

**The influence of strategic orientations and
management values in small and medium-sized
enterprises on commitment to sustainability in
South Africa**

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ABSTRACT

The business case for sustainability is already strong and conducting business as usual, is no longer an option. Larger companies have already begun incorporating the Sustainability Development Goals (SDGs) into their corporate objectives, however, small and medium-size enterprises (SMEs) lag behind in implementing these sustainable practices. The main purpose of this study is to examine the relationship between the strategic orientations, market orientation (MO), entrepreneurial orientation (EO), technology orientation (TO), and learning orientation (LO) concerning commitment to sustainability. Furthermore, the study examines management values, and sustainability practices in relation to commitment to sustainability in SMEs in South Africa. Survey responses from SMEs in Gauteng province were analysed and agree with the Swedish study concerning the influence of MO, EO, and sustainability practices in relation to commitment to sustainability, which implies that companies see both market and entrepreneurial advantages of sustainability. Furthermore, the results confirm the influence of TO, LO, and environmental-friendly values among management on commitment to sustainability, implying that companies see both technology and learning advantages of sustainability. Different parts of the strategic orientations also influence commitment to sustainability in South African SMEs. The results also show that LO has a mediating effect on the relationship between EO, TO and commitment to sustainability. The implications are that companies can work on sustainability issues using both internal and external perspectives.

KEYWORDS:

Strategic orientations, market orientation, entrepreneurial orientation, technology orientation, learning orientation, management values, sustainability practices, commitment to sustainability, moderator and mediator effects

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 any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Vanessa Eva-Ann Green

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1. CHAPTER 1 – INTRODUCTION TO THE RESEARCH PROBLEM

1.1. INTRODUCTION

This study explores various strategic orientations and management values in small and medium-sized enterprises in South Africa. Through a deductive approach, it investigates the relationships between the role or influence of strategic orientation and the role or influence of management values, and if they contribute positively to “commitment to sustainability”.

This chapter sketches the backdrop for the research problem and provides the research aim, scope and context of the study. It further elaborates on why the research study is necessary and significant articulating the relevance of the topic to business and within the academic sphere. It concludes with the layout of the rest of the research paper outlining each latter chapter and its intended purpose.

1.2. BACKGROUND TO THE PROBLEM

“Business leaders need to be courageous and strike out in new directions to embrace more sustainable and inclusive economic models” according to the co-founders of the Business and Sustainable Development Commission, Mark Malloch-Brown and Paul Polman (Development Commission, 2017). The business case for sustainability is already strong and business cannot afford to conduct business as usual, as this is not an option anymore (Development Commission, 2017). Three decades have passed since the Brundtland Commission report defined sustainable development, yet the recent social and economic successes have clouded the major fault lines in the model of development that is currently being subscribed to (Development Commission, 2017). Without urgent correction, business is still failing the Brundtland test and many who escaped poverty during the past economic successes could slide back in.

Environmentally, the activities of humanity have pushed the boundary limits of our planet beyond its nine safety levels, with four of the levels already being breached, namely climate change, loss of biosphere integrity, land system change, and altered

biogeochemical cycles (Development Commission, 2017). From being a peripheral issue, environmental concerns have risen exponentially becoming a significant discussion point not only in government, but in all parts of society (Sandhu, Ozanne, Smallman, & Cullen, 2010). This evolution of concern from local to global can be accredited to many improvements, including:

- the fact that knowledge related to environmental issues and sustainability has significantly improved over the past half-century (Sarkis & Zhu, 2018);
- communication within our societies have greatly improved (Sarkis & Zhu, 2018);
- due to economic development throughout the world, man has caused more significant damage to the environment (Sarkis & Zhu, 2018); and
- commercial growth at all costs is no longer an accepted norm as institutional norms and expectations have shifted (Sarkis & Zhu, 2018).

It has been through the United Nations, that the issue of sustainability has been brought to the forefront, as it is the world’s leading sustainability initiative. António Guterres, Secretary-General of the United Nations, stated that “the mission of the United Nations is to foster a peaceful, prosperous, inclusive and sustainable world which requires bringing people and society together to support common goals” (United Nations Global Compact, 2018, pp 2). The path to environmental awareness is depicted in Figure 1 below.

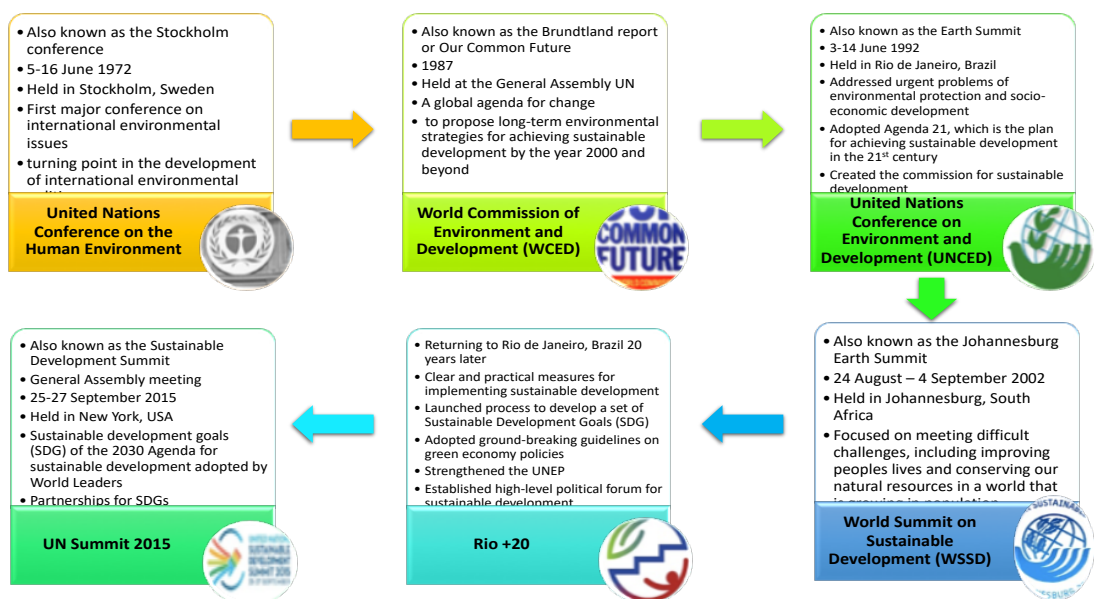


Figure 1 – United Nations Environmental and Sustainability Conferences
Source: Author’s compilation

Almost 50 years ago, the United Nations Conference on the Human Environment in Stockholm, international environmental issues were first brought to the fore. The next significant intervention was the World Commission of Environment and Development conference or the Brundtland report, which emphasised “Our Common Future” and recommended long-term environmental strategies for realising sustainable development by the year 2000 and beyond (United Nations Global Compact, 2018). This was followed in 1992 by the Earth Summit held in Rio de Janeiro, which shaped the United Nations Commission on Sustainable Development. A decade later, the World Summit on Sustainable Development was held in Johannesburg and focussed on meeting difficult challenges with continually growing demands for food, water, shelter, sanitation, energy, health services and economic security (United Nations Global Compact, 2018) The Mauritius Strategy of Implementation (MSI) held in Port-Louis in 2005 adopted the Millennium Development Goals (MDG), which were eight international development goals that were based on global priorities. The MDGs influenced public policy debates and national policy planning during 2000-2015 and formed the basis for the SDGs. Ten years later, in 2015, the Rio+20 conference launched the process to develop a set of Sustainable Development Goals (SDGs) to progress the initial work of the MDGs and strengthened the United Nations Environmental Programme. The UN Summit 2015 or the Sustainable Development Summit, held in 2015, officially saw World Leaders sign their acceptance of the Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development (United Nations Global Compact, 2018).

It is through the UN sustainability initiative that the people and nations of the world endeavour to realise the 2030 Agenda for Sustainable Development and the achievement of the 17 Global Goals. These can be promoted better with a more concrete understanding of the involvement of business (United Nations Global Compact, 2018). A 2011 McKinsey Global Survey found that many companies were beginning to integrate sustainability principles into their business (Hooper, 2011) through pursuing goals that exceed earlier concern for reputation management. To further corroborate the importance of sustainability in business, a joint 2011 Sustainability and Global Executive study by MIT Sloan Management Review and the Boston Consulting Group, found that 70% of the companies surveyed had sustainability embedded in their agendas (Gobble, 2012) and that there was a significant increase in investments into sustainability. Nearly a third of the MIT

sample reported that sustainability contributed to their profits. This clearly shows that sustainability has become an essential approach to doing business (Gobble, 2012).

Paul Hawken, an environmentalist, entrepreneur, journalist, and author, defines sustainable businesses as those that

- “replace nationally and internationally produced items with products that are created locally and regionally;
- take responsibility for the effects they have on the natural world; do not require exotic sources of capital to develop and grow;
- engage in production processes that are human, worthy, dignified, and intrinsically satisfying;
- create objects of durability and long-term utility whose ultimate use or disposition will not be harmful to future generations; and change consumers to customers through education” (Hawken, 1993, pp 144).

The European Commission (EC) report clearly emphasises the difference between large corporates and SMEs showing that large corporates favour taking action to be more resource-efficient and environmentally friendly compared with SMEs (European Commission, 2015). This is further corroborated by the United Nations Global Compact Progress Report (United Nations Global Compact, 2018) where 87% of Corporates in Africa are taking action to advance global goals by implementing sustainability. In the report, three of the ten principles pertain to the environment and how business should support environmental sustainability (United Nations Global Compact, 2018).

Peter Drucker stated that “The first rule of business is to survive, and the guiding principle of business economics is not the maximisation of profit, it is the avoidance of loss” (Burton & Naylor, 1980; Failte Ireland, n.d.) Executives In business today, are faced with a mix of complex and extraordinary social, environmental, market and technological developments (Whelan & Fink, 2016). In the mistaken belief that sustainability is expensive, executives are often unwilling to place it at the centre of their company’s business strategy as they believe there are no benefits associated with sustainability. Experience in business and research in the academic sphere, however, steer in the opposite direction with entrenched sustainability efforts clearly

having a positive influence on the performance of a business (Whelan & Fink, 2016). CEO of Unilever, Paul Polman, stated – “We cannot choose between economic growth and sustainability – we must have both” (Pickering, 2018).

World leaders in September 2015 embraced the Sustainable Development Goals (SDGs) committing to the 17 goals which will promote peace and equality, eradicate poverty, protect the environment and fuel inclusive growth (Veglio & Fiedler, 2016). The SDGs present a momentous opportunity for business, according to the World Business Council for Sustainable Development to participate more intensely as a strong and positive influence on society, based on the critical role that they play in delivery the SDGs (Veglio & Fiedler, 2016). As an influencer, the business cannot succeed in societies that fail and therefore have a vested interest in stabilising and prospering the societies they affect. Being economic growth engines, sources of employment, and sources of technology and innovation, the business must develop a better understanding of the sustainability goals (Veglio & Fiedler, 2016).

New technological developments, which create technology platforms for further innovation, drive economic development (Urban & Barreria, 2010). The 21st century is leaning towards an economy that is primarily driven by technology and knowledge, where entrepreneurs have to identify and anticipate high-technology opportunities to feature as future entrepreneurial leaders (Urban, 2010). In determining market success, there is an increasing awareness of the vital role that technology plays as organisations respond to global competition (Zahra & Covin, 1993). Organisations have, therefore increased their adoption of advanced technologies to keep pace with their competitors and have established policies in line with business strategies. This ensures that resources are deployed and helps to build a sustainable competitive advantage, thereby enhancing business performance (Zahra & Covin, 1993).

Large businesses do not only have the responsibility to address environmental issues. In most economies, including South Africa, SMEs collectively contribute more by having a larger environmental impact than large businesses (Struwig & Lillah, 2017). SMEs account for 60% of the total employment in South Africa, and according to Groepe (2015) and the South African government has raised the status of small business initiatives especially concerning the environmental sector, specifically on waste (Higgs & Hill, 2018; Struwig & Lillah, 2017). The government

envisages that through this initiative, SMEs will contribute to the green economy and significantly improve the management activities in the environment and improve the use of finite resources (Higgs & Hill, 2018).

1.3. RESEARCH PROBLEM

Industrial and supply chain activities are influencing environmental issues, which stretch from hazardous waste and localised water pollution to global climate changes which are all related to industrial and supply chain activities (Sarkis & Zhu, 2018). Biodiversity loss, water, air, soil pollution, resource depletion, and excessive land use are increasingly threatening the earth's life-support system (Geissdoerfer, Savaget, Bocken, & Hultink, 2016). Climate change and environmental pollution have become universal concerns worldwide (Agan, Acar, & Borodin, 2013).

It has been argued by organisational and natural environment scholars that the successful pursuit of an environmental-friendly strategy that is not only concerned with compliance to environmental regulations, requires both positive environmental-friendly values among management to preserve the environment (Aragón-Correa & Sharma, 2003; Sharma & Sharma, 2011), and resource allocation to build and deploy organisational capabilities to pursue such strategies (Sharma & Sharma, 2011).

With the increasing awareness and focus on social issues, politics, and the environment, research has focussed on larger companies that have incorporated projects in their corporate social responsibility programmes. In response to these various economic and social forces, the concerns of environmental sustainability have received more significant consideration (Sarkis & Zhu, 2018). According to Jansson, Nilsson, Modig, & Hed Vall (2017), small and medium-sized enterprises or SMEs have been neglected in terms of research. Given the vital role that SMEs play in the economy of a country and the path towards sustainable development (Klewitz & Hansen, 2014), it is important to understand the fundamental mechanisms of why some SMEs are more committed to sustainability than others (Jansson et al., 2017).

1.3.1. Strategic orientation and commitment to sustainability

Many of the essential activities of a business, are dependent on its strategic orientation (Miles & Arnold, 1991). Jansson et al. (2017) reviewed SMEs in Sweden

to determine their commitment to sustainability and the role that strategic orientation has played in considering why some are more dedicated to sustainability than others. In turn, to monitor its activities to achieve better business performance, a businesses' strategic orientation lays the foundation for its strategic direction (Masa'deh et al., 2018). The strategic orientations that are discussed in the literature are market orientation (MO), and entrepreneurial orientation (EO) (Baker & Sinkula, 2009) and these are the strategic orientations that Jansson et al. (2017) focussed on in their study. Previous research has found a connection between these two strategic orientations (Grinstein, 2008). While a market-oriented business focuses primarily on its customers and uses market information to make decisions. An entrepreneurially-oriented company, looks at being innovative and proactive, in addition to exploring and exploiting new markets (Miller, 1983).

Much of the research conducted on MO and EO has focused on their relationship with business profitability (Baker & Sinkula, 2009). However, considering that strategic orientation is essential to the long-term aspirations and strategies of the business, there is reason to believe that it could also explain how the company will address sustainability and environmental aspects of their operations (Jansson et al., 2017). The study by Jansson et al., 2017 was confined to Sweden and was contextualised as a developed country.

Since strategic orientation is essential to the long-term goals, strategies, and activities of a business, it is considered to be an explanation of how a company addresses the sustainability and environmental features of their operations according to Jansson et al. (2017). In addition to MO and EO, other strategic orientations include technology orientation (TO) and learning orientation (LO) (Grinstein, 2008; Hakala, 2011). Innovation-driven businesses can use their technological capabilities to develop a new solution to meet unique needs of the customers and would lean towards having a TO (Grinstein, 2008). According to Baker & Sinkula (1999), businesses seeking a competitive advantage, may seek a superior learning environment or LO in order to influence the use of resources that supplement MO. As competitive advantage is pivotal for the long-term sustainability of businesses, it is important that strategic orientations like TO and LO are reviewed in addition to MO and EO to assess whether and how SMEs may use an environmental perspective to create competitive advantages.

Wang (2008) suggests that it is important understanding how environmental factors might be linked with each orientation. A key aspect of TO is the interaction that it has with the organisation's external environment. Technological changes give rise to the most important sources of opportunities as these changes make it possible for things to be done in new and more productive ways (Rwigema, Urban, & Venter, 2008).

Various literature has shown inconclusive interactions of LO and the effects it has on the other strategic orientations. Some authors have identified that LO poses a moderating effect for example on MO and TO (E. Baker & M. Sinkula, 1999; Beneke et al., 2016; Keskin, 2006; Kasim & Altinay, 2016), whilst others have identified that LO poses a mediating effect for example on MO and EO (Rhee, Park, & Lee, 2010; Real, Roldán, & Leal, 2014; Sinkula, Baker, & Noordewier, 1997).

1.3.2. SMEs in South Africa

As in the case of many countries, President Ramaphosa has affirmed that “the growth of our economy will be sustained by small businesses” (The Small Business Institute, 2019). In South Africa, an estimated 1 080 000 fast-moving consumer goods (FMCG) in the form of small medium and micro enterprises (SMMEs) operated in 2003 (Bruwer & Watkins, 2010). Formal SME numbers vary from 250 000 (The Small Business Institute, 2019) to 658 719 (SEDA, 2018). Informal SME numbers are around 1,5 million, according to Statistics South Africa Labour Market Dynamics (Ndlovu & Makgetla, 2017) and make up 60% of the employment (Groepe, 2015). This makes the total number of small businesses roughly to be around R2, 2 million. Irrespective of the number, SMEs play an essential role in the path to a more suitable development, which has been highlighted by Klewitz & Hansen (2014) and Revell et al. (2010). It is vital to gain an understanding of the primary mechanisms of why certain SMEs are more dedicated to sustainability than their counterparts and makes for an important research topic.

In South Africa, SMEs form a large portion of the business environment, and they play an important role given their substantial contribution towards employment and economic output (Beneke et al., 2016). Unlike their larger counterparts, SMEs face challenges in the implementation of practices, which could also include commitment

to sustainability (Brammer, Hoejmose, & Marchant, 2012; Higgs & Hill, 2018; Struwig & Lillah, 2017).

