delay	One day	Six Months	One Day	Six Months
Entire Sample (N = 103)	6.01	5.10	5.97	6.68

Respondents were most likely to brave the storm and attend the game if the tickets had been bought six months before. Respondents were significantly more likely to attend the game if the tickets had been bought rather than obtained for free ($p = 0.005$), or if the tickets had

been obtained for free one day before rather than if they had been obtained for free six months ago ($p = 0.02$).

Evidence was found to show that respondents were more likely to attend the game if the tickets had been bought the day before than if they had been bought six months ago at a 6% significance level.

5.4.2 Comparison of results across gender

Table 17: Effects of payment and delay on the mean likelihood of attending the game according to gender

	Free Tickets		Paid-For Tickets	
Payment Delay	One day	Six Months	One Day	Six Months
Male Subgroup (N = 57)	6.25	5.40	6.21	6.93
Female Subgroup (N = 41)	5.46	4.76	5.66	6.32

Men were found to be more likely to attend the game if they had paid for their tickets than if they had obtained the tickets for free ($p = 0.03$). Women showed evidence of the same behaviour at a 6% significance level.

In all conditions, men were more likely to attend the game than women.

5.4.3 Comparison of results across ethnic groups

Table 18: Effects of payment and delay on the mean likelihood of attending the game according to ethnic group

	Free Tickets		Paid-For Tickets	
Payment Delay	One day	Six Months	One Day	Six Months
African/Black Subgroup (N = 10)	5.30	3.20	3.50	5.90
Indian/Asian Subgroup (N = 31)	6.23	5.65	6.19	6.84
White Subgroup (N = 25)	5.92	5.56	6.72	6.56

Under all conditions, Black respondents show a lower mean likelihood of attending the game than Indian and White respondents.

Note: The results for Black respondents might be erroneous due to the small sample size.

5.4.4 Comparison of results across age groups

Table 19: Effects of payment and delay on the mean likelihood of attending the game according to age group

	Free Tickets		Paid-For Tickets	
Payment Delay	One day	Six Months	One Day	Six Months
Below 29 years of age (N = 40)	6.28	5.42	6.43	7.18
Between 29 and 41 years of age (N = 48)	5.88	4.98	5.77	6.42
Above 41 years of age (N = 9)	Sample too small			

Respondents below the age of 29 were more likely to attend the game if they had paid for their tickets than if they had obtained the tickets for free ($p = 0.03$). Respondents between 29 and 41 showed evidence of the same behaviour at a 10% significance level. Under all conditions, the mean likelihood of attending the game has a lower magnitude for the older age group than the younger age group.

5.4.5 Other comparisons

A comparison across gender and age subgroups (e.g. males below 29 years of age), as well as across ethnic and age subgroups (e.g. Indian respondents above 41 years of age) was not performed as any analysis would not be statistically meaningful, due to the small sample sizes.

6 INTERPRETATION OF RESULTS

6.1 Mental Budgeting

6.1.1 Comparison of results with the original study

No conclusive evidence has been found for mental budgeting amongst South African consumers. The findings are not consistent with those from the study performed by Heath & Soll (1996).

Like Heath & Soll (1996), reduction in spending was found to be a function of price and satiation i.e. the more that respondents had to pay for an item (price), the less they would spend in future, and the more the item satisfied their needs (satiation), the less likely they would be to buy future items of a similar nature.

The main difference between the two studies was regarding the “typicality” variable. In the study by Heath & Soll (1996), it was shown that the more typical an item was of a category, the greater the reduction in spending for that category. Heath & Soll (1996) argue that expenses that are easy to categorise (known as “typical” goods) would result in a greater depletion of the corresponding budget (and thus, greater

reduction in further spending) than expenses that could be attributed partially to two or more budgets.

The South African study showed no positive relationship between typicality and spending reduction. However, it must be noted that Heath & Soll (1996) state that for underconsumption to vary with typicality, both budget setting and expense tracking are required. If either of these processes is missing, then a relationship between typicality and spending reduction will not be found.

If individuals were to track their expenses but not set a budget, they would not underconsume: underconsumption occurs when people do not buy items that they want because they have exceeded a mental budget that they have set for themselves – if there is no budget, there cannot be underconsumption.

If an individual sets an overall budget for all expenses for the week, but does not track expenses by assigning them to categories, all expenses would belong to one category and would be equally likely to cause underconsumption (Heath & Soll, 1996). In this case budget setting exists, but not expense tracking.

As the results of the study show evidence of spending reduction which does not increase with the typicality of the item, it is possible that:

- South African consumers do not have separate mental budgets for food, clothing and entertainment but rather a budget for general expenditure within a time period;
- As the mental budgeting process is dependent on the “labelling” and “grouping” of resources (Thaler, 1993; Heath & Soll, 1996), South African consumers could have different category labels for the items described in the questionnaire. This would affect the expense tracking process, as survey respondents were being asked to use category labels that might be different to the categories they would normally have assigned expenses to.
- It is also possible that mental budgeting does not exist within the South African context.

6.1.2 Comparison of results across gender

Comparison of the factors affecting spending reduction (refer to Table five) showed that men and women display similar spending behaviour with respect to the factors tested.

6.1.3 Comparison of results across gender and ethnic groups

For Black respondents, and particularly Black males (refer to Tables six and nine), spending reduction is affected solely by price. Price is also the dominant factor in the spending reduction of Indian males and females,

and White females. For white males, spending reduction is affected equally by price and satiation.

In summary, the spending behaviour of all ethnic and gender groups appears to be price-driven, with the exception of White males. The spending behaviour of White males tends to be relatively more needs-driven, although price is still an important factor.

Heath & Soll (1996) suggest that income could be a factor in spending reduction: this could be the driving factor behind the price-sensitivity exhibited by the respondents as described above.

6.1.4 Comparison of results across gender and age groups

A comparison of the regression coefficients for price in Tables seven and eight showed that price was less of a factor in spending reduction as age increased i.e. the older age group was found to be less price-sensitive than the younger age group. This result was consistent across both the male and female subgroups.

The price-sensitivity of the younger age group could be driven by income level as discussed in Section 6.1.3 above.

6.2 Prospective Accounting

6.2.1 Comparison of results with the original study

The results from the South African study were consistent with those from the original study (Prelec & Loewenstein, 1998). Respondents showed a preference for prepayment of the vacation and the miscellaneous expenses for the brief period of unemployment.

Prelec & Loewenstein (1998) proposed that people would tend to prepay because the future consumption (in this case, either the vacation, or the brief period of unemployment) could then be enjoyed as if it were “free”. If the individual chose to consume the item first, and then pay, their consumption experience would be less pleasurable due to thoughts of the future payment. In addition, at the time of payment, with the consumption experience in the past, it would feel as if one were paying for nothing.

There was also a preference for delaying payment for the work to be performed six months in the future.

This scenario is analogous to paying for the vacation. People would tend to do the work (“pay”) first, because future consumption (“receiving the salary”) could then be enjoyed as if it were free. If the individual chose to receive the salary first, their consumption experience would be less enjoyable due to thoughts of the work to be performed in future. In

addition, at the time of actually doing the work, with the consumption experience in the past, it would feel as if one were working for nothing.

Respondents showed a preference for receiving their salary as the work was performed over the next six months, instead of afterwards. In all cases, preferences for prepayment were significantly greater than that for the washer-dryer.

Like Prelec & Loewenstein (1998), the researcher found that the tendency to prepay varied with the nature of the product: the tendency was greater for consumption experiences that were intense and short-lived (e.g. the vacation and the brief period of unemployment) rather than longer term (e.g. the washer-dryer). The purchase of a durable good such as an appliance would provide long-term consumption benefits, so that even if payment were made after the good was purchased, the “pain of making the payments” would be mitigated by the ongoing benefits received from the appliance (Davies, 2003).

6.2.2 Comparison of results across gender

A comparison of the percentages for pre-payment for men and women in Table 11 showed that in all instances, the preference for prepayment was higher for women than men. This indicates that women could be more debt-averse than men. Debt, in this case, means either consuming

something before paying for it, or getting advance payment for future work (Prelec & Loewenstein, 1998).