According to Ahinful, Tauringana, Essuman, Boakye, & Sha'ven (2019), SMEs may stumble upon sustainable practices as a by-product and not due to active engagement. This may not be the case as over the next 15 years, according to Mark Malloch-Brown and Paul Polman, sustainability will become a disruptive force in every sector (Development Commission, 2017). From a South African context, SMEs, especially in the wine industry (Hamann, Smith, Tashman, & Marshall, 2017), and in the waste sector (Higgs & Hill, 2018; Struwig & Lillah, 2017), have actively engaged in “going green” and have been proactive in implementing sustainable practices.

The seventeen Global Sustainability Development Goals (SDGs) recognises that business has an important part to play (Development Commission, 2017). Some businesses, according to a 2015 GlobeScan report, have already incorporated the Global Goals as input for setting objectives, strategic orientations (Development Commission, 2017). Long term objectives and goal setting is one of the important aspects where the strategic orientations can play an important role. There is, therefore, positive empirical evidence that EO and TO are strategic necessities and according to Urban (2010), the fear that Africa is lagging behind from a technological point of view is real and means that TO is relevant in an African context. To compete globally, companies in developing markets like South Africa should have a strong TO in association with EO at the organisational level, which can provide the necessary competitive advantage (Rwigema et al., 2008).

1.3.3. **Conclusions on research problem**

The conclusions on the research problem includes:

- In the study done by Jansson et al., (2017), one of the future research areas was for the study to be extended to other geographical areas, which this study is proposing.
- Strategic orientations are important in South Africa SMEs
- This study therefore explores the influence of strategic orientations on commitment to sustainability in a South African context

- Prior studies have argued that businesses should develop and use multiple orientations (Hakala, 2011). Many of the relationships between the strategic orientations have not been studied to any significant degree, and there are research gaps in the information available on the relationship between MO, EO, TO and LO (Hakala, 2011). It is therefore on this basis that this study includes the mediating and moderating effects of the strategic orientations.

1.4. RESEARCH AIMS

The objective of the study is to add to the body of knowledge of existing literature by providing in-depth analysis and to examine the relationships between the strategic organisations (MO, EO, TO, and LO), management values, and sustainability practices relative to commitment to sustainability in SMEs in a South African context. It also tests a) the replication in South Africa; b) the extension to LO and TO giving a greater breadth to SO, and c) the extension giving greater depth of LO and relationships with other orientations. It aims to explain the fundamental mechanisms of why certain SMEs display a greater commitment to sustainability than others, and if technology and learning are driving factors. The research aims of this study are threefold and are illustrated in Figure 2 below.



Figure 2 – Literature review investigation

Source: Author's compilation

This research project, therefore, aims to test and extend on existing theory by studying the role of strategic orientation and the role of management values, which has been demonstrated to play an important in the commitment to sustainability.

From previous research in Europe, this study aims to determine the difference within a developing market context and whether commitment to sustainability is also influenced by improved technology implementation and learning capabilities.

It also seeks to test or assess the relationships of two additional SO, namely technology orientation (TO) and learning orientation (LO).

Further, the study seeks to extend the prior study by adding depth to the LO variable by testing the moderating and mediating effects of the strategic orientations on the commitment to sustainability in small and medium-sized enterprises in South Africa.

1.5. SCOPE OF THE RESEARCH STUDY

The study conducted by Jansson et al. (2017) examined commitment to sustainability in SMEs in a Swedish context, noting that further research studies could corroborate their results particularly from a developing market view. The sample selection for this research will explore SMEs in South Africa and their commitment to sustainability, exploring the role that strategic orientations (MO and EO) play, in addition to the role that management values play. This forms the first part of the study as a replication study within a developing market context.

Jansson et al. (2017) also proposed that future research could relate commitment to sustainability and sustainability practices to other strategic orientations. The other strategic orientations that are included are TO and LO, which appears to be under-research in the area of SMEs. Literature reviewed discussed TO (Kocak, Carsrud, & Oflazoglu, 2017; Leng, Liu, Tan, & Pang, 2015; Masa'deh et al., 2018; Tsou, Chen, & Liao, 2014) and LO (Beneke et al., 2016; E. Baker & M. Sinkula, 1999; Keskin, 2006; Noble, Sinha, & Kumar, 2002) in terms of organisational performance, but not in the context of environmental sustainability and practices.

In addition, Jansson et al. (2017) proposed that future research could find out if MO and EO are thought of as linked in a casual chain concerning commitment to

sustainability. The lack of research on the interactions and relationships between the strategic orientations is fragmented and lacking. Various studies have highlighted the moderating and mediating (Rhee et al., 2010) effects of the strategic orientations, in terms of organisational performance, but not in the context of environmental sustainability and practices.

1.6. SIGNIFICANCE OF THE RESEARCH

1.6.1. Research contribution

As environmental management and sustainability practices increase in awareness by consumer and government, this study informs SME owners and senior managers which strategic orientations to pursue and what values are to be cultivated in pursuit of commitment to sustainability. This study will thereby influence not only the business performance of SMEs but also improve the environment through the practices that they implement to improve the environment they operate in. In doing this, they will also uplift the socio-economic conditions of the areas in which they operate.

1.6.2. Business relevance for this study

Most businesses in the past have had little regard or concern about the negative impacts that they have on the environment with many large organisations being responsible for significant pollution and environmental incidents which have happened (Failte Ireland, n.d.). Many of these sample companies are now turning over a new leaf and working towards having a positive impact on environmental sustainability as it forces businesses to look at long-term effects instead of short-term gains.

1.6.3. Theoretical relevance or Academic rationale for this study

With the increasing prominence that environmental management is getting, a large body of research has explored how organisations respond to environmental issues (Brammer et al., 2012). A large portion of the research has focussed on large, listed organisations, which affect the most environmentally impactful sectors. While larger corporates promote sustainability, research shows that small and medium-sized enterprises (SMEs) have lingered behind considerably (Brammer et al., 2012; Revell et al., 2010; Cassells & Lewis, 2011). SMEs have come under increasing pressure

to improve their environmental performance (Hofmann, Theyel, & Wood, 2012) and although their individual impact is small, they still are environmentally important as their cumulative impact on the environment is significant (European Commission, 2015; Brammer et al., 2012).

The research seeks to make a theoretical contribution to the body of knowledge by developing on previous quantitative work conducted on “commitment to sustainability” in “small and medium-sized enterprises” and the “influence of strategic orientations” and the “influence of management values” (Jansson et al., 2017). This research goes further to expand the geographical scope of the understanding of commitment to sustainability by using small and medium-sized enterprises in South Africa and corroborating the results internationally.

1.7. COMMON TERMS AND PHRASES USED

As this study is a replication study, several standard terms and constructs will be used in this study as they are worded in the original study by Jansson et al. (2017). These are displayed in Table 1 and 2 below.

Table 1 – Common terms used by the original study of Jansson et al. (2017)

No.	Common Term
1	“Sustainability” (Jansson et al., 2017)
2	“Environmental issues” (Jansson et al., 2017)
3	“Environmental aspects” (Jansson et al., 2017)
4	“Small and medium-sized enterprises” (Jansson et al., 2017)
5	“Environmental management system” (Jansson et al., 2017)
6	“Sustainable development” (Jansson et al., 2017)
7	“Strategic orientation” (Jansson et al., 2017)
8	“Market orientation” (Jansson et al., 2017)
9	“Entrepreneurial orientation” (Jansson et al., 2017)
10	“Management values” (Jansson et al., 2017)
11	“Commitment to sustainability” (Jansson et al., 2017)
12	“Commitment to sustainability in small and medium-sized enterprises” (Jansson et al., 2017)
13	“Commitment to sustainability in SMEs” (Jansson et al., 2017)

Source: Authors own compilation

Table 2 – Common constructs used by the original study of Jansson et al. (2017) and the additions in the new study

No	Key Constructs
1	“SMEs and commitment to sustainability” (Jansson et al., 2017)
2	“Influence of strategic orientations on commitment to sustainability” (Jansson et al., 2017)
3	“Influence of market orientation on commitment to sustainability” (Jansson et al., 2017)

4	“Influence of entrepreneurial orientation on commitment to sustainability” (Jansson et al., 2017)
5	“Influence of management values on commitment to sustainability” (Jansson et al., 2017)
6	“influence of sustainability practices on commitment to sustainability” (Jansson et al., 2017)
7	“Influence of technology orientation on commitment to sustainability.”
8	“Influence of learning orientation on commitment to sustainability.”

Source: Authors own compilation

1.8. REPORT OUTLINE

This chapter outlines the research problem, the research aims, scope and significance of the research. The remainder of the research study is set out as follows:

- Chapter 2: Theory and literature review – looking at recent and seminal literature to build a theoretical framework for the hypotheses for the study.
- Chapter 3: Research questions and hypotheses – establishes the hypotheses from the research aims and the literature for the study.
- Chapter 4: Research methodology and design – details and explains the research methodology used to test the hypotheses.
- Chapter 5: Results – presents the results from the data collected using the research methodology described in Chapter 4.
- Chapter 6: Discussion – discusses the results presented in Chapter 5 in terms of the academic literature.
- Chapter 7: Conclusion – summarises the main conclusions of the research, includes recommendations, managerial implications, provides limitations of the research, and suggestions for future research.

2. CHAPTER 2 – THEORY AND LITERATURE REVIEW

2.1. INTRODUCTION

The chapter begins with understanding the concept of sustainability, exploring the definitions and terms encountered in the current literature to identify a suitable definition to be used in this study. It also explores the understanding of small and medium-sized enterprises to determine the meaning that is relevant in a South African context. The literature review is then broken up into three parts namely:

- Replication Study – The influence of MO, EO, and management values on commitment to sustainability in SMEs
- Extension Study Part 1 – Additional Strategic Orientations (TO and LO)
- Extension Study Part 2 – LO as a moderator or a mediator – Mediating and Moderating interactions of LO on the other strategic orientations

Each subsection will begin with a definition of the construct as reviewed in the literature. Figure 3 below shows the structure of this section.

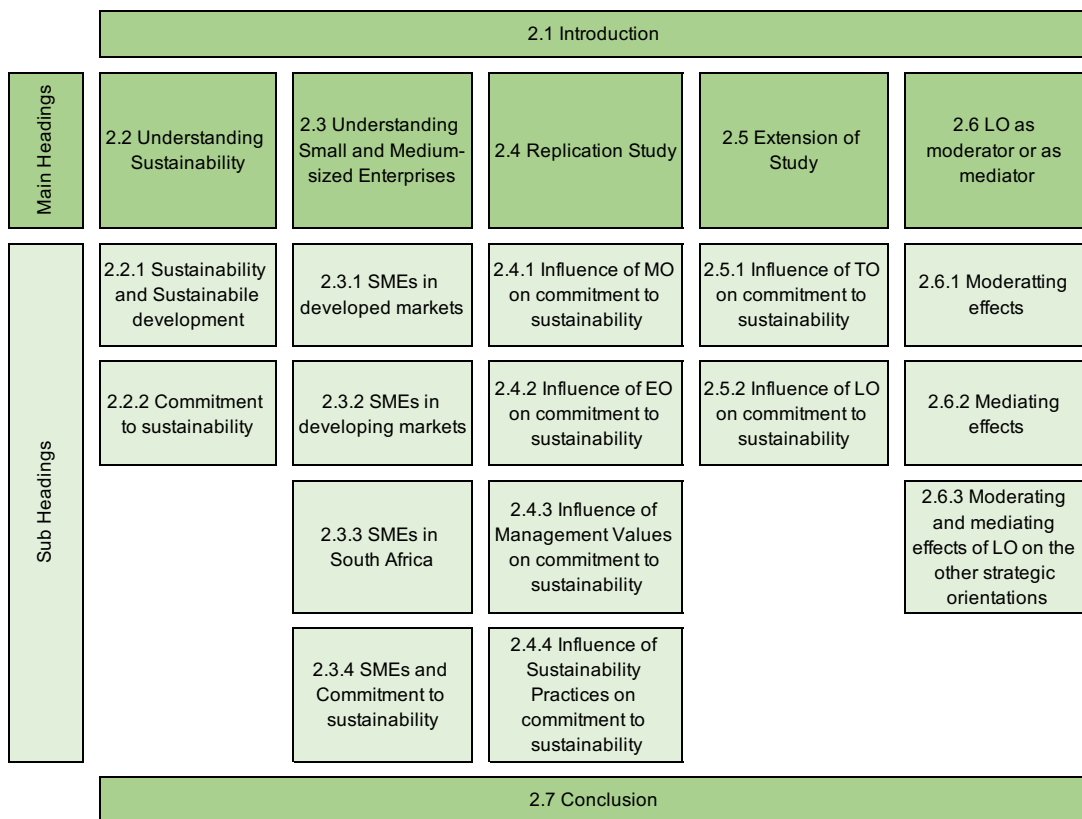


Figure 3 – Structure of the literature review

Source: Author's compilation

2.2. UNDERSTANDING SUSTAINABILITY

From a business perspective, the environmental burden has become global due to globalisation (Sarkis & Zhu, 2018). With the growing concern about over-consumption of resources, the degradation of the environment, and the increase of inequality within societies, there has been a rally around how societies and their economies can become more sustainable (R. Adams, Jeanrenaud, Bessant, Denyer, & Overy, 2016). With these escalating environmental concerns becoming major public topics and being pushed to the forefront by many including politicians, governments, NGOs and consumers, Corporate Social Responsibility (CSR) has been included in political and business agendas and is the new household phrase (Revell et al., 2010). On the road towards increased environmental sustainability, the responsibility not only sits with large corporations but also with the consumers (Haddock-Fraser & Tourelle, 2010). It is not only imperative for large corporations to take more responsibility towards society, but also for individuals to be empowered to act in resisting and minimising ecosystem damage by policy-makers identifying the actions needed to create this environment (Pawaskar, Raut, & Gardas, 2018). With trends towards increases in CSR advertising (e.g. green advertising for environmental management practices (W.Y. Wong, Lai, Shang, & Lu, 2014), and sustainability reporting and KPIs (e.g. Integrated Performance Management) (WBCSD & Accenture, 2014), the business sector is progressively becoming conscious of sustainability and environmental facets of their operations thereby broadening the sustainability movement (Jansson et al., 2017). Organisations are noticing that environmentally friendly practice adoption is becoming a necessity to maintain a competitive advantage (Sarkis & Zhu, 2018).

2.2.1. Sustainability and sustainable development

With the increase in the importance of sustainability, there are various definitions given in the literature of the term sustainability (Pandya, 2013). For many people “sustainability” refers primarily to environmental sustainability, i.e. the things we do as business and individuals to slow down climate change and protect our natural resources (Gobble, 2012). Epstein (2018) has provided the broadest definition taking into consideration nine principles, which includes ethics, governance, transparency, business relationship, financial returns to investors, community involvement and economic development, the value of products and services, employment practices, and protection of the environment. These principles can be

divided into three categories: green-sustainable, financial aspects, and social aspects (Pandya, 2013). The Oxford English Dictionary defines “sustainable” as “capable of being upheld; maintainable”, and “to sustain” as “to keep a person community, etc. from failing or giving way; to keep in being, to maintain at the proper level; to support life in; to support life, nature, etc. with needs” (Brown, Hanson, Liverman, & Merideth, 1987). The foundation of the word sustainability can be found from the French verb “soutenir”, which means “to hold up or support” (Brown et al., 1987) and its modern concept has its origins in forestry based on the silvicultural principle that the amount of wood harvested should not exceed the volume that grows again (Geissdoerfer et al., 2016). It was transferred to the context of ecology later as a principle of respecting the ability of nature to regenerate itself from where the modern definition of being “able to be maintained at a certain rate or level” (Dictionary.com, 2019) developed.

With over 300 definitions of sustainability, some of the cited ones are shown in Table 3 below.

Table 3 – Definitions of Sustainability

<i>Author / Source</i>	<i>Definition</i>
<i>ISO 15392</i>	“A situation in which human activity is conducted in a way that conserves the functions of the earth’s ecosystems” (ISO, 2008).
<i>ISO definitions and terminology</i>	“State of the global system, which includes environmental, social and economic subsystems, in which the needs of the present are met without compromising the ability of future generations to meet their own needs” (ISO, 2012).
<i>McMichael, Butler, & Folke</i>	“A transformation of human lifestyle that optimises the likelihood that living conditions will continuously support security, well-being, and health, particularly by maintaining the supply of non-replaceable goods and services” (McMichael, Butler, & Folke, 2003).
<i>Ehrenfeld</i>	“An indefinite perpetuation of all life forms” (Ehrenfeld, 2005).
<i>International Union of Conservation Nature (IUCN)</i>	“The capacity to improve the quality of human life while living within the carrying capacity of the Earth’s supporting eco-systems” (Adams, 2006).
<i>Hawken</i>	“About stabilising the current disruptive relationship between earth’s two most complex systems – human culture and the living world” (Hawken, 1993).
<i>Bansal</i>	“The intersection of the three principles: environmental integrity, social equity, and economic prosperity” (Bansal, 2005).

Source: Author’s compilation

The concept of sustainability can be traced back to six separate but related strains of thought, according to Kidd (1982), since 1950 in discussions of resource use, inter-relationships among rates of population growth, and pressure on the environment.