6.2.3 Comparison of results across age

A comparison of the percentages from Table 13 showed that in the majority of instances, the preference for prepayment was higher for the younger respondents than the older ones. This indicates that debt-aversion decreases with age, possibly because the younger respondents might have a lower level of income, or a higher level of existing debt (or both) than the older respondents, and would be less willing to take on more debt.

6.2.4 Comparison of results across gender, age and ethnic groups

A comparison of the percentages from Tables 14 and 15 showed similar results for females across all age and ethnic groups, indicating that females are relatively homogenous in their attitudes towards prepayment and debt aversion.

Males across all ethnic groups, however, displayed varying results of debt aversion. Males below the age of 29, and Black and White males in particular, displayed no significant preference for either receiving their salary *before* performing work, or receiving their salary *after* performing

work. This was contrary to the results for the rest of the subgroups and contrary to the findings of Prelec & Loewenstein (1998).

Prelec & Loewenstein (1998) proposed that people would prefer to receive payment for work *after* they had performed it rather than before. If an individual chose to receive the salary first, their enjoyment of spending the salary would be spoiled by thoughts of the work to be performed in future. In addition, at the time of actually doing the work, with the money having been spent in the past, it would feel as if one were working for nothing. This should result in debt-averse behaviour.

Indian males displayed no significant preference for either pre- or post-payment of their vacation. This was contrary to the results for the rest of the subgroups and contrary to the findings of Prelec & Loewenstein (1998). Similar to the reasoning above, Prelec & Loewenstein (1998) proposed that if an individual chose to go on holiday before paying for it, their enjoyment of the holiday would be spoiled by thoughts of the future payments. In addition, at the time of making the actual payments, with the holiday in the past, it would feel as if one were paying for nothing. This should result in debt-averse behaviour.

This indicates that males below the age of 29, and Black, Indian and White males, are less debt-averse than all other subgroups.

6.3 Payment Depreciation and the Sunk Cost Effect

6.3.1 Comparison of results with the original study

Respondents were more likely to drive through the storm to attend the game if the tickets had been bought than if they had been obtained for free - this supports Gourville & Soman's (1998) findings regarding the sunk cost effect. According to Arkes & Blumer (1985, p.124), the sunk cost effect is "manifested in a greater tendency to continue an endeavour once an investment in money, effort or time has been made." This means that individuals would be more likely to consume an item if it had been paid for, than if it had been obtained for free.

The researcher found that although tickets that had been paid for *did* depreciate over the six months specified, it was not to the extent that they were thought of as free (fully depreciated) – this result was different from the finding of Gourville & Soman (1998). Gourville & Soman (1998) suggested that the sunk cost effect attenuates itself during the temporal separation between payment and consumption, until the item that had been paid for is perceived as being free.

A possible reason for this difference between the original study by Gourville & Soman (1998) and the current study could be that the six month period specified was too short for full depreciation of the tickets to

occur – a different result might be obtained if the study were to be repeated with a longer time period.

In addition, even if the tickets *had* been obtained for free, there was evidence to show that respondents still placed some value on the tickets, and that this value was found to depreciate over the six months. This is contrary to the original study (Gourville & Soman, 1998) in which it was found that there were no significant differences between the results for tickets obtained for free six months before, versus those that had been obtained for free the previous day. In other words, timing had no effect on the likelihood of the respondent attending the game if the tickets had been free.

The reasoning that Gourville & Soman (1998) gave for this was since no monetary costs had been incurred, there were no sunk costs to attend to. A possible explanation for this difference between Gourville & Soman's (1998) result and the result from the current study is that even though no monetary costs had been incurred in the purchasing of the tickets, South African respondents still placed some value on the free tickets. This *value* (which could be related to the anticipation of attending the game, or the required time and effort in actually travelling to the game) is subject to the principles of payment depreciation in that consumers see the tickets as less and less valuable as more time passes since they obtained them.

In terms of mental accounting, obtaining the tickets created the expectation of attending the game and resulted in the opening of a mental account. The account would only be closed when the game had been attended.

6.3.2 Comparison of results across gender

A comparison of the mean likelihood of attending the game for men and women (refer to Table 17) showed that the means for men were higher than those for women in all instances. This indicates that the surrounding conditions were more of a deterrent to women attending the game than men.

One factor that could be taken into consideration is the value placed on attending the sports event under the weather and distance conditions specified: men may place greater value on attending the game than women and would thus be more willing to brave unpleasant conditions to attend the event.

Another factor that could be considered is risk-aversion: if willingness to drive 150km through a storm to attend a sports event can be equated to propensity for risk, then it could be said that women are more risk-averse than men.

6.3.3 Comparison of results across ethnic groups

A comparison of means across ethnic groups (refer to Table 18) showed that Black respondents were less likely to attend the game than Indian and White respondents. Following the discussion from Section 6.3.2 above, it is evident that the surrounding conditions were more of a deterrent to Black respondents than Indian and White respondents. Black respondents could place lower value on attending the game than the Indian and White respondents, or Black respondents could be more risk-averse in terms of braving the conditions, than the Indian and White respondents.

6.3.4 Comparison of results across age

A comparison of the means across age groups (refer to Table 19) showed that the younger respondents were more likely to attend the game under all conditions, than the older respondents. The same factors as cited in Sections 6.3.2 and 6.3.3 could explain this behaviour: risk-aversion could increase with age, or the older respondents do not value attending the game under the weather and distance conditions specified, as much as the younger respondents.

7 CONCLUSION AND RECOMMENDATIONS

The purpose of this research was to use the methodologies of Prelec & Loewenstein (1998), Heath & Soll (1996), and Gourville & Soman (1998) to determine whether mental accounting, and more specifically, prospective accounting, mental budgeting, payment depreciation and the sunk cost effect is present amongst South African consumers. If this was found to be the case, the findings could be used by marketers towards the creation of a strategy that could exploit these effects.

Mental budgeting (Thaler, 1990) describes a process whereby consumers label money as relevant for a certain class of goods (budgeting) and label goods as relevant for a certain pool of money (expense tracking). Labelling affects the marginal propensity to spend from each of these budgets, which violates the standard economic theory of fungibility (Thaler, 1990).

There was insufficient evidence for the existence of mental budgeting amongst South African consumers. This could be attributed to South African consumers using a different labelling process.

Price was found to be the dominant factor in the spending reduction of all ethnic and gender groups with the exception of White males. The influence of price on spending reduction was also found to decrease with age.

The presence of prospective accounting was observed amongst South African consumers. Standard economic theory predicts that consumers would prefer to pay for purchases as late as possible (Prelec & Loewenstein, 1998). Contrary to this, prospective accounting predicts strong debt aversion and a tendency to prepay in certain conditions. Women were found to be more debt-averse than men. Debt aversion was also found to decrease with age.

The sunk cost effect was observed amongst South African consumers. The sunk cost effect describes how consumers pay irrational attention to past investments of time and/or money. Standard economic theory predicts that consumers would pay no attention to past investments and would make decisions based solely on marginal conditions (Gourville & Soman, 1998).

A variation of payment depreciation was found to exist amongst South African consumers. Whereas Gourville & Soman (1998) observed that respondents in their study treated a good as free if no monetary cost were involved, the study described in this research demonstrated that South African consumers place some value on a good even if no monetary cost were involved in obtaining it. Women were found to be more risk-averse than men. Black respondents were found to be more risk-averse than White and Indian respondents. There was also evidence to indicate that risk-aversion increases with age.

In summary, principles of mental accounting were found to exist amongst South African consumers. Marketers should be cognisant of the fact that consumers often act irrationally and that this can lead to inconsistent behaviour which violates the principles of standard economic theory.

Marketers and product developers should also be aware that local consumers may not display the same behaviour as international consumers, and that there are differences in behaviour even within the local consumer market across gender, age and ethnic groups.

The results from this study can be used a basis for further research to develop consumer products that complement the way in which consumers think about their finances and spending.