These roots, which include ecological/carrying capacity root, resources/environment root, biosphere root, a critique of technology root, “no growth-slow growth” root, and the eco-development root, were all fully developed before the word sustainable was used (Kidd, 1982). Each of these strains of thought or roots contributed to the current concepts of “sustainability” as many of them were based on fundamentally opposing assessments of the future of humankind. The concept’s uptake can thus be traced back to the increasing evidence of global-scale environmental risks (Geissdoerfer et al., 2016) and the tensions that exist between the present prosperity trends and whether they can be maintained in the future. The emergence of such tensions fuelled international discussions and the interconnected nature of the environment, society, and the economy (Bansal, 2005; Crane & Matten, 2016; Geissdoerfer et al., 2016). This challenged oversimplified development frameworks and their assumptions concerning economic growth. The Stockholm Conference in 1972 interpretation of “development” and “environment” had widespread repercussions as it viewed these as contradictory elements of an intrinsic trade-off.

In 1987 the World Commission on Environment and Development, or commonly known as the Brundtland Report, answered this contradiction’s apparent conflicts: “the concept of sustainable development does imply limits – not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities” (Brundtland, 1987, pp8).

The Brundtland Report also provided the most widely recognised definition of sustainability (Brundtland, 1987; Geissdoerfer et al., 2016; Gobble, 2012; Hahn, Figge, Pinkse, & Preuss, 2010; Hahn, Pinkse, Preuss, & Figge, 2015). The Brundtland Report definition of sustainability is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987, pp41). Although it initially was driven by environmental concerns, the term sustainable development has gone on to accommodate a variety of expectations for desirable progress. Breaking up the term “to sustain” refers to maintaining unspecified features over time, while “development” has multiple interpretations and varies according to disciplinary resolutions, values, and interests (Geissdoerfer et al., 2016). Sustainable development seeks for intra- and inter-generational equity, i.e. everyone’s basic needs are met through the wealth

created by business, and the wealth created must be within the limitations of the earth's creative capacity to ensure that the needs of future generations are also met (Bansal, 2019).

The popularisation of the sustainability or sustainable development term was due to John Elkington's triple bottom line (3BL) of people, planet, profits (Elkington, 1998). The idea behind this theory is that a company's success should not only be measured by the traditional financial bottom line but should include social/ethical and environmental performance (Gobble, 2012; Hahn et al., 2010, 2015; Norman & MacDonald, 2004). This concept has become central on how business should act for its own good and for the good of the stakeholders involved, and after the World Summit in 2002, the triple bottom line has been referred to as the balanced integration of economic, environmental and social performance (Geissdoerfer et al., 2016). This is depicted in Figure 4, which shows the interrelationship below.

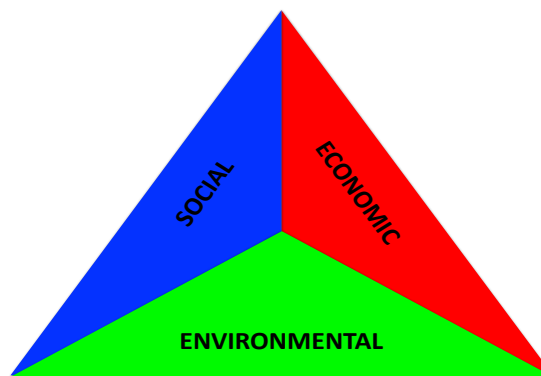


Figure 4 – Components of sustainability

Source: Crane, A., & Matten, D. (2016). Business ethics: Managing corporate citizenship and sustainability in the age of globalisation. Oxford University Press.

From Figure 4, sustainability needs to consider all these. The three spheres are systematically intertwined and affect each other continuously and cumulatively through mutual causality and positive feedbacks, i.e. they act as interdependent and mutually reinforcing pillars (United Nations, 2005) that can be adapted. The extension of sustainability to include social and economic aspects is logical because once one address the environmental aspects, the social and economic aspects also need to be considered. Sustainability is, therefore based on a long-term orientation to include future generations instead of on the short-term as business tends to do (Hahn, Figge, Pinkse, & Preuss, 2018). Business leaders and policymakers are now including sustainable business models which are designed to integrate

environmental and societal concerns into business decisions, and although there are some thorny challenges, these can be overcome (Bhattacharya & Polman, 2017).

Because of the impact that it has on social, economic and environmental aspects, governments have started to bring in legislation around sustainability. With the UN Summit's Sustainable Development Goals (SDGs), many world leaders endorsed the implementation of these goals. South Africa is no exception and in her budget speeches, the Minister of Environmental Affairs, Dr Edna Molewa stated that:

- With the worldwide shift to sustainable green economies, the global community is increasingly recognising that economic growth and development is driven by this (Department of Environmental Affairs, 2017).
- It is essential that Africa's unique natural endowments which include its environment, ecosystems, wildlife and wildlands are healthy, valued and protected as a foundation of sustainable climate-resilient economies and communities. This is imperative if we are to realise a prosperous Africa based on inclusive and equitable growth and shared prosperity (Department of Environmental Affairs, 2017).
- It is our obligation to facilitate an economic growth path that is unbiased, inclusive, sustainable and environmentally sound from an environmental perspective. Our Constitution is in line with this as it promotes sustainable development and ensures the rights of all South Africans to enjoy an environment that is not harmful to their health or well-being ("Media Briefings | PMG," 2018).

Sustainability is, therefore, a strategic issue and the reason for this includes:

- Global issue – business models are being forced to change according to worldwide trends. Besides the depletion of natural resources, overpopulation, and increased environmental awareness are all inter-related (Pandya, 2013).
- Change organisation issue – in order to become more competitive organisations are continually changing. The Internet and Web have dramatically changed how we work and do business.
- Health and Environmental issues – natural disasters in one part of the world affect other parts easily, e.g. Chernobyl, Bhopal (Pandya, 2013)

Therefore, for sustainability to be successful, it must penetrate all the aspects of the organization.

2.2.2. **Commitment to Sustainability**

Few companies are born with a broad-based commitment to sustainability. To develop one, Eccles, Perkins, & Serafeim (2012) argue that “companies need leadership commitment, an ability to engage with multiple stakeholders along the value chain, widespread employee engagement and disciplined mechanisms for execution”. Latan, Chiappetta Jabbour, Lopes de Sousa Jabbour, Wamba, & Shahbaz (2018) concur that an environmentally friendly organisation is dependent on the commitment of top management, which can lead to achieving a competitive advantage. It is demonstrated that the public at large no longer are satisfied with organisations that focus solely on maximising short-term profits but want the organisations to consider human needs. Surveys conducted are indicating that companies are taking note of this and consider sustainability as a means of gaining a competitive advantage (Eccles et al., 2012). The process towards a world-class environmental performance, however, requires the involvement of resources such as commitment of top management, a planning process capable of integrating corporate strategy with environmental issues, and the use of environmental management accounting (Latan et al., 2018).

From the Merriam-Webster dictionary, commitment can be defined as “an agreement or pledge to do something in the future” (Merriam-Webster, 2009). Organisations, therefore, to become sustainable, have to consciously and continuously build long-term value for shareholders by contributing to a sustainable society. Organisations, which have established an organisational culture, demonstrate commitment to innovation and have high levels of trust, have a significant advantage (Eccles et al., 2012). This can only come if leadership drives the process, and this is only by personal resolution of the CEO to create a more sustainable company. Senior executives then can develop the vision and the mandate to realise it. Without this commitment, the achievement of a sustainable company is improbable.

Commitment to sustainability, according to Eccles et al. (2012), involves making decisions with long-term lenses. One needs to tolerate risk and be knowledgeable of the issues concerning or about sustainability. Top management communication is vital and integrating sustainability considerations into fundamental business decisions is part of that commitment. Organisations must, therefore, demonstrate a personal commitment to sustainability throughout their top management teams,

especially, and management should promote and encourage employee engagement (Eccles et al., 2012). Commitment to sustainability should include, also becoming a “forcing function” for innovation; engaging openly with external stakeholders; and maintaining transparency (Eccles et al., 2012). It has been found that top management tends to adopt a system that can provide information relating to the environment if they are committed to the environment (Latan et al., 2018). When they understand the potential benefits from these systems and the results from environmental initiatives, top management will be encouraged to commit to environmental sustainability, according to Latan et al. (2018). Therefore, top management commitment to the environment is an important factor in assessing and improving environmental management practices.

Jansson et al. (2017) have defined “commitment to sustainability” as “an overarching view that sustainability is an important component in several of the business’s processes and procedures, such as overall management philosophy, strategic product decisions, competitiveness and strategic planning”. This definition will be used for this research study.

2.3. UNDERSTANDING SMALL AND MEDIUM-SIZED ENTERPRISES

Small and medium enterprises (SMEs) dominate the number of firms in both developed and developing economies. They are seen to play a critical role in almost all economies (Asah, Fatoki, & Rungani, 2015; Cant, Africa, Wiid, & Africa, 2013; Chimucheka & Mandipaka, 2015; Gaganis, Pasiouras, & Voulgari; Olawale & Garwe, 2010) and the operational climate that SMEs are operating in determine their capability and feasibility to act (Masurel, 2007). SMEs in different economies, i.e. developed markets, emerging markets, and in South Africa, will now be discussed to understand their commitment to sustainability.

2.3.1. SMEs in developed markets

In markets like the UK and most developed economies, SMEs make up more than 90% of all business (Brammer et al., 2012; Gaganis et al.). They employ roughly 60% of the private sector workforce. Similar Figures are shown in Australia, where SMEs constitute 97% of all private businesses and employ 49% of the private sector workforce (Gadenne, Kennedy, & McKeiver, 2009). In Europe, SMEs make up 99% of all businesses and dominate (European Commission, 2015; Gaganis et al.). In

various reports (Hillary, 2004; Nordic Council of Ministers, 2005; OECD, 2007) it has been shown that SMEs give rise to between 60% and 70% of total pollution levels. Many SMEs are, therefore, starting to recognise the importance of corporate social responsibility (CSR) and the role that they play towards that (Knight, Megicks, Agarwal, & Leenders, 2018). Many authors have acknowledged that SMEs find it difficult to implement sustainable and CSR strategies. Besides their size, SMEs' limited financial resources when engaging in sustainability practices, result in them being less successful as their larger counterparts according to Knight et al., (2018).

SMEs are, therefore, essential to industry systems and are a part of a healthy and dynamic market economy (Brammer et al., 2012; Klewitz & Hansen, 2014). The ability and willingness of SMEs and their owners to manage the environmental impact of their businesses is, therefore, an important area of concern.

2.3.2. SMEs in developing markets

Similar to their counterparts in developed countries, SMEs, in emerging markets such as Malaysia, Ethiopia, China, Ghana, are an essential segment of the nation's wealth creation and for employment (Abdul-Mohsin, Abdul-Halim, & Ahmad, 2012; Ahinful et al., 2019; Buli, 2017; Gao, Zhou, & Yim, 2007). In Malaysia, approximately 99,2% of the total established business are SMEs, employing 59,5% of the working population, and contributing to 32% of GDP (Abdul-Mohsin et al., 2012). The United Nations Economic Commission for Africa (2014) reports that SMEs account for 60% to 70% of all employment. In Ethiopia, SMEs are an essential part of the Ethiopian economy. As it is an agriculture-based economy, 80% of the workforce makes a living from agriculture, of which 60% goes to GDP and 40% to export (Buli, 2017). Being in its infancy in terms of growth, the domestic private sector in Ethiopia has 99% of its businesses as SMEs, which employs 60% of the workforce (Buli, 2017). These SMEs are, however, characterised by lack of resources, many-layered management structures, lack of access to international markets, lack of skills and lifelong learning according to Buli (2017). In addition, most SMEs in developing markets operate in the survivalist mode, lacking both profitable business opportunities and capabilities as compared to their counterparts in developed countries. They lack the skills, resources and technology which SMEs in developed countries are privy to. They face financial challenges resulting in restriction of their activities to large manufacturing businesses. Their challenges also include access

to finance, lack of support services and lack of time which may impact their ability to undertake environmental management in most cases (Ahinful et al., 2019). Their constraint in terms of resources may also exacerbate the lack of commitment.

2.3.3. SMEs in South Africa

In South Africa, SMEs (Small and Medium-sized Enterprises) and SMMEs (Small, Medium, and Micro-Enterprises) are used interchangeably (Smit & Watkins, 2012). Although there is no universal definition, the country-specific legislation and geographical placement of SMEs influences the definition of an SME. Bruwer & Watkins (2010) indicated that the South African Government introduced the concept of small, medium and micro enterprises (SMMEs) in 1996 with the main resolution of poverty alleviation, job creation, and boosting of the national economy. The National Small Business Act of 1996 (Republic of South Africa, 1996) defines a small business as a separate and distinct business entity. It includes co-operative enterprises and non-governmental organisations, managed by one owner or more. The small business is categorised in a sector or sub-sector, which is in accordance with the Standard Industrial Classification. They are usually classified as a micro-, a very small, a small or a medium enterprise depending on the number of employees, the total annual turnover, and total gross asset value. Refer to Table 4 below.

Table 4 – Schedule

Size of enterprise	Number of employees	Annual turnover	Gross assets
Medium	Fewer than 200, depending on industry	R4m to R50m depending on industry	R4,5m to R18m depending on industry
Small	Fewer than 50	R2m to R25m depending on industry	R2m to R4,5m depending on industry
Very small	Fewer than 20m depending on industry	R200,000 to R500,000 depending on industry	R150,000 to R500,000 depending on industry
Micro	Fewer than 5	Less than R150,000	Less than R15,000

Source: Asah, F., Fatoki, O.O., & Rungani, E. (2015). The impact of motivations, personal values and management skills on the performance of SMEs in South Africa. *African Journal of Economic and Management Studies*, 6(3), 308-322; SEDA. (2018). SMME Quarterly update: 1st quarter 2018. Retrieved from <http://www.seda.org.za/Publications/Publications/SMME%20Quarterly%202018-Q1.pdf>

From Table 4 above there are four classifications for SMEs, namely micro, very small, small, and medium-sized enterprises. The Department of Trade and Industry (DTI) according to Le Fleur et al. (2014) state that the term “small business” and “SMME” are used interchangeably whereas the term “enterprise” refers explicitly to entities, especially close corporations, cooperatives and companies, stressing the

fact that there are different ideas of businesses. The total annual turnover and total gross asset value (excluding fixed property) are used to classify the size of an enterprise.

The National Small Business Act further categorises small businesses in South Africa into four distinct groups (Le Fleur et al., 2014; Smit & Watkins, 2012):

- Survivalist enterprise – these types of enterprises generate less than the minimum income standard or poverty line and is considered pre-entrepreneurial. It includes hawkers, vendors and subsistence farmers and may in practice be categorised together with the next group.
- Microenterprise – these types of enterprises have turnover less than the value-added tax (VAT) registration limit of R150 000 per year. They usually lack formality in terms of registration and include spaza shops, minibus taxis, and household industries. They employ less than five people.
- Very small enterprise – these types of enterprises have less than ten paid employees excluding mining, electricity, manufacturing and construction sectors where the number of paid employees is 20. They operate in the formal market and have access to technology.
- Small enterprise – these types of enterprises have an upper limit of 50 employees and are generally more established, showing more complex business practices.
- Medium enterprise – these types of enterprises have between 100 or 200 employees depending on the sector and are characterised by the decentralisation of power to an additional management layer.

SMEs are also divided into two sectors, namely the formal sector and the informal sector. The characteristics of each are defined in Table 5 below. For this study, formal SMEs were used.

Table 5 – Traditional characteristics of the informal and formal sector

	Informal Sector	Formal Sector
1.	Ease of entry	Restricted entry
2.	Indigenous resources	Reliance on national and foreign finance capital
3.	Family ownership	Corporate ownership
4.	Small-scale operation	Large-scale operation
5.	Labour-intensive and adapted technology	Capital-intensive and imported technology
6.	Skills acquired outside the formal system	Formally acquired skills

7. Unregulated and competitive markets	Protected markets
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Source: Le Fleur, H., Koor, J., Chetty, V., Ntshangase, S., Mackenzie, R., & Rawoot, F. (2018). Informal small medium and micro enterprises (SMME) retailers in South Africa. W&R SETA ILDP

Ndlovu, & Makgetla (2017) identify that the key potential driver of job creation, equality and innovation in South Africa is small business. In his State of the Nation Address in 2019, President Cyril Ramaphosa stated that small businesses play a key role in stimulating the economic activity and employment of South Africa (President's Office, 2019). The National Development Plan (NDP) argues that small business can be a route to economic empowerment. Thus, SMEs have been identified as catalysts for economic growth (Struwig, & Lillah, 2017).

In South Africa, small business provides 55% of formal employment in comparison to 40% from large companies. There are low levels of small business compared to other middle-income economies, and this makes to high joblessness and the associated inequality and economic exclusion, according to Ndlovu, & Makgetla (2017). The cause of this is the legacy of apartheid legislation, which shaped the exclusionary system across the economy. Despite apartheid being ended more than two decades ago, growth remains slow and remains far behind the level found in peer economies (Ndlovu, & Makgetla, 2017). SMEs constitute 60% of the total employment and amount to approximately 2,8 million SMEs throughout the country (Struwig, & Lillah, 2017). Further information is provided under sub-section 4.3 and 4.5 in Proposed Research Methodology and Design (Chapter 4) below on SMEs.

2.3.4. **SMEs and Commitment to Sustainability**

Environmental researchers have advocated over the past three decades for high levels of attention to be devoted to the management of the natural environment by all stakeholders, primarily due to the depletion of resources, waste, and pollution (air, water, and soil), as a result of urbanisation and industrialisation. Due to incidents, which have occurred, government legislations, and consumer pressures, the business environment is progressively becoming aware of the sustainability and ecological aspects of their operations. Businesses are being encouraged, however, to adopt measures to reduce their negative environmental impacts in their strategic decisions (Le Van, Viet Nguyen, & Nguyen, 2019; Ahinful et al., 2019). The adoption of environmental measures, however, have been linked to factors (external and internal) within the operating environment of the organisation (Heras-Saizarbitoria,

Arana, & Boiral, 2016; Gonzalez-Benito, J., & Gonzalez-Benito & Unamuno, 2006). Whilst this is the case for large organisations which have shown integration of internal and external motivators for environmental management (Ahinful et al., 2019), small and medium-sized enterprises (SMEs) have been shown to be lagging behind (Brammer, Hoejmoose, & Marchant, 2012; Revell, Stokes, & Chen, 2010). Other scholars, however, have stated that SMEs cannot be expected to employ scaled-down solutions developed by larger organisations (Masurel, 2007).