7.1 Future Research

The following areas could form the basis of future research:

Research into the labelling mechanism used by South African consumers can be performed to determine whether mental budgeting does exist amongst South African consumers.

Research could be performed which could investigate the presence of payment depreciation with an actual temporal separation of payment and consumption.

The effects of mental accounting measured in this study are not exhaustive: research into effects such as “coupling” (Prelec & Loewenstein, 1998), which refers to the degree to which consumption and payment are bound together psychologically, and “retrospective evaluation” (Soman, 2001) which examines the effect of payment mechanism on spending behaviour, can be performed.

REFERENCES

Aaker, D. A., (1998) *Strategic Market Management*. New York: John Wiley & Sons, Inc.

Albright, S.C., Winston, W.L., & Zappe, C. (2003) *Data Analysis and Decision Making with Microsoft® Excel*. California: Brooks/Cole.

Arkes, H.R., & Blumer, C. (1985) The Psychology of Sunk Cost. *Organizational Behavior and Human Decision Processes*, 59, 331-347.

Brockner, J. (1992) The Escalation of Commitment to a Failing Course of Action: Toward Theoretical Progress. *Academy of Management Review*, 17, 39-61.

Browning, M. & Crossley, T.F. (2001) The Life-Cycle Model of Consumption and Saving. *Journal of Economic Perspectives*, 15(3), 3-22.

Cant, M.C. & Brink, A. (1998) *Retailing: A Future Perspective in Southern Africa*. Available from:
<http://www.sbaer.uca.edu/research/icsb/1998/pdf/toc.pdf> (accessed 07/11/2006)

Davies, G. (2003) The Realities of Spending. *Argent*, 2(6), 22-27.

Gourville, J.T. & Sorriani, D. (1978) Payment Depreciation: The Behavioral Effects of Temporally Separating Payments from Consumption. *The Journal of Consumer Research*, 25(2), 160-174.

Harari, O. & Beaty, D. (1981) *Lessons from South Africa: A New Perspective on Public Policy and Productivity*. New York: Harper & Row.

Harari, O. & Beaty, D. (1990) On the Folly of Relying Solely on a Questionnaire Methodology in Cross-Cultural Research. *Journal of Managerial Issues*, 2(3), 267-281.

Heath, C. (1995) Escalation and De-Escalation of Commitment in Response to Sunk Costs: The Role of Budgeting in Mental Accounting. *Organizational Behavior and Human Decision Processes*, 62(1), 38-54.

Heath, C. & Soll, J.B. (1996) Mental Budgeting and Consumer Decisions. *The Journal of Consumer Research*, 23(1), 40-52.

Hirst, E.E., Joyce, E.J. & Schadewald, M.S. (1992) Mental Accounting and Outcome Contiguity in Consumer Borrowing Decisions. *Organizational Behavior and Human Decision Processes*, 58, 136-152.

Kahneman, D. (2003a) A Psychological Perspective on Economics. *The American Economic Review*, 93(2), 162-168.

Kahneman, D. (2003b) Maps of Bounded Rationality: Psychology for Behavioral Economics. *The American Economic Review*, 93(5), 1449-1475.

Kahneman, D. & Tversky, A. (1979) Prospect theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263-291.

Kivetz, R. (1999) Advances in Research on Mental Accounting and Reason-Based Choice. *Marketing Letters*, 10(3), 249-266.

Kotler, P. & Keller, K.L. (2006) *Marketing Management 12e*. New Jersey: Pearson Education Inc.

Leedy, P.D. & Ormrod, J.E. (2001) *Practical Research: Planning and Design(7th Edition)*. Upper Saddle River: Merrill Prentice Hall

Pepler, E. (2003) *Traditional News Values vs Popular Culture: Media Preferences of the Younger Generations*. Available from:
<http://academic.sun.ac.za/journalism/news/archive/conference03/papers/pepler.doc> (accessed 07/11/2006)

Prelec, D. & Loewenstein, G. (1998) The Red and the Black: Mental Accounting of Savings and Debt. *Marketing Science*, 17(1), 4-28.

Rabin, M. & Thaler, R.H. (2001) Anomalies: Risk Aversion. *The Journal of Economic Perspectives*, 15(1), 219-232.

Schiffman, G. L & Kanuk, L. L. (2000) *Consumer Behavior (7th Edition)*. New Jersey: Prentice-Hall Inc.

Shefrin, H.M. & Thaler, R.H. (1978) THE BEHAVIORAL Life-Cycle Hypothesis.

Economic Inquiry, 26(4), 609-643.

Soman, D. (2001) Effects of Payment Mechanism on Spending Behavior: The Role of Rehearsal and Immediacy of Payments. *Journal of Consumer Research*, 27, 460-468.

Spector, L. (2005) Grasping the Strange and Irrational Ways Consumers Behave. *Virtual Strategist*, 7, 1-7. Available from:

<http://www.virtualstrategist.net/pdf/7-2-1> (accessed 31/06/2006)

Tassiopoulos, D., Nuntsu, N. & Haydam, N. (2004) Wine Tourists in South Africa: A Demographic and Psychographic Study. *Journal of Wine Research*, 15(1), 51-63.

Thaler, R. H. (1980) Toward a Positive Theory of Consumer Choice. *Journal of Economic Behavior and Organization*, 1(March), 39-60.

Thaler, R. H. (1985) Mental Accounting and Consumer Choice. *Marketing Science*, 4(3), 199-214.

Thaler, R. H. (1990) Anomalies: Saving, Fungibility, and Mental Accounts. *The Journal of Economic Perspectives*, 4(1), 193-205.

Thaler, R.H. (1994) Psychology and Savings Policies. *The American Economic Review*, 84(2), 186-192.

Thaler, R. H. (1999) Mental Accounting Matters. *Journal of Behavioural Decision Making*, 12, 183-206.

Thaler, R.H. & Shefrin, H.M. (1981) An Economic Theory of Self-Control. *The Journal of Political Economy*, 89(2), 392-406.

Tversky, A. & Kahneman, D. (1981) The Framing of Decisions and the Psychology of Choice. *Science*, 211(4481), 453-458.

Tversky, A. & Kahneman, D. (1986) Rational Choice and the Framing of Decisions. *The Journal of Business*, 59(4), S251-S278.

Welman, J.C. & Kruger, S.J. (2001) *Research Methodology for the Business and Administrative Sciences 2nd Edition*. Cape Town: Oxford University Press.



APPENDICES

Appendix A: Questionnaire used for Data Collection



Appendix A: Questionnaire used for I

Introduction

Thank you for taking the time to fill in the following questionnaire. All responses will remain confidential.

The information from this survey will be used to investigate the reasons behind the irrational decisions that consumers sometimes make.

If you have any questions, please contact me at:

E-mail: suchita.ramphal@telkomsa.net

This research will go towards fulfilling the requirements of a Masters of Business Administration (MBA) from the Gordon Institute of Business Science (GIBS).

Instructions

This questionnaire has six sections with 16 questions in total. It should take you about 15 minutes to complete.

The first section requests you to provide demographic information.

Each of the following sections describes various scenarios and asks you to indicate what your behaviour would be if you were faced with those scenarios.



Demographic Information:

Name (Optional): _____ Age: _____

Gender: Male Female

Ethnic Origin: White African/Black

Indian/Asian Coloured

Do not wish to specify

Other (Please specify): _____

Section 1

Q1 How would your **spending on entertainment** for the **rest of the week** be affected after paying for each of the following items at the **beginning of the week**:

	Increase a lot		Increase a little			Would not change	Decrease a little			Decrease a lot	
	-5	-4	-3	-2	-1	0	1	2	3	4	5
(a) Pizza for a small party for R150?											
(b) A movie ticket for R20?											
(c) A sports shirt for your favourite team for R250?											
(d) A concert ticket for your favourite musician for R300?											
(e) Socks for R50?											
(f) Dinner at a restaurant for R600?											