SMEs are the economic backbone of most markets, accounting for almost 2/3rd of employment in some markets. As well as playing an important economic role, SMEs are also environmentally relevant (EC, 2015; Cassels & Lewis, 2011). By definition, SMEs have minimal operations and therefore, would not have the potential to impact their environments to the same degree as a large business would have (Gadenne, Kennedy, & McKeiver, 2009). Although the individual impact is small, their collective, cumulative effect on the environment is significant (EC, 2015; Gadenne, Kennedy, & McKeiver, 2009).

SMEs seem to be more flexible and closer to consumer demand and should thus be able to respond to environmental challenges and employ practices (Masurel, 2007) that facilitate environmental preservation. Research on the environmental practices of SMEs (Hillary, 2004) has shown that:

- owner-managers of SMEs are ignorant of the environmental impact of their enterprises;
- lack the tools and resources to tackle environmental problems;
- resistant to voluntary action due to the perceived cost, time, and resources required to reduce environmental impacts;
- sceptical about the business benefits of sustainability; and
- difficult to engage in anything to do with reducing their environmental impact (Revell, Stokes, & Chen, 2010).

Other studies (del Brio & Junquera, 2003) have shown similar patterns influencing environmental practices in SMEs, such as style of management, financial reserves, organisational configuration, and production competencies. Similar deductions are reached by Hillary (2004), identifying four significant internal barriers to SMEs implementing environmental management systems. Recent studies from Ghanaian SMEs have shown that SMEs have often engaged in training their employees on

proper handling of produce to reduce waste, to avoid effluents getting to wetlands by ensuring fewer spillages and making donations for plastic collection to city authorities (Ahinful et al., 2019). However, some of these SMEs do not see these as managing the environment because, within the informal sector, companies often implement measures as a way of cost reduction and not necessarily considering the environmental impact. The environmental benefit, therefore, comes as a by-product and not as an effective implementation method resulting in strong commitment, which is much-needed, mostly lacking (Ahinful et al., 2019). From these studies, it is evident that SMEs have difficulty in relating to sustainability than larger businesses do, and this may explain their lack of commitment to sustainability.

From a macro perspective, therefore, SMEs are central to sustainable development (Jansson et al. 2017), and it is in light of this that SMEs are chosen. From an environmental and sustainability commitment perspective, SMEs in South Africa have shown an intention to implement an environmental management system and displayed pro-environmental norms according to the study conducted by Struwig, & Lillah (2017). This is encouraging for this research study and can assist in answering the research problems concerning and the influence of strategic orientations and the influence of management values on commitment to sustainability in SMEs.

2.4. REPLICATION STUDY

In concentrating on the function of strategic orientation, Hillary (2004), as cited by Jansson et al. (2017), identified the aspect of corporate culture as a barrier to environmental sustainability. Strategic orientation is at its heart, a form of business culture that could, therefore, have an impact on decision making at a corporate level (Narver, Slater, & Tietje, 1998). Despite widespread attention from management, there is no universally accepted definition of strategic orientation (Hakala, 2011). The word orientation refers to “general or lasting direction of thought, inclination or interest” (Merriam-Webster, 2009). Strategic orientation can be defined as “the strategic directions implemented by a business to create the proper behaviours for the continuous superior performance of the company (Gatignon, & Xuereb, 1997; Hakala, 2011; Grinstein, 2008; Deutscher, Zapkau, Schwens, Baum, & Kabst, 2016) and reflects the beliefs and mental models of the senior executives (Hitt, Dacin, Tyler, & Park, 1997).

There are various strategic orientations, which have been researched, and two of the most widely researched orientations include MO and EO. Numerous scholarly attentions have been focused on MO and EO (e.g. Aminu, Ibrahim Murtala, & Mohd Shariff, 2014; Baker & Sinkula, 1999; Buli, 2017; Covin & Slevin, 1989; Kropp, Lindsay, & Shoham, 2006; Lumpkin, & Dess, 1996; Montiel-Campos, 2018; Zehir, Can, & Karaboga, 2015). This study will follow the study conducted by Jansson et al. (2017) as a replication study and will focus on these orientations to determine how they can impact how SMEs deal with environmental and sustainability aspects of their operations within a South African context. The hypotheses regarding the different types of strategic orientations, in addition to management values, will be detailed below.

2.4.1. Influence of MO and commitment to sustainability

Wiklund & Shepherd (2005) have stated that a business's orientation is a deeply rooted guiding principle, which affects the decision-making style of the company, its management philosophy, and its corporate culture. When facing environmental emergencies or market prospects, it is the business's orientation that would probably determine the aims of the company, the approach it adopts, and the actions it takes (Yina Li, Ye, Sheu, & Yang, 2018).

Modern marketing theory has as its foundations, market orientation (Jansson et al., 2017; Montiel-Campos, 2018; Wijesekara, Kumara, & Gunawardana, 2016). It is a universally accepted concept that marketing makes to business strategy (Hunt & Lambe, 2000), and it is speculated to be a key element of successful business cultures. Therefore, the formulation and implementation of business strategy are guided by the marketing concept. Kohli & Jaworski (1990) states that the marketing concept is a business philosophy, an idea or a policy statement and when market orientation is used, it refers to the implementation of this marketing concept. They are accredited with the definition of MO, and its definition is frequently cited. Historically different researchers have emphasised somewhat different aspects of MO – some focussing on the behavioural aspects of the concept (e.g. Jaworski & Kohli, 1993; Kohli, Jaworski, & Kumar, 2006), while others concentrated on the cultural concepts (e.g. Kohli & Jaworski, 1990; Narver & Slater, 1990). Recent studies concur with the cultural concept of MO (e.g. Grinstein, 2008; Hunt, & Lambe, 2000). By incorporating sustainability into MO, a competitive advantage is created

as the goal of strategic alignment of sustainability with marketing strategies is achieved (Crittenden, Crittenden, Ferrell, Ferrell, & Pinney, 2011). Pawaskar et al. (2018) state that by enhancing awareness of the environment, a change in the buyer behaviour of individuals will occur and this, as well, will make them demand pro-environment changes in regulations.

Table 6 below shows these definitions and their core components, scale and perspective. From Table 5, we see that Narver & Slater's (1990) definition is based on a cultural perspective-giving rise to the MKTOR scale. Kohli & Jaworski (1990) initially supported this view of a cultural perspective. Jaworski & Kohli (1993) reviewed the definition and looked at it instead from a behavioural perspective and developed their definition of MO. From this definition, Kohli, Jaworski & Kumar (1993) developed the MARKOR scale. A third-factor structure has been argued by Oakley (2012), who combined the strengths from the different perspectives establishing a definition that includes both cultural and behavioural aspects.

Table 6 – Definitions of market orientation

Author	Definition	Core components	Scale	Perspective
Kohli & Jaworski (1990); Narver & Slater (1990)	“the organisation culture that most effectively and efficiently creates the necessary behaviours for the creation of superior value for buyers and thus, continuous superior performance for the business”	Customer orientation Competitor orientation Inter-functional coordination	MKTOR	Cultural perspective
Jaworski & Kohli (1993); Kohli et al. (2006)	“the organisation-wide generation of market intelligence, dissemination of the intelligence across departments and organisation-wide responsiveness to it.”	Intelligence generation Intelligence dissemination Responsiveness	MARKOR	Behavioural perspective
Oakley (2012)	“organisations that are more market-oriented will be those that more successfully link the attitudes of their employees to the attitudes and behaviours of their customers.”	Customer-focused; Coordination and planning with marketing as a function of the entire organisation; Externally focus		Cultural + Behavioural perspectives

Source: Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *The Journal of Marketing*, 20-35; Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: the construct, research propositions, and managerial implications. *The Journal of Marketing*, 1-18; Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: antecedents and consequences. *The Journal of marketing*, 53-70; Kohli, A. K., Jaworski, B. J., & Kumar, A. (1993). MARKOR: a measure of market orientation. *Journal of Marketing research*, 30(4), 467-477; and Oakley, J. L. (2012). Bridging the gap between employees and customers. *Journal of Marketing Management*, 28(9-10), 1094-1113.

MO, defined according to these perspectives, corresponds directly to the dimensions of the marketing concept of (Oakley, 2012). Table 7 below describes each component.

Table 7 – Dimensions of third factor structure by Oakley

<i>Dimensions</i>	<i>Description</i>
<i>Customer Focus</i>	“the extent to which customers are perceived by the organisation and the degree to which the organisation sees the purpose of its business as creating satisfied customers” (Oakley, 2012)
<i>Coordination and Planning</i>	“this is throughout the organisation and not only in the marketing department. All departments within the organisation need to be on board with the marketing concept in order to present a united front in the marketplace” (Oakley, 2012)
<i>External focus</i>	“extent to which the organisation and its processes lead to implementing market-orientated behaviours in the marketplace” (Oakley, 2012)

Source: Oakley, J. L. (2012). Bridging the gap between employees and customers. *Journal of Marketing Management*, 28(9-10), 1094-1113.

From Table 7, in describing the third-factor model, Oakley (2012), states that without customer focus, an organisation’s strategy would ultimately fail. The main aim of a business, therefore, is to satisfy its present and future customers. It must strive to create a product or service that is in need, and that will be used. For coordination and planning, Oakley (2012) stresses the fact that the entire organisation needs to be “on board” and that if this is not achieved, having a customer-focused strategy would fail. With regards to external focus, Oakley (2012) states that the market and customer focus must be joined by a view outside the organisation. He continues to say that competitors are to be watched, and ideas need to be put into action. This model is useful in the current business climate and constitutes the most recent developments in MO literature.

Most of the research has focussed on MO concerning business profitability (Kohli, & Jaworski, 1993; Iyer, Davari, Zolfagharian, & Paswan, 2018) with little attention being given to the relationship between MO and commitment to sustainability. Crittenden, Crittenden, Ferrell, Ferrell, & Pinney, (2011) and González-Benito, & González-Benito (2008) have been the notable exceptions, who have approached MO as a potential forecaster of commitment to sustainability (Jansson et al., 2017). Since consumption resides in the domain of marketing, it is marketers who should be concerned about use as related to sustainability (Crittenden et al., 2011). According to Kuosmanen & Kuosmanen (2009), sustainability is generally accepted as one of the key success factors in the long term business strategy of the business.

Several studies (e.g. Cuerva, Triguero-Cano, & Córcoles, 2014; Perez-Sanchez, Barton, & Bower, 2003; Triguero, Moreno-Mondéjar, & Davia, 2013) have highlighted that customer, and stakeholder pressures activate SMEs to develop environmental-friendly measures and that business' give more considerable attention to the environment more if they see it delivering benefits to the customer (Kammerer, 2009). Marketers, who adopt the broader stakeholder perspective in relation to sustainability, alters the business' market orientation (both behavioural and cultural) from an end-consumer focus to a broader set of stakeholders according to Crittenden et al. (2011). Ferrell, Gonzalez-Padron, Hult, & Maignan (2010) more importantly propose that a MO that incorporates the broad base of stakeholders provides an avenue to stronger competitive advantage.

Most of the research has focussed on MO concerning firm profitability (Kohli, & Jaworski, 1993; Iyer, Davari, Zolfagharian, & Paswan, 2018) with little attention being given to the relationship between MO and commitment to sustainability. Crittenden, Crittenden, Ferrell, Ferrell, & Pinney (2011) and González-Benito, & González-Benito (2008) have been the notable exceptions, who have approached MO as a potential forecaster of commitment to sustainability (Jansson et al., 2017). Several studies have highlighted that customer and stakeholder pressures prompt SMEs to develop environment-friendly measures (e.g. Cuerva, Triguero-Cano, & Córcoles, 2014; Perez-Sanchez, Barton, & Bower, 2003; Triguero, Moreno-Mondéjar, & Davia, 2013) and that firms give more considerable attention to the environment more if they see it delivering benefits to the customer (Kammerer, 2009).

Taking this all into account, commitment to sustainability is therefore seen as a purpose of the focus on the customer, which favours market-oriented firms. There is, therefore, enormous backing for the idea that the customer is vital for the development of environmental strategies. Taking this all into account, commitment to sustainability is consequently seen as a function of the focus on the customer, which favours market-oriented businesses. In addition, there is increasing environmental concern among consumers and other stakeholders during the last few decades as described by Haddock-Fraser & Tourelle (2010); Sandhu, Ozanne, Smallman, & Cullen (2010). This study, therefore, hypothesises that MO is positively related to commitment to sustainability among SMEs. The researcher conceptualises this relationship as shown in Figure 5 below.

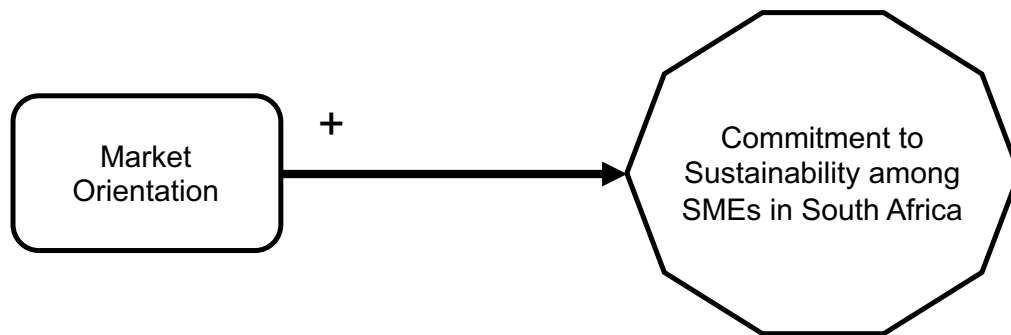


Figure 5 – Conceptual framework of the relationship between MO and commitment to sustainability

Source: Author's compilation

2.4.2. Influence of Entrepreneurial Orientation (EO) and commitment to sustainability

Most studies have investigated the direct relationship between EO and performance (Kropp, Lindsay, & Shoham, 2006). While authors like Crittenden et al. (2011) and González-Benito & González-Benito, (2008) identify the link between MO and sustainability, they also see the involvement of stakeholders or customers as necessary components of sustainability (Jansson et al., 2017) without which market-orientated businesses would not focus on sustainability. EO may be necessary for business commitment to sustainability; therefore, when it does not come as a function of focussing on customer needs or wants. According to Lumpkin & Dess (1996), an EO refers to “the processes, practices, and decision-making activities that lead to new entry”. Taken from the strategy-making process literature, EO has five dimensions, namely autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness (Lumpkin & Dess, 1996). According to Corvin & Slevin (1989) and Miller (1983), EO has three components which have clear connections to sustainable business practices namely innovativeness, proactiveness, and risk-taking. Table 8 below defines each of these components.

Table 8 – Dimensions of entrepreneurial orientation

Dimensions	Description
Autonomy	“Independent action by an individual or team aimed at bringing forth a business concept to vision and carrying it through to completion.”
Innovativeness*	“A willingness to introduce newness and novelty through experimentation and creative processes aimed at developing new products and services, as well as new processes.”
Proactiveness*	“A forward-looking perspective characteristic of a marketplace leader that has the foresight to seize opportunities in anticipation of future demand.”

<i>Competitive aggressiveness</i>	“An intense effort to outperform industry rivals. It is characterised by a combative posture or an aggressive response aimed at improving position or overcoming a threat in a competitive marketplace.”
<i>Risk-taking*</i>	“Making decisions and taking action without certain knowledge of probable outcomes; some undertaking may also involve making substantial resource commitments in the process of venturing forward.”
<i>*relevant to sustainability</i>	

Source: Covin, J. G., & Slevin, D. P. (1989). Strategic management of small business in hostile and benign environments. *Strategic Management Journal*, 10(1), 75-87; Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135-172; and Miller, D. (1983). The correlates of entrepreneurship in three types of business. *Management Science*, 29(7), 770-791.

The idea that EO, through its components of innovativeness, proactiveness and risk-taking, can lead to increased commitment to sustainability is supported in previous research. Aragón-Correa, Hurtado-Torres, Sharma, & García-Morales (2008) have shown that proactiveness is associated with innovative sustainable practices in SMEs. Neneh Ngek & van Zyl (2017) and Oni, Agbobli, & Iwu (2019) have found that SMEs in South Africa show a moderate level of proactiveness and innovativeness and a weak propensity for risk-taking. However, this is based more on business performance than on sustainability. Menguc & Ozanne (2005) state that entrepreneurship is a building block of corporate environmentalism and thus a higher level of EO represents a resource that allows companies to see opportunities and work with sustainability issues at a strategic level.

The literature identifies numerous studies relating to the components of entrepreneurial orientation especially concerning sustainable innovations, eco-innovations (e.g. (Horbach, Rammer, & Rennings, 2012; Jansson, 2011; Leroux & Pupion, 2018; Pacheco, Caten, Jung, Navas, & Cruz-Machado, 2018; Pacheco et al., 2017; Sammer & Wüstenhagen, 2006; Triguero, Moreno-Mondéjar, & Davia, 2013), and sustainable entrepreneurship (e.g. (Ben Youssef, Boubaker, & Omri, 2018; Hall, Daneke, & Lenox, 2010), which focuses on the combination of innovation and sustainable business practices (Cuerva, Triguero-Cano, & Córcoles, 2014). Eco-innovation is important as it serves as a means to increased sustainability, and as a fundamental business source of competitive advantage (Jenkins, 2009; Klewitz & Hansen, 2014).

Aragón-Correa et al. (2008) have shown that proactiveness is associated with innovative sustainable practices in SMEs. Neneh & Van Zyl (2017) and Oni, Agbobli, & Iwu (2019) have found that SMEs in South Africa show a moderate level of

proactiveness and innovativeness and a weak propensity for risk-taking. This is, however, based more on firm performance than on sustainability. Menguc & Ozanne (2005) state that entrepreneurship is a building block of corporate environmentalism and thus a higher level of EO represents a resource that allows companies to see opportunities and work with sustainability issues at a strategic level. In line with this, this study hypothesises that EO will be a significant determinant of commitment to sustainability among SMEs. The researcher conceptualises this relationship as shown in Figure 6 below.

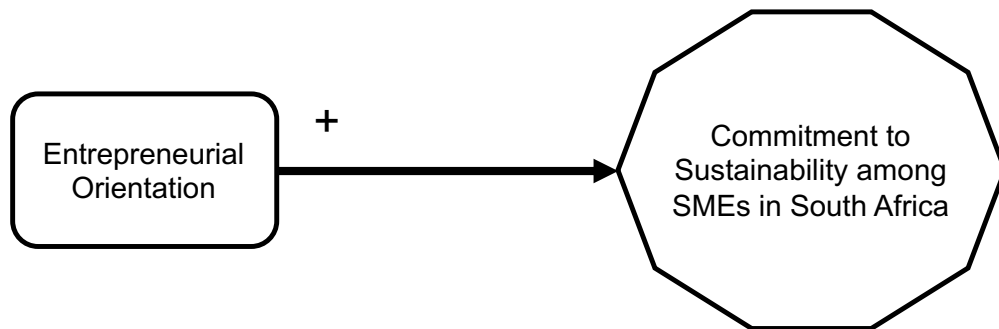


Figure 6 – Conceptual framework of the relationship between EO and commitment to sustainability

Source: Author's compilation

2.4.3. Influence of Management Values and commitment to sustainability

Individuals decide to engage in business activities because of different motivations. Some do because of push motivation, i.e. through being forced or because of pull motivations, i.e. by spotting an opportunity (Asah et al., 2015). Values provide a commanding justification of human behaviour, because they serve as standards for evaluating and assessing the conduct, and form the basis of individual perception (Gorgievski, Ascalon, & Stephan, 2011). Business owners' success criteria echo the value orientation of SMEs in South Africa based on the impact of motivations, personal values and management skills on their performance (Asah et al., 2015). This implies that personal values of SME owners greatly control management decisions and performance and that the managerial skills of an owner are critical resources for the success of the SME. This is due to the significant influence that managerial skills has on the SMEs strategic decisions and their implementation (Asah et al., 2015).

The survival and growth of an SME, which plays a crucial part in the economy of a country, greatly depends on its managers. However, as managers face increasing

responsibility, making more complex and far-reaching decisions, they require, as an essential guide for organisational behaviour, a corporate values standard, which then forms the bedrock of any corporate culture (Asah et al., 2015). These values provide a sense of common direction for all employees and guidelines for their day-to-day behaviour, as the essence of a company's philosophy for achieving its goals. For a business, therefore, that has corporate values standards, their managers and employees know what their business stands for, and if they know what standards they are to uphold, then they are much more likely to make decisions that will support those standards (Asah et al., 2015). This means that both managers and employees should align their personal values to those of the organisation to achieve organisational and personal goals as both personal values and organisational values provide the foundation for implementing an organisation's strategy, mission and structure. Consequently, an essential key to greater organisational effectiveness is a close link between personal and organisational values.

Qualities that add to an individual's lasting and characteristic patterns of feeling, thinking and behaviour are defined as personal values (Asah et al., 2015). Schwartz value theory adopts a notion of beliefs that focuses on six main features namely values are inseparably linked beliefs; values denote desirable goals that motivate action; values exceed exclusive situations and actions; values serve as standards or criteria; values are ordered by importance relative to one another, and the relative importance of multiple values guide to action (Schwartz, 1992; Schwartz, 2005). In support of Schwartz value theory, Rotter (1972) concurs and explains how value influences choice, determination and performance in his expectancy-value theory. Both theories are in support of the likelihood that a particular behaviour will occur is a joint function of the person's expectation that the behaviour will lead to one's goals and the values attached to those goals.

Personal values are considered to be the most influential leader characteristics, according to Ling, Zhao, & Brown (2007). Business performance can be viewed as reflections of the values and cognitive bases of powerful actors in the organisation. Values are key to understanding the relationship between entrepreneurs' personal characteristics and firm performance.

Businesses that own superior resources are more likely to gain a competitive advantage in the marketplace. As today's society is demanding for environmental accountability, companies have to implement environmentally sustainability strategies, which is also one way of achieving this competitive advantage (Knight et al., 2018). Although there is growing literature on small business social responsibility, there still lacks research that looks at the green management practices of small businesses (Parry, 2012). There appears to be a negative perception between environmentally sustainable behaviour and business performance as business who invest in environmental efforts might do so at a cost to profitability, according to Knight et al. (2018). By implication, therefore, behaving in an environmentally-friendly manner is easier for resource-rich businesses who are better able to carry the costs and would be difficult or impossible for companies like SMEs, who have fewer resources creating a barrier to achieve this (Knight et al., 2018). SMEs often have a much flatter and less formalised structure than large organisations do. This implies that due to the small size of the SME, ownership and control may be run by a single individual or group of individuals (Jansson et al. 2017; Jenkins, 2004). Given their status and influence on the strategies and culture of the SMEs, numerous studies have studied the environmental values, attitudes and knowledge of owners and managers of SMEs as explanatory variables of environmental sustainability practices (Cassells & Lewis, 2011; Williams & Schaefer, 2013; Burke & Gaughran, 2007; Kearins, Collins, & Tregidga, 2010).

The literature demonstrates that many SME managers hold positive attitudes towards the environment in the developed countries, e.g. UK, EU, USA. The results from developed countries are strengthened by qualitative studies that emphasise manager attitudes as necessary for commitment to sustainability in SMEs (Jansson et al. 2017). Studies on why SMEs engage in pro-environmental behaviour in wine businesses in South Africa suggests that managers' environmental responsibility plays a greater role than competitiveness (Hamann, Smith, Tashman, & Scott Marshall, 2017). This is line with the three categories of motives that Bansal, & Roth (2000) have highlighted namely competitiveness, legitimacy, and responsibility.

Although studies show that management values are important, the extent to which this is translated into action is questionable. Several studies (Cassells & Lewis, 2011; Revell, Stokes, & Chen, 2010) have reported an "attitude-action" or "values-

action” gap highlighting that businesses do not necessarily follow the positive values or attitudes from owners and managers. Cassells & Lewis (2011) and Ahinful et al. (2019) report that protecting the environment was more of an accidental by-product rather than an intended outcome of activities. Some managers merely stumble upon practices which protect the environment rather than intentionally acting. It is also clear that legislation particularly may act as a driver for environmental-friendly behaviour in SMEs. There may also be a handful of green entrepreneur or ecopreneur, who have adopted an environmentally responsible stance on their business practices (Masurel, 2007). The ecopreneur creates green business to radically transform the sector in which they operate, make a living and solve for environmental problems (Masurel, 2007). It, therefore, becomes essential to link the management values to sustainability practices.

Although the studies show that management values are important, the extent to which this is translated into action is questionable. Some managers merely stumble upon practices which protect the environment rather than intentionally acting. It, therefore, becomes important to link the management values to sustainability practices. With the indication that management values are essential to understand commitment of sustainability in SMEs, this study still expects an underlying positive relationship between management environmental values and commitment to sustainability. The researcher conceptualises this relationship as shown in Figure 7 below.

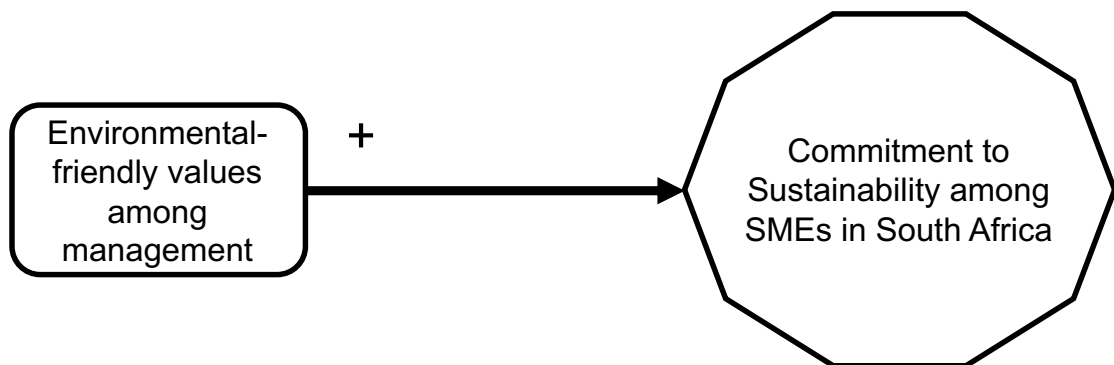


Figure 7 – Conceptual framework of the relationship between environmental-friendly values among management and commitment to sustainability

Source: Author's compilation

2.4.4. Influence of Sustainability Practices and commitment to sustainability

Approaches to minimise the harm done by humanity's influence on the natural environment has developed over time as the debate continues. From a business perspective, larger businesses have built up the necessary frameworks and standards for sustainable business practices. However, SMEs have generally been seen as failures in environmental sustainability due to their low acceptance rates of sustainable business practices (Battisti & Perry, 2011). According to Becherer & Helms (2014) "green" environmental goals play an important role in a business's decision making and goal setting with larger businesses having socially responsible or environmentally-friendly initiatives as part of their mission. The question, however, is with concerns to SMEs if they have the same initiatives (Becherer & Helms, 2014). When it comes to environmentally responsible practices, SMEs under-perform according to (Cassells & Lewis, 2019).

Commitment to sustainable business practices in both large businesses and SMEs are required to lessen the impact of economic activity on the environment. SMEs account for 95% or more of the business population, and it is imperative to understand why and how SMEs engage in environmental sustainability (Battisti & Perry, 2011). It is also known that SMEs fall behind larger businesses in terms of their participation in sustainable business practices and that they are less inclined to act proactively and engage in voluntary initiatives for the environment (Rutherford, Blackburn, & Spence, 2000). According to Jenkins (2004), it may be due to their low visibility for SME inactivity because they will face less reputational risks than larger businesses, which forces them to focus on improving their environmental performance.

Despite several regulations which have been enforced with the aim of minimising waste and removing dangerous substances from products, as well as several non-government-regulated initiatives, which have been developed (e.g. socially sustainable – fairly traded labelled products, and environmentally friendly), businesses differ in their adoption of these types of sustainability practices and how they are related to management values and commitment to sustainability (Jansson et.al. 2017).

The support and commitment from top management is an essential factor for the development of proactive or environmentally friendly strategies based on the following arguments, namely:

- Resources required for the implementation of environmental practices will be readily available if the person responsible for them supports the plans, and
- Many environmental initiatives require the collaboration and coordination of different departments and divisions, and this is managed easier when such initiatives are endorsed by top management (González-Benito & González-Benito, 2006).

Top management support and involvement are key to the implementation and success of proactive environmental strategies.

Environmental proactivity can be apparent through different strategies, each characterised by a series of environmental practices. Proactivity, in this instance, refers to the voluntary implementation of practices and initiatives aimed at improving environmental performance according to González-Benito & González-Benito (2006). These environmental practices can be placed into three categories:

- The planning and organisational practices – these reflect the extent to which an environmental management system (EMS) has been developed and implemented. This includes the definition of environmental policy, the establishment of procedures and objectives, selecting and implementing environmental practices for assessing the outcomes of such actions, the establishment of mechanisms to advance the company (González-Benito & González-Benito, 2006).
- The operational practices – these imply changes in the production and operations systems. They can either be product-related (practices focused on designing and developing more environmentally conscious products) or process-related (practices focused on the development and implementation of more environmentally conscious manufacturing and operational methods and processes) (González-Benito & González-Benito, 2006).
- The communicational practices – these aim to communicate the company's social and environmental actions taken in favour of the natural environment. Due to increasing transparency and consumer awareness, businesses are reporting not only financial performance but also environmental and social impact. These practices try to establish cordial relationships with various stakeholders that the

company may impact and may be seen in a positive light earning respect from stakeholders enabling them to form a positive opinion about their environmental performance (González-Benito & González-Benito, 2006).

Therefore, actual sustainability practices are essential to understand commitment to sustainability in SMEs. Forced or voluntary sustainability practices will influence commitment to sustainability. This study expects a positive relationship between sustainability practices and commitment to sustainability. The researcher conceptualises this relationship as shown in Figure 8 below.

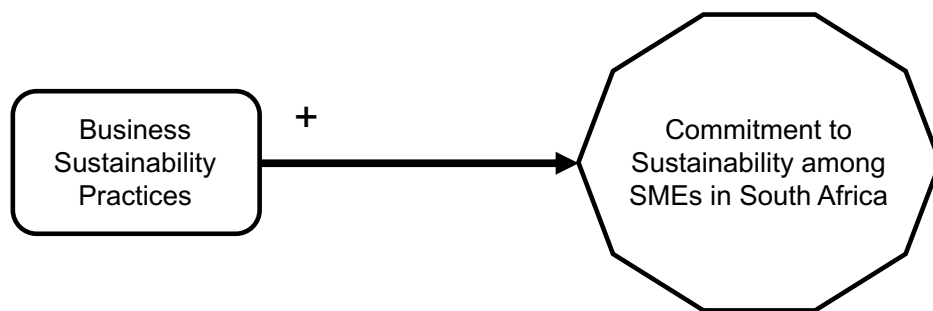


Figure 8 – Conceptual framework of the relationship between business sustainability practices and commitment to sustainability
 Source: Author’s compilation

Given the literature review, the researcher conceptualises the relationships between MO, EO, pro-environmental values among management, and business sustainability practices, and commitment to sustainability among SMEs as displayed in Figure 9 below. The strategic orientations of MO and EO, pro-environmental values among management, and business sustainability practices all have a positive influencing relationship on commitment to sustainability among SMEs in South Africa.

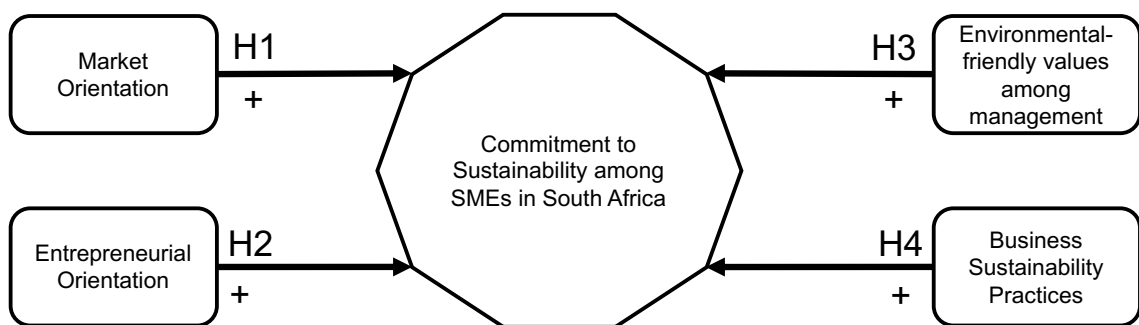


Figure 9 – Conceptual framework of the influence of Strategic Orientations and Management Values on commitment to sustainability model
 Source: Author’s compilation

2.5. EXTENSION OF STUDY PART 1

The concept of strategic orientation is increasingly gaining attention as a core concept of determining the performance of organisations and as an important way for any organisation to maintain a competitive advance (Aloulou, 2018). The influence of multiple strategic orientations on organisational performance needs to be evaluated as there is limited knowledge on the extent to which they may simultaneously drive business and performance (Hakala, 2011; Grinstein, 2008).

SMEs drive economic development and are important for local entrepreneurship and innovation having an advantage over larger businesses due to their flexible cultures, informal structures at times, close market proximity, less reluctance to explore new technologies, high adaptability, specialised technical and marketing expertise (Al-Ansaari, Bederr, & Chen, 2015). Even though they face many challenges, SMEs also play a vital role in technological advancement, and product and service customisation compared with larger businesses. Their strategic orientation has significant implications and adopting an appropriate strategic orientation can provide efficiencies for SMEs and advantages over larger companies (Al-Ansaari et al., 2015).

The strategic direction that a business intends to follow to monitor its activities for enhanced business performance needs to be guided by the strategic orientation that the company chooses (Gao et al., 2007). Additional strategic orientations which have been researched to some extent include TO and LO (e.g. Adegbuyi, Adegubiyi, Oluseye, Ibidunni, & Fadeyi, 2018; Baker & Sinkula, 1999b; Batra, Sharma, Dixit, Vohra, & Gupta, 2015; Beneke et al., 2016; Cohen, 2004; Grinstein, 2008; Hult, Hurley, Giunipero, & Nichols, 2000; Kocak et al., 2017; Urban & Heydenrych, 2015). There is reason to believe that strategic orientation can also explain how business addresses environmental aspects and sustainability of their operations, given their importance to the long-term goals, strategies and activities.

Against this background of the discussion above, the extension study will examine the role or influence of TO and LO concerning commitment to sustainability in SMEs in South Africa.

2.5.1. Influence of TO and commitment to sustainability

The business landscape of today is one of increased competitiveness, global outlook, and maturing markets (Lee, Uslay, & Meuter, 2013). Most businesses, to maintain competitive equality, are obliged to use technologies to improve operational effectiveness, to create value, and to enhance consumer perceptions of service quality. These technologies available become more complex and sophisticated when planning the marketing mix and managing customer relationships (Lee et al., 2013). Because markets are dynamic, the technologies used must also be dynamic, and thus managers look for technologies that will lead to customer captivity, i.e. where customers consistently reply on a business and are unwilling to switch service providers, leading to a competitive advantage for the business (Lee et al., 2013).

Traditional marketing techniques through promotional media and sales personnel are not adequate any longer, and these conventional approaches are being improved by technology-based marketing. Developing a technology orientation, therefore unavoidably facilitates marketing activities. More and more businesses and organisations are seeing the benefits of integrating technology into their operations. However, the adoption and utilisation of technology must be woven into the fabric of the organisation (Lee et al., 2013). Inappropriate adoption and utilisation can lead to businesses trying to integrate expensive technologies that fail to generate the expected results, careless strategic planning, poor inferior designs, poor implementation, and all these failures can be very disruptive.

Literature suggests that the role of technology in organisational goals and strategic marketing is closely interrelated (Lee et al., 2013) and that innovative businesses have a strong R&D orientation. They are also proactive in acquiring new technologies and use sophisticated technologies in the development of their new products (Gatignon & Xuereb, 1997). Therefore, a technology-orientated business can be defined as “a business with the ability and will to acquire a substantial technological background and use it in the development of new products: (Gatignon & Xuereb, 1997). Technology orientation is, therefore, closely related to innovation and product orientation (Aloulou, 2018; Grinstein, 2008; Hakala, 2011). The company can use its technical knowledge to build new technical solutions to answer and meet the needs of the users. Consequently, TO is associated with investments in technological leadership and with high-quality products (Gatignon & Xuereb, 1997;

Grinstein, 2008) and innovation positively affects long-term success. The introduction of new products will decrease organisational inactivity and will enhance the flexibility of the organisation.

Zahra & Covin (1993) conceptualise TO as a set of organisational decisions concerning three components, namely aggressive technological posture, automation and process innovation, and new product development (Urban & Heydenrych, 2015). Furthermore, Zahra & Covin (1993) operationalize TO in terms of the following dimensions namely pioneering posture, internal vs. external R&D sources, applied vs. basic research; and use of patenting (Urban & Heydenrych, 2015). Table 9 below defines each dimension.

Table 9 – Dimensions of technology orientation

<i>Dimension</i>	<i>Description</i>
<i>Aggressive technological posture</i>	The organisation's preference or propensity to use technology proactively in positioning itself. It is being an industry leader and an early industry entrant regarding innovation efforts. It signals specific competitive initiatives and resource commitments by organisations (Zahra & Covin, 1993).
<i>Automation and process innovation</i>	The level of automation of plants and facilities, the adoption of the latest technology in production, and capital allocations for new equipment and machinery (Zahra & Covin, 1993).
<i>New product development</i>	The intensity of an organisation's product development activities. Emphasis on this indicates an organisation understanding that superior products are key to business success (Zahra & Covin, 1993).

Source: Zahra, S. A., & Covin, J. G. (1993). Business strategy, technology policy and business performance. *Strategic Management Journal*, 14(6), 451-478.

Regarding Table 9 and looking at aggressive technological posture, it is identified that businesses that employ technology proactively are on the leading edge of technological change in the industry and build a reputation as being first in industry to try new methods/technologies. The automation and process innovation dimension indicate top management philosophy towards having “state-of-the-art” technology. It is one of the crucial dimensions of TO as it suggests areas of potential involvement for R&D scientists and engineers (Zahra & Covin, 1993). Concerning new product development, organisations that pursue product development surpass their counterparts in the rate and number of new product introductions (Zahra & Covin, 1983).

Various studies have found a significant relationship between TO and business innovation performance (Aminu, & Mohd Shariff, 2014; Gatignon, & Xuereb, 1997)

and that TO positively affects business’s performance and product profitability (Gao, Zhou, & Yim, 2007). It has therefore been concluded that high level of TO is required to maintain superior performance (Aminu, & Mohd Shariff, 2014). Given the importance of TO to a business’s long-term goals, strategies and activities, there is reason to believe that TO could also explain how the company addresses sustainability and environmental aspects of their operations. In line with this, this study hypothesises that TO is positively related to commitment to sustainability among SMEs. The researcher conceptualises this relationship as shown in Figure 10 below.

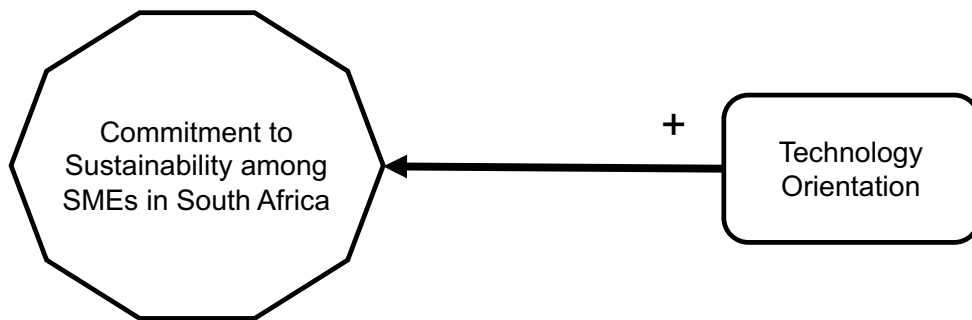


Figure 10 – Conceptual framework of the relationship between TO and commitment to sustainability among SMEs in South Africa

Source: Author’s compilation

2.5.2. Influence of Learning Orientation (LO) and commitment to sustainability

“The capability of organisations to learn is viewed as a source of sustainable competitive advantage” according to Levinthal & March (1993) as cited by (Frank, Kessler, Mitterer, & Weismeyer-Sammer, 2012) Organisational learning is defined as “a process of knowledge creation through acquiring information about the state of the world and improving what the organisation can do” (Frank et al., 2012) and has four dimensions namely knowledge acquisition, information distribution, information interpretation, and organisational memory (Frank et al., 2012). Baker & Sinkula (1999) state that organisational learning is a dynamic process occurring when expectations misalign with outcomes and can be divided into single-loop learning or double-loop learning. Single-loop learning is adaptive and incremental based on the reaction to environmental changes and initiating correction through learning processes (Frank et al., 2012). Double-loop learning conversely is higher-order learning and is generative. It leads to a change of viewing the world through questioning and changing organisational processes, unlearning and proactively

replacing these to maintain a competitive advantage (Baker & Sinkula, 2009; Frank et al., 2012)

Any organisation acting in a dynamic environment and trying to achieve and sustain competitive advantages needs to advance its knowledge base. Therefore, the organisation requires organisational LO (Frank et al., 2012). Narver & Slater (1990) identified that market-oriented businesses must develop a learning orientation culture to be competitive. Grinstein (2008) states that LO has to do with “the development of knowledge in the organisation”. LO is associated with double loop learning and is “a set of organisational values that influence the propensity of the business to create and use knowledge” (Sinkula, Baker, & Noordewier, 1997). Comparing organisational learning and LO, one sees that the former is the dynamic process of knowledge accumulation, whereas LO is the basic attitude of the organisation towards learning (Frank et al., 2012). The organisation must value learning which leads to change in the organisations' values and norms and is a result of proactive organisational behaviour (Baker, & Sinkula, 1999; Hult, Hurley, & Knight, 2004). The adoption of a learning orientation results in a positive effect on organisational commitment and on organisational innovativeness (Farrell, 1999). In addition, there is better organisational performance, it enables businesses to create knowledge and competencies, and can respond better to their environment (Slater, & Narver, 1995; Baker, & Sinkula, 1999).

Although there are numerous studies available on the LO of SMEs focusing on individual or group level learning, there is, however, no organisational learning process (Frank, Kessler, Mitterer, & Weismeyer-Sammer, 2012). With organisational learning, the outcomes are different from individual learning processes and can result in changes in organisational values. Baker, Sinkula, & Noordewier (1997) have developed a scale for measuring LO, and their constructs consist of three dimensions namely commitment to learning, shared vision, and open-mindedness. This has a clear organisational level focus. Table 10 below discusses the dimensions.

Table 10 – Dimensions of learning Orientation

<i>Dimension</i>	<i>Description</i>
<i>Commitment to learning</i>	Involves organisations valuing the need to understand the cause and effects of their actions to detect and correct errors in theory in use. Little learning is achieved if organisations place little value on learning. Commitment to learning is related to a discussion of learning principles, the notion of thinking literacy

	and belief that a culture amenable to learning is a prerequisite to its ability to improve its understanding of its environment over time (Sinkula et al., 1997).
<i>Open-mindedness</i>	Is linked to unlearning, and when organisations proactively question long-held routines, challenge assumptions, and beliefs, they are engaging in the practice of unlearning. At the heart of organisational change, therefore, is unlearning and open-mindedness is an organisational value that is necessary for unlearning efforts to transpire (Sinkula et al., 1997).
<i>Shared Vision</i>	Is a crucial foundation for proactive learning as it provides a focus for learning that fosters energy, commitment and purpose among organisational members, i.e. direction (Sinkula et al., 1997).

Source: Sinkula, J. M., Baker, W. E., & Noordewier, T. (1997). A framework for market-based organisational learning: Linking values, knowledge, and behaviour. *Journal of the Academy of Marketing Science*, 25(4), 305.

Table 9 indicates that commitment to learning and open-mindedness influence the intensity of learning in contrast to a shared vision that influences its direction. Without a shared vision, individuals will not know what expectations exist, what outcomes to measure, or what theories in use are in operation (Sinkula et al., 1997).

Improved business performance and innovation are strongly connected to successful learning processes, sustainable customer relations, and an overall EO (Frank, Kessler, Mitterer, & Weismeier-Sammer, 2012). Given the importance of LO to a business's long-term goals, strategies and activities, there is reason to believe that LO could also explain how the company addresses sustainability and environmental aspects of their operations. In line with this, this study hypothesises that LO is positively related to commitment to sustainability among SMEs. The researcher conceptualises this relationship as shown in Figure 11 below.

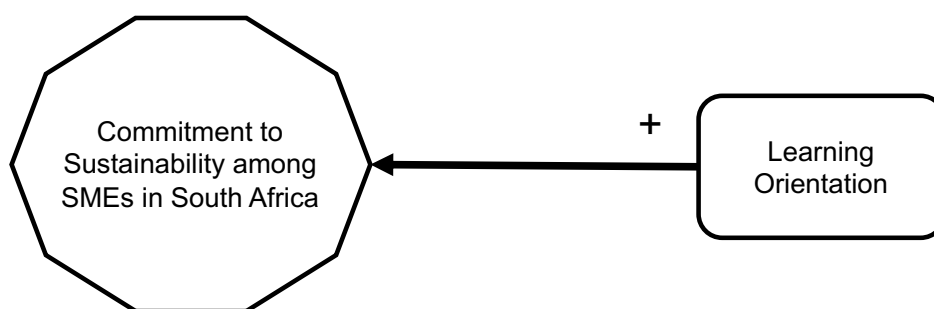


Figure 11 – Conceptualisation of the relationship between LO and commitment to sustainability among SMEs in South Africa

Source: Author's compilation

Given the literature review, the researcher conceptualises the relationships between TO, LO, and commitment to sustainability among SMEs, as displayed in Figure 12

below. The strategic orientations of TO and LO have a positive influencing relationship on commitment to sustainability among SMEs in South Africa.

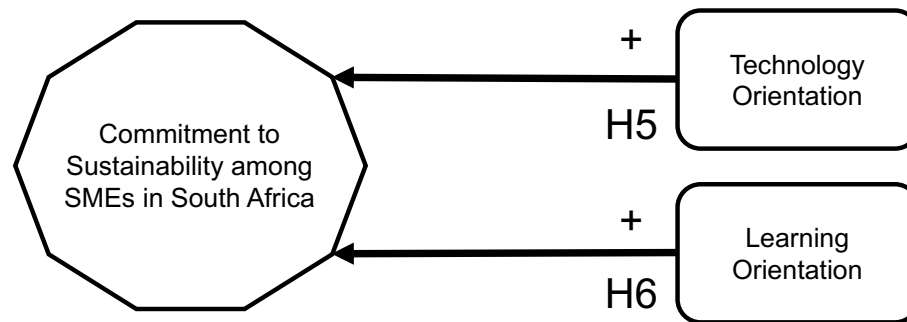


Figure 12 – Conceptual framework of the influence of TO & LO on commitment to sustainability model

Source: Author's compilation

2.6. LO AS MEDIATOR OR AS MODERATOR

The strategic orientation of businesses has attracted widespread interest from various scholars. Gatignon & Xuereb (1997) have defined strategic orientation as principles that direct and influence the activities of a company and generate the behaviours intended to ensure the viability and performance of the company. Of the various strategic orientations that exist, MO, EO, LO and TO have been studied to a large extent, some more than others. MO and TO look at the competitive environment (i.e. market, customers and competitors) and the product, services and technology the business chooses to offer to the environment (i.e. TO) (Hakala, 2011). EO and LO investigate the processes of matching resources with the environment. Entrepreneurship, through reallocating resources, changes the organisations' relationship of the environment, whereas learning changes the behaviour. Although prior studies have argued that businesses should develop and use multiple strategic orientations, only fragmented attention has been provided to examine the relationship between different orientations (Hakala, 2011). Causal relationships between variables may depict several effects namely direct effects, moderating effects and mediating effects. Different orientations presumably shape the relationship between the strategic orientations and performance as mediators or moderators (Aloulou, 2018). Some studies have investigated the moderating effects of LO with most considering its interactions with MO (Baker & Sinkula, 1999; Beneke, Blampied, Dewar, & Soriano, 2016; Ning, Wang, Lin, & Zheng, 2018; Pesämaa, Shoham, Wincent, & Ruvio, 2013; Jyoti & Dev, 2015; Real, Roldán, & Leal, 2014).

Other studies have investigated the mediating effects of LO with most considering its interactions with EO (Rhee et al., 2010).

2.6.1. **Moderating effects**

Baron & Kenny (1986) have defined a moderator as “a qualitative or quantitative variable that affects the direction and/or of the relation between an independent or predictor variable and a dependent or criterion variable” (Baron & Kenny, 1986, pp 1174). Within a correlation analysis framework, a moderator is a third variable that affects the zero-order correlation between two other variables, and occurs where the direction of the correlation changes (Baron & Kenny, 1986). In ANOVA terms, a moderator effect can be represented as an interaction between an independent variable and a factor that species the appropriate conditions for its operation. A moderator variable shows when or under what conditions an independent variable is related to a dependent variable (Kim et al., 2001; Cooper, 2015). The direction of the relationship between a predictor variable and a dependent variable may be reduced or enhanced by a moderator variable and may even change the relationship from positive to negative according to Kim et al. (2001). A moderator variable can be considered when the relationship between a predictor variable and a dependent variable is strong and the moderating effect is typically expressed as an interaction between predictor and moderator variables (Kim et al., 2001). The basic moderation model looks at the interaction and determines the effect the strength of a moderator has on an independent variable and a dependent variable. By using a path diagram as both a descriptive and an analytic procedure, a common framework is for capturing the correlational and the experimental views (Baron & Kenny, 1986). Figure 13 depicts the basic moderation model as basically and statistically.

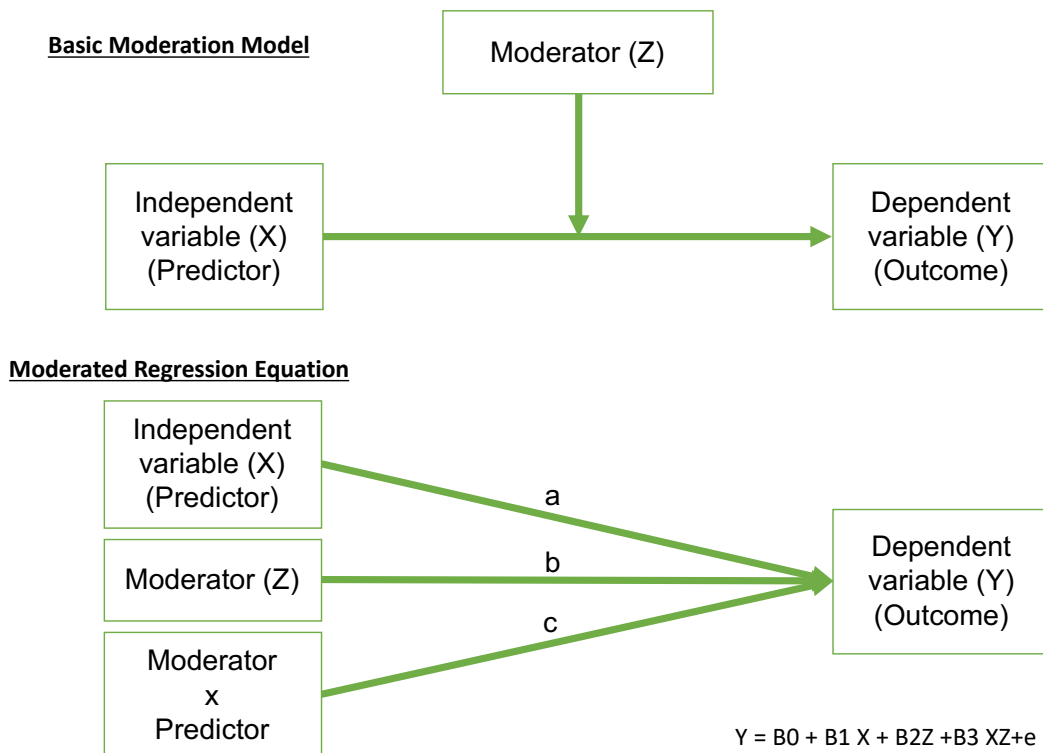


Figure 13 – Basic Moderation Model

Source: Cooper, B.K. (2015). An introduction to moderated mediation. Monash University. Retrieved from https://www.deakin.edu.au/data/assets/pdf_file/0003/681024/Moderated-mediation.pdf; Baron, R.M. & Kenny, D.A. (1989). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.

In Figure 13 above, there are three causal paths that feed into the outcome variable: the impact of the predictor (Path a), the impact of the moderator (Path b), and the interaction of these two (Path c). The moderation hypothesis is supported if the interaction (Path c) is significant.

Moderators and predictors are at the same level in regards to their role as causal variables i.e. moderator variables always function as independent variables (Baron & Kenny, 1986). Statistical tests to determine moderation include multiple regression analyses, structural equation modelling (SEM) and analysis of variance (ANOVA) according to Kim et al. (2001).

2.6.2. Mediating effects

Baron & Kenny (1986) state that “a given variable may be said to function as a mediator to the extent that it accounts for the relation between the predictor and the dependent or criterion variable” (Baron & Kenny, 1986, pp 1176). Mediators explain how external physical events take on internal psychological significance and speak

to how or why such effects occur, i.e. they explains how or why an independent variable is related to a dependent variable and focuses on understanding the underlying process (Cooper, 2015). A mediator is often an intrinsic characteristic or an attribute, and there must be a significant relationship between the predictor and the dependent variable before testing a mediating effect (Kim, Kaye, & Wright, 2001). In a basic mediation model, an independent variable is hypothesised to influence a mediator, which in turn influences the dependent variable. Figure 14 shows the basic mediation model.

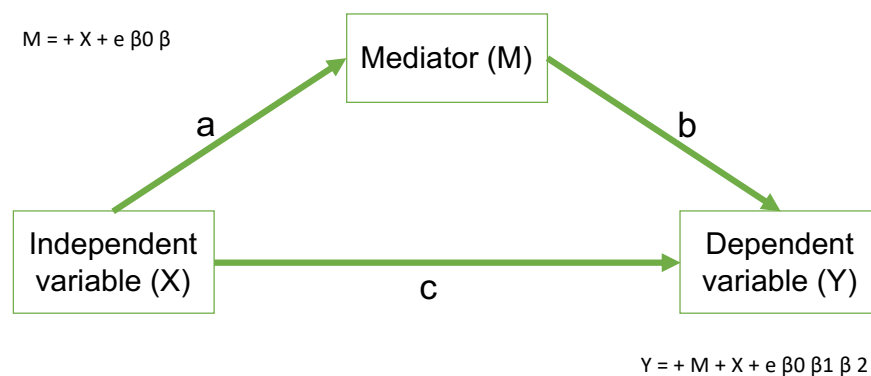


Figure 14 – Basic Mediation Model

Source: Cooper, B.K. (2015). An introduction to moderated mediation. Monash University. Retrieved from https://www.deakin.edu.au/__data/assets/pdf_file/0003/681024/Moderated-mediation.pdf

Figure 14 indicates the arrows as showing the hypothesised effects. The indirect or mediated effect of the independent variable (X) on the dependent variable (Y) is shown as $a \cdot b$. The direct or unmediated effect of X on Y = c. In Figure 14 above we can see three-variable systems and two causal paths that feed into the dependent variable: the direct impact of the independent variable (Path c), and the impact of the mediator (Path b). There is also a path between the independent variable and mediator (Path a). According to Baron & Kenny (1986), variable functions as a mediator if it meets the following conditions:

- Variations in the levels of the independent variable significantly account for variations in the mediator (Path a),
- Variations in the mediator significantly account for variations in the dependent variable (Path b), and
- A previously significant relation between the independent variable and dependent variable is no longer significant and when Path c is zero. If Path c is not zero, there is strong evidence of multiple mediating factors.

Mediating effects can be investigated through path analysis (multiple regression analyses) and SEM strategies (Kim et al., 2001). A series of regression models should be examined and for mediation, three regression equations should be followed, namely:

- Regressing the mediator on the independent variable,
- Regressing the dependent variable on the independent variable, and
- Regressing the dependent variable on both the independent variable and on the mediator (Baron & Kenny, 1986).

The three regression equations test the linkages of the mediator model.

2.6.3. Moderating and mediating effects between the strategic orientations

There has been little research done concerning the interactions between the various strategic orientations (Grinstein, 2008; Hakala, 2011). Studies have, however, shown that LO enhances behaviours and results in superior performance (Baker & Sinkula, 1999). Other studies have also determined the interactions between MO and EO in relation to performance (Li, Zhao, Tan, & Liu, 2008), EO and LO (Mantok, Sekhon, Sahi, & Jones, 2019). This study will, however, specifically focus on LO and its interactions between the other strategic orientations of MO, EO, and TO.

2.6.3.1. LO effects on the relationship between MO and commitment to sustainability

i. LO as a moderator to MO

Learning processes are playing an important role in new studies and theories concerning competitive advantage as well (Baker & Sinkula, 1999). This largely was as a result of organisations or businesses that are learning-oriented, collecting and circulating market information and questioning the core capabilities of the organisation (Beneke et al., 2016). Some studies have argued that the stronger the relationship between MO and organisational performance, the greater the organisations LO as an example (Baker & Sinkula, 1999). Other studies have confirmed the relationship between MO and LO, and the importance of this relationship (Beneke et al., 2016; Celuch, Kasouf, & Peruvemba, 2002). Given MO's emphasis on information use, its link with learning is therefore important, as the role of information processing can depend on questioning assumptions made of the

market and learning (Celuch et al., 2002). This indicated that LO may have a moderating effect on the relationship between MO and organisational performance.

Businesses are continually searching for strategies to gain and maintain a competitive advantage, and in turbulent business environments, conventional approaches are rendered obsolete (Vij & Farooq, 2015). In this environment, businesses have to update their capabilities and skills as a means of survival and to grow. Having a high organisational LO is thus an effective strategy for sustaining and improving a business's competitive edge and performance (Vij & Farooq, 2015). LO has been found to have positive effect on different organisational-level outcomes (Ning, Wang, Lin, & Zheng, 2018; Baker & Sinkula, 1999; Beneke, Blampied, Dewar, & Soriano, 2016). A number of researchers have identified that innovation or innovativeness performed as the mediator in the LO-performance relationship (Baker & Sinkula, 1999; Rhee, Park, & Lee, 2010; Ning et al., 2018; Nasution, Mavondo, Matanda, & Ndubisi, 2011; Hult, Hurley, & Knight, 2004). Other studies have identified LO as the moderator, only considering its interaction with MO and other organisational outcomes (Baker & Sinkula, 1999; Beneke et al., 2016).

Baker & Sinkula (1999) theorised that LO enhances market-oriented behaviours and leverages this output resulting in superior performance. This came about because learning-oriented organisations gather and circulate market information as well as continuously questions the core capabilities of the organisations (Beneke et al., 2016). Other researchers have come to the same conclusion concerning LO having a bearing on the MO-organisational performance relationship (Baker & Sinkula, 1999; Keskin, 2006; Farrell, 1999). Some have contended that the stronger the relationship between MO and organisational performance the greater the organisations LO (Baker & Sinkula, 1999) suggesting that LO may have a moderating effect on the relationship between MO and organisational performance.

As market-oriented businesses are concerned with competitors and customers, learning enhances technological change. Other studies have concluded that MO is likely to significantly improve business performance when combined with a strong LO (Keskin, 2006). Considering the relationship LO has from a business performance perspective, this study anticipates a similar analogy with LO having a moderating effect on the relationship between MO and commitment to sustainability.

Based on this, the study hypothesises that LO has a moderating effect on the relationship between MO and commitment to sustainability. The researcher conceptualises this relationship as shown in Figure 15 below.

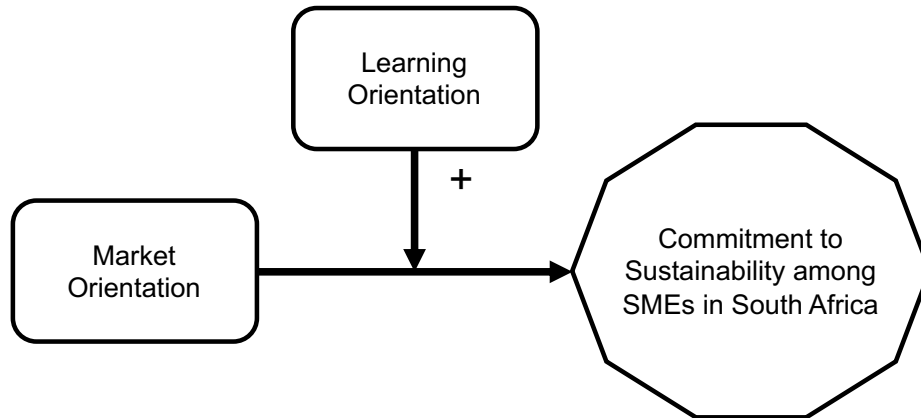


Figure 15 – Conceptual framework of the moderator effect of LO on the relationship between MO and commitment to sustainability among SMEs

Source: Author's compilation

ii. LO as a mediator to MO

It may also be assumed that MO positively brings about an ability to innovate when organised in a learning-oriented culture within an SME (Rhee et al., 2010). Market-oriented businesses are concerned with their competitors and their customers, and if knowledge of the market filters into the companies on a learning-oriented basis, it enhances a capacity to learn a variety of factors including technological change, which is critical for future expansion. Keskin (2006) concludes that MO is likely to significantly enhance business performance when combined with a strong learning orientation. Because commitment to sustainability is seen as a function of the focus on the customer and thereby favouring market-oriented businesses, this study also seeks to understand the mediating effect of LO on MO as some studies (Rhee et al., 2010) have found. Therefore, this study hypothesises that MO has a mediating effect on LO and is likely to significantly enhance commitment to sustainability when combined with a strong learning orientation. The researcher conceptualises this relationship as shown in Figure 16 below.

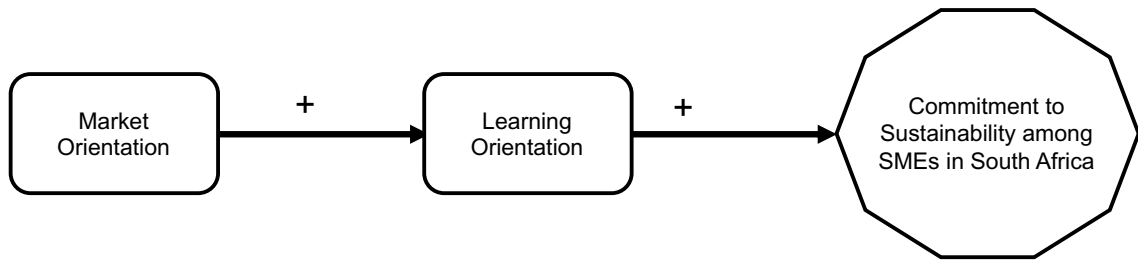


Figure 16 – Conceptual framework of the mediator effect of LO on the relationship between MO and commitment to sustainability among SMEs in South Africa

Source: Author's compilation

2.6.3.2. *LO effects on the relationship between EO and commitment to sustainability*

iii. LO as a moderator to EO

According to Covin & Slevin, (1989), EO concerns the processes, practices, activities and behaviours of managers to pursue new market opportunities. Prior research has established that MO and EO complement one another in terms of their impact on firm performance (Baker & Sinkula, 2009; Kocak, Carsrud, & Oflazoglu, 2017). Additionally, Li, Zhao, Tan, & Liu (2008) stated that EO has a moderating impact on the relationship between MO and performance. EO, therefore, plays a critical role in the identification of new strategic opportunities given its focus then on innovation, risk-taking, and aggressiveness (Dutta, Gupta, & Chen, 2016). Anderson, Covin, & Slevin (2009) found a positive relationship between EO and strategic learning capability of the firm.

LO has an impact on firm performance (Dutta et al., 2016) as it helps firms to develop and make more successful decisions (Adegbuyi et al., 2018). The reason behind this is that firms will be able to acquire diverse information and generate knowledge. Also, it is proposed that learning helps a firm to target new markets and enter them as learning assists in opportunity recognition (Adegbuyi et al., 2018). Taking this into consideration, this study hypothesises that LO has a moderating effect on the relationship between EO and commitment to sustainability. The researcher conceptualises this relationship as shown in Figure 17 below.

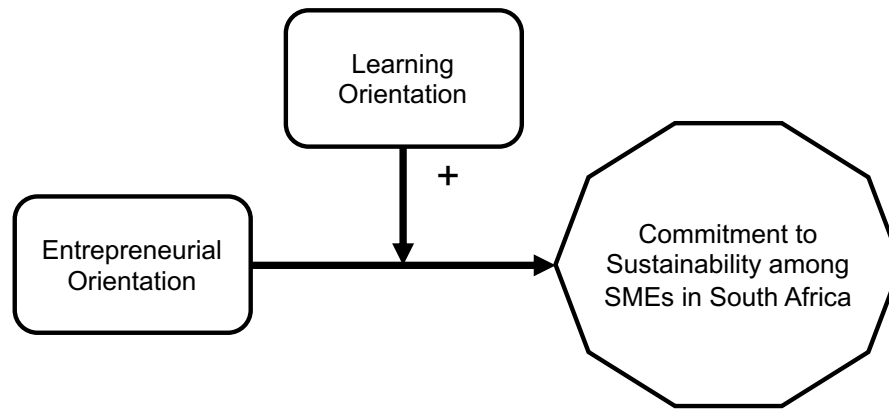


Figure 17 – Conceptual framework of the moderator effect on the relationship between EO and commitment to sustainability among SMEs in South Africa

Source: Author's compilation

iv. LO as a mediator to EO

From an EO perspective, research studies have indicated that LO may have a mediating effect on the relationship between EO and performance (Hakala, 2013; Rhee et al., 2010). EO, according to Covin & Slevin (1986), is linked with methods, practices and decision-making styles that allow managers to act entrepreneurially, and lead businesses to take risks, behave proactively, and develop product-market innovations (Miller, 1983). LO, on the other hand, is seen as a basic attitude towards learning, i.e. the organisational and managerial characteristics that facilitate the organisational learning process (Real et al., 2014). Cultural values drive the process through which organisations change or modify their mental models, processes or knowledge, maintaining or improving their performance, i.e. organisational learning (Real et al., 2014). Organisation's EO, on the other hand, encourages the business's adoption of an innovating proactive behaviour that will promote the organisational learning and the knowing process (Dess & Lumpkin, 2005). The business's likelihood of creating and using knowledge will be influenced by LO (Sinkula et al., 1997).

EO plays a key role in competitive advantage (Lumpkin & Dess, 1996), but may not necessarily generate positive outcomes as it is an attitude towards pursuing opportunities rather than a behaviour towards innovative actions (Rhee et al., 2010). Therefore, if the extent of LO is sufficiently great within a business, there may be a tendency for pro-activeness and risk-taking to be developed to stimulate innovative capacity within the company.

This leads to the potential mediating effect of LO, and therefore, this study hypothesises that EO will positively influence commitment to sustainability through LO. The researcher conceptualises this relationship as shown in Figure 18 below.

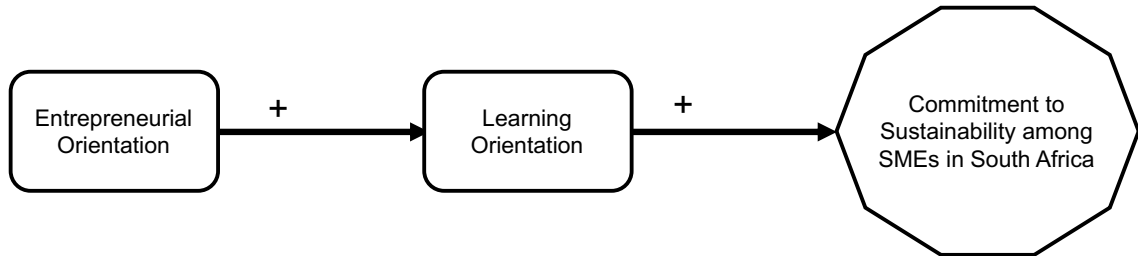


Figure 18 – Conceptual framework of the mediator effect of LO on the relationship between EO and commitment to sustainability among SMEs in South Africa

Source: Author’s compilation

2.6.3.3. LO effects on the relationship between TO and commitment to sustainability

i. LO as a moderator to TO

TO reflects the philosophy of “technology push” according to Kasim & Altinay (2016) and suggests that customers prefer technologically superior products and services. This is unlike MO that reflects “the customer-pull” philosophy. Both TO and MO promote openness to new ideas with MO favouring ideas that satisfy customer needs more. TO, on the other hand, encourages new ideas that employ the latest technologies in the development of new products and day-to-day operations based on customer appeal (Kasim & Altinay, 2016).

Regarding TO, a similar conclusion may be expected where LO has a moderating effect on the relationship between TO and commitment to sustainability. Based on this, this study hypothesises that LO has a moderating effect on the relationship between TO and commitment to sustainability. The researcher conceptualises this relationship as shown in Figure 19 below.

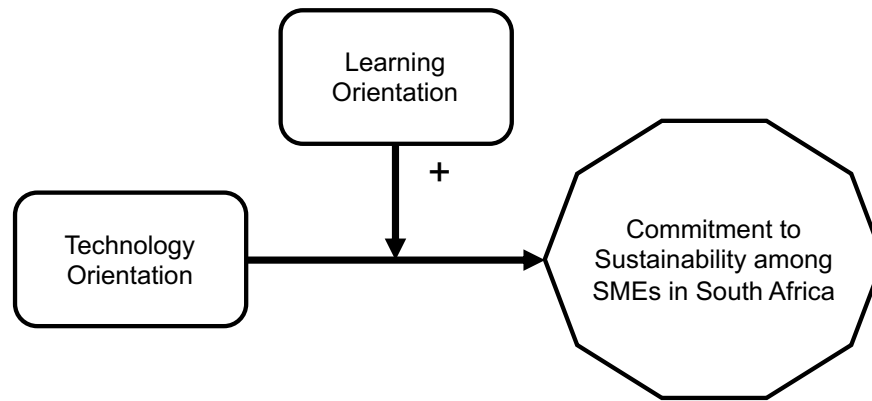


Figure 19 – Conceptual framework of the moderator effect on the relationship between TO and commitment to sustainability among SMEs in South Africa

Source: Author's compilation

ii. LO as a mediator to TO

Organisational learning (OL) facilitates performance-boosting organisational changes, develops new knowledge that is understood and entrenched into organisational routines. Sinkula, Baker, & Noordewier (1997) conceptualised OL as business values, the constructs for LO, that influence the inclination to create and use knowledge. This guides SMEs behaviour and processes in assimilating information, developing a common understanding of information and generating new knowledge and insights (Sinkula et al., 1997). OL reinforces internal self-renewal and forms an important aspect of strategic activities within SMEs.

Entrepreneurial scholars have focused on businesses strategic orientation as business' generate growth through taking on entrepreneurial activities. However, these may only provide temporary competitiveness, and to be sustainable in the long-run, companies also need to establish long-term strategic actions through alternate means. Understanding strategic orientations of SMEs assist in influencing the extent to which SMEs would analyse its demand and competitive environments (Kasim & Altinay, 2016). They are also indicators of the way SMEs attain and exploit information about market opportunities and employ product-market innovations that will bring growth. Concerning TO, Kasim & Altinay (2016) suggest that customers prefer technologically superior products and services, resulting in a "technology push". This then facilitates the promotion of new ideas from the latest technologies and developing new products based on customer appeal and develops learning.

Concerning TO, a similar conclusion may be expected where LO has a mediating effect on the relationship between TO and commitment to sustainability. Based on this, this study hypothesises that LO has a mediating effect on the relationship between TO and commitment to sustainability. The researcher conceptualises this relationship as shown in Figure 20 below.

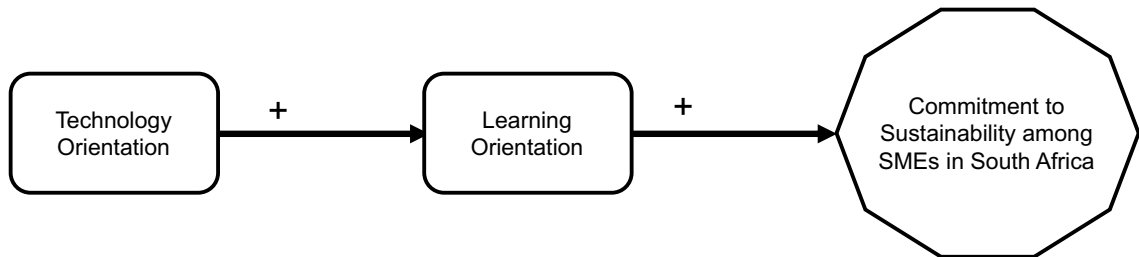
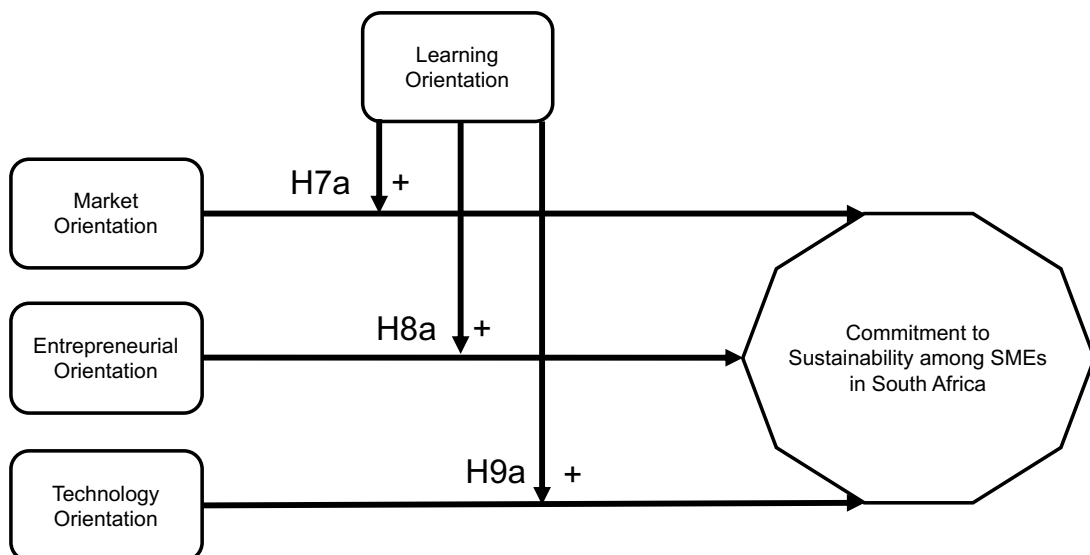


Figure 20 – Conceptual framework of the mediator effect on the relationship between TO and commitment to sustainability among SMEs in South Africa

Source: Author's compilation

2.6.3.4. Conceptual framework of the mediator / moderator model

Given the literature review, the researcher conceptualises the moderator and mediator effect of LO on the relationships between MO, EO, TO, and commitment to sustainability among SMEs as displayed in Figure 21 below. The strategic orientations of TO and LO have a positive influencing relationship on commitment to sustainability among SMEs in South Africa.



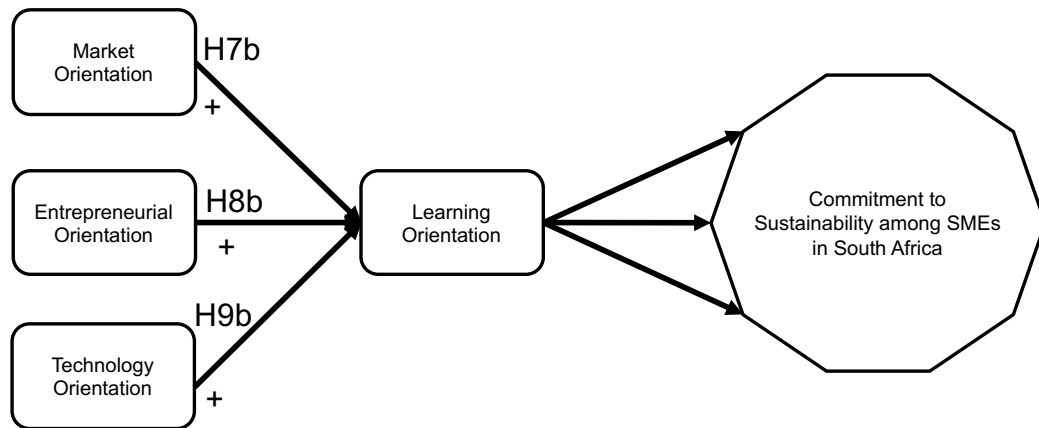


Figure 21 – Conceptual framework of the moderator and/or mediator model
 Source: Author's compilation

2.7. CONCLUSION

The literature reviews the relationship between the strategic orientations, management values, sustainability practices and commitment to sustainability. It addresses the theory and the relationship of how strategic orientations and management values influence commitment to sustainability. On this basis, the research questions are presented as follows:

- What is the role of MO, EO, management values, and sustainability practices play on commitment to sustainability in small and medium-sized enterprises in South Africa?
- What is the role of TO and LO play on commitment to sustainability in small and medium-sized enterprises in South Africa?
- What is the relationship of LO on the other strategic orientations of MO, EO, and TO?

To address the above research questions, this study will aim, through the replication study, to meet the following objectives:

- To examine the influence of Market Orientation (MO) on Commitment to Sustainability in small and medium-sized enterprises in South Africa
- To examine the influence of Entrepreneurial Orientation (EO) on Commitment to Sustainability in small and medium-sized enterprises in South Africa
- To examine the influence of Management Values on Commitment to Sustainability in small and medium-sized enterprises in South Africa

- To examine the influence of Sustainability Practices on Commitment to Sustainability in small and medium-sized enterprises in South Africa.

This study will further aim, through the extension study part 1 to add two additional SO, to meet the following objective:

- To examine the influence of Technology Orientation (TO) on Commitment to Sustainability in small and medium-sized enterprises in South Africa
- To examine the influence of Learning Orientation (LO) on Commitment to Sustainability in small and medium-sized enterprises in South Africa.

Lastly, this study will aim, through the extension study part 2 to examine the nature of the influence of LO on each of the other 3 SO, to meet the following objectives:

- To examine if Learning Orientation (LO) moderates or mediates the positive relationship between Market Orientation (MO) and Commitment to Sustainability in small and medium-sized enterprises in South Africa
- To examine if Learning Orientation (LO) moderates or mediates the positive relationship between Entrepreneurial Orientation (EO) and Commitment to Sustainability in small and medium-sized enterprises in South Africa.
- To examine if Learning Orientation (LO) moderates or mediates the positive relationship between Technology Orientation (TO) and Commitment to Sustainability in small and medium-sized enterprises in South Africa

From the literature reviewed, the researcher conceptualises the relationships between MO, EO, management values, and sustainability practices, and commitment to sustainability; the relationships between TO, LO and commitment to sustainability; and the mediating and/or moderating role of LO on the relationships between the other strategic orientations as shown in Figure 22 below. The Commitment to Sustainability Model reflects that MO, EO, TO, LO, environment-friendly values among management, and business sustainability practices have a positive influencing relationship on commitment to sustainability, and which is positively moderated and/or mediated by LO.

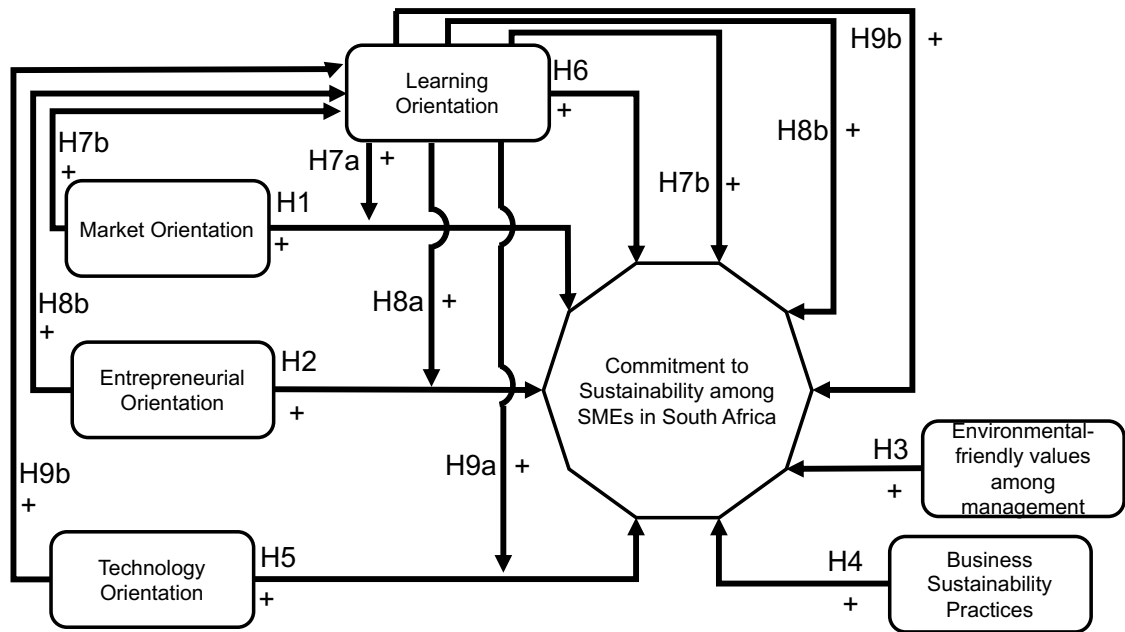


Figure 22 – Conceptual framework of the Commitment to Sustainability proposed model
 Source: Author's compilation

3. CHAPTER 3 – RESEARCH QUESTIONS AND HYPOTHESES

3.1. INTRODUCTION

The target of the research study is to address the following hypotheses, which have been formulated and deduced from the theoretical reflections presented in Chapter 2. A hypothesis, as defined by Bell et al. (2019), is an educated assumption, which is established to be tested, about the likely relationship between two or more variables. To test the hypotheses, one needs to move from the conceptual domain into the observable domain, according to Field (2018), and need to measure variables.

The first part of this study is the replication study. Being a replication study, there are a number of hypotheses that will be used in this study as were used in the original study by Jansson et al. (2017). These are displayed in Table 11 below.

Table 11 – Hypotheses used by the original study of Jansson et al. (2017)

No.	Hypotheses
H1	“Market orientation is positively related to commitment to sustainability among SMEs” (Jansson et al., 2017)
H2	“Entrepreneurial orientation is positively related to commitment to sustainability among SMEs” (Jansson et al., 2017)
H3	“Pro-environmental values among management are positively related to commitment to sustainability among SMEs” (Jansson et al., 2017)
H4	“Business sustainability practices are positively related to commitment to sustainability among SMEs” (Jansson et al., 2017)

Source: Authors own compilation

The research questions are presented as follows:

- What is the role of MO, EO, management values, and sustainability practices play on commitment to sustainability in small and medium-sized enterprises in South Africa?
- What is the role of TO and LO play on commitment to sustainability in small and medium-sized enterprises in South Africa?
- What is the relationship of LO on the other strategic orientations of MO, EO, and TO?

This study is divided into three parts namely the replication study, the extension study part 1, which includes adding TO and LO and the extension study part 2, which includes the interactions between the strategic orientations.

3.2. REPLICATION STUDY

The replication part of the study follows the same hypotheses as the original study by Jansson et al. (2017).

Objective 1 is to confirm that there is a significant, positive, linear relationship between MO, EO, environment-friendly values among management, business sustainability practices, and commitment to sustainability among SMEs in South Africa as conceptualised in Figure 23 below.



Figure 23 – Objective 1
Source: Author's compilation

3.2.1. Influence of MO on commitment to sustainability (H1)

This study hypothesises that MO will be a significant determinant of commitment to sustainability among SMEs in South Africa.

H0: No linear relationship exists between Market orientation and commitment to sustainability among SMEs in South Africa

H1: Market orientation is positively related to commitment to sustainability among SMEs in South Africa

3.2.2. Influence of EO on commitment to sustainability (H2)

This study hypothesises that EO will be a significant determinant of commitment to sustainability among SMEs in South Africa.

H0: No linear relationship exists between Entrepreneurial orientation and commitment to sustainability among SMEs in South Africa

H2: Entrepreneurial orientation is positively related to commitment to sustainability among SMEs in South Africa.

3.2.3. Influence of environmental-friendly values among management on commitment to sustainability (H3)

With the indication that management values are important to understand commitment of sustainability in SMEs, this study hypothesises an underlying positive relationship between management environmental values and commitment to sustainability.

H0: No linear relationship exists between environmental-friendly values among management and commitment to sustainability among SMEs in South Africa

H3: Environment-friendly values among management are positively related to commitment to sustainability among SMEs in South Africa.

3.2.4. Influence of business sustainability practices on commitment to sustainability (H4)

This study hypothesises a positive relationship between sustainability practices and commitment to sustainability.

H0: No linear relationship exists between business sustainability practices and commitment to sustainability among SMEs in South Africa

H4: Business sustainability practices are positively related to commitment to sustainability among SMEs in South Africa.

3.3. EXTENSION STUDY PART 1

The extension to the original study is to review two additional strategic orientations towards commitment to sustainability among SMEs.

Objective 2 aims to confirm that there is a significant, positive, linear relationship between TO, LO, and commitment to sustainability among SMEs in South Africa as conceptualised in Figure 24 below.

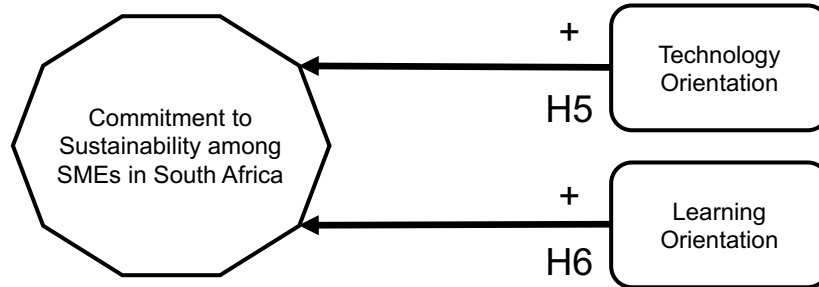


Figure 24 - Objective 2
Source: Author's compilation

3.3.1. Influence of technology orientation on commitment to sustainability (H5)

This study hypothesises that TO will be a significant determinant of commitment to sustainability among SMEs.

H0: No linear relationship exists between Technology orientation and commitment to sustainability among SMEs in South Africa

H5: Technology orientation is positively related to commitment to sustainability among SMEs in South Africa.

3.3.2. Influence of learning orientation on commitment to sustainability (H6)

In line with this, this study hypothesises that LO will be a significant determinant of commitment to sustainability among SMEs.

H0: No linear relationship exists between Learning orientation and commitment to sustainability among SMEs in South Africa

H6 Learning orientation is positively related to commitment to sustainability among SMEs in South Africa

3.4. EXTENSION STUDY PART 2 – LO AS MEDIATOR OR AS MODERATOR

Given the relationships in objectives 1 and 2, are established, to confirm whether LO has a moderator and/or mediator