Q2 How would your **spending on food** for the **rest of the week** be affected after paying for each of the following items at the **beginning of the week**:

	Increase a lot		Increase a little			Would not change	Decrease a little			Decrease a lot	
	-5	-4	-3	-2	-1	0	1	2	3	4	5
(a) A concert ticket for your favourite musician for R300?											
(b) Socks for R50?											
(c) A movie ticket for R20?											
(d) Dinner at a restaurant for R600?											
(e) Pizza for a small party for R150?											
(f) A sports shirt for your favourite team for R250?											

Q3 How would your **spending on clothing** for the **rest of the month** be affected after paying for each of the following items at the **beginning of the month**:

	Increase a lot		Increase a little			Would not change	Decrease a little			Decrease a lot	
	-5	-4	-3	-2	-1	0	1	2	3	4	5
(a) Dinner at a restaurant for R600?											
(b) A sports shirt for your favou											
(c) A concert ticket for your favourite musician for R300?											
(d) Pizza for a small party for R150?											
(e) A movie ticket for R20?											
(f) Socks for R50?											

Section 2

If buying an item satisfies your need for a particular category (food/entertainment/clothing), that means that you **do not want any more** food or entertainment items for the rest of the week or any more clothing items for the rest of the month.

Q4 Please rate the extent to which buying each of the following items would satisfy your need for **entertainment** for the **rest of the week**:

	Does not satisfy my need for entertainment					Very much satisfies my need for entertainment	
	1	2	3	4	5	6	7
(a) A concert ticket for your favourite musician worth R300							
(b) Pizza for a small party worth R150							
(c) Dinner at a restaurant worth R600							
(d) A movie ticket worth R20							
(e) A sports shirt for your favourite team worth R250							
(f) Socks worth R50							

Q5 Please rate the extent to which buying each of the following items would satisfy your need for **food** for the **rest of the week**:

	Does not satisfy my need for food					Very much satisfies my need for food	
	1	2	3	4	5	6	7
(a) A sports shirt for your favourite team worth R250							
(b) Dinner at a restaurant worth R600							
(c) A concert ticket for your favourite musician worth R300							
(d) A movie ticket worth R20							
(e) Pizza for a small party worth R150							
(f) Socks worth R50							

Q6 Please rate the extent to which buying each of the following items would satisfy your need for **clothing** for the **rest of the month**:

	Does not satisfy my need for clothing					Very much satisfies my need for clothing	
	1	2	3	4	5	6	7
(a) Pizza for a small party worth R150							
(b) Socks worth R50							
(c) A concert ticket for your favourite musician worth R300							
(d) A sports shirt for your favourite team worth R250							
(e) Dinner at a restaurant worth R600							
(f) A movie ticket worth R20							

Section 3

Q7 Would you consider the following items to be particularly good examples of **entertainment**?

	Not a good example					A very good example	
	1	2	3	4	5	6	7
(a) Pizza for a small party worth R150							
(b) A movie ticket worth R20							
(c) A sports shirt for your favourite team worth R250							
(d) A concert ticket for your favourite musician worth R300							
(e) Socks worth R50							
(f) Dinner at a restaurant worth R600							

Q8 Would you consider the following items to be particularly good examples of **food**?

	Not a good example					A very good example	
	1	2	3	4	5	6	7
(a) A concert ticket for your favourite musician worth R300							
(b) Socks worth R50							
(c) A movie ticket worth R20							
(d) Dinner at a restaurant worth R600							
(e) Pizza for a small party worth R150							
(f) A sports shirt for your favourite team worth R250							

Q9 Would you consider the following items to be particularly good examples of **clothing**?

	Not a good example					A very good example	
	1	2	3	4	5	6	7
(a) Dinner at a restaurant worth R600							
(b) A sports shirt for your favourite team worth R250							
(c) A concert ticket for your favourite musician worth R300							
(d) Pizza for a small party worth R150							
(e) A movie ticket worth R20							
(f) Socks worth R50							

Section 4 - Variation 1

The next question asks you how you would behave if faced with the scenario described:

Scenario: Imagine that you have 2 non-refundable tickets worth R500 to a sports event which is taking place later today. You **paid in full** for the tickets **6 months ago**.

You have just discovered that there is a terrible storm heading your way. The venue for the event is 150km away from where you live. You have two options:

- (a) Brave the storm and go to the game
- (b) Stay at home and watch the game on TV

Q10: How likely is it that you would attend the game?

I will definitely stay at home									I will definitely go
1	2	3	4	5	6	7	8	9	

Section 4 - Variation 2

The next question asks you how you would behave if faced with the scenario described:

Scenario: Imagine that you have 2 non-refundable tickets worth R500 to a sports event which is taking place later today. You **paid in full** for the tickets **yesterday**.

You have just discovered that there is a terrible storm heading your way. The venue for the event is 150km away from where you live. You have two options:

- (a) Brave the storm and go to the game
- (b) Stay at home and watch the game on TV

Q10: How likely is it that you would attend the game?

I will definitely stay at home									I will definitely go
1	2	3	4	5	6	7	8	9	

Section 5

Q11 Imagine that you are planning a two-week holiday to the Kruger National Park 6 months from now. The holiday will cost R6000. You have two options for paying for the holiday:

- (a) Six monthly payments of R1000 each during the 6 months **before** the holiday.
- (b) Six monthly payments of R1000 each during the 6 months **after you return** from the holiday.

Which would you choose?

Option (a)	Option (b)	Don't care
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q12 Imagine that, 6 months from now, you are planning to buy a washing machine and tumble dryer for your new house. The two machines together will cost R6000. You have 2 options for paying for the machines:

- (a) Six monthly payments of R1000 each during the 6 months **before** the washer and dryer arrive.
- (b) Six monthly payments of R1000 each during the 6 months **after** the washer and dryer arrive.

Which would you choose?

Option (a)	Option (b)	Don't care
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q13 Imagine that, 6 months from now, you will be unemployed for a brief period of time. You calculate that you need R6000 to cover your living expenses during that time. You have 2 options for covering this expense:

- (a) Saving R1000 for each for the 6 months **before** you are unemployed
- (b) Taking out an interest-free loan and paying it back with 6 monthly instalments **after** you are re-employed

Which would you choose?

Option (a)	Option (b)	Don't care
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Q14 Imagine that, 6 months from now, you will be required to put in a few hours of work every weekend for the next 6 months. You will be paid R6000 for this work.
You can choose to be paid in one of two ways:

- (a) Six monthly payments of R1000 each for the 6 months **before** you do the work
- (b) Six monthly payments of R1000 each for the 6 months **after** you do the work

Which would you choose?

Option (a)	Option (b)	Don't care
<input type="text"/>	<input type="text"/>	<input type="text"/>

Q15 Imagine that you are required to put in a few hours of work every weekend for the next 6 months. You will be paid R6000 for this work.
You can choose to be paid in one of two ways:

- (a) R1000 **after each month** of work that you put in totalling R6000
- (b) Six monthly payments of R1000 each for the 6 months **after you finish** the work

Which would you choose?

Option (a)	Option (b)	Don't care
<input type="text"/>	<input type="text"/>	<input type="text"/>

Section 6 - Variation 1

The next question asks you how you would behave if faced with the scenario described:

Scenario: Imagine that you have 2 non-refundable tickets worth R500 to a sports event which is taking place later today. You had planned to buy the tickets but luckily **won them yesterday** in a competition.

You have just discovered that there is a terrible storm heading your way. The venue for the event is 150km away from where you live. You have two options:

- (a) Brave the storm and go to the game
- (b) Stay at home and watch the game on TV

Q16: How likely is it that you would attend the game?

I will definitely stay at home									I will definitely go
1	2	3	4	5	6	7	8	9	

Section 6 - Variation 2

The next question asks you how you would behave if faced with the scenario described:

Scenario: Imagine that you have 2 non-refundable tickets worth R500 to a sports event which is taking place later today. You had planned to buy the tickets but luckily **won them 6 months ago** in a competition.

You have just discovered that there is a terrible storm heading your way. The venue for the event is 150km away from where you live. You have two options:

- (a) Brave the storm and go to the game
- (b) Stay at home and watch the game on TV

Q16: How likely is it that you would attend the game?

I will definitely stay at home									I will definitely go
1	2	3	4	5	6	7	8	9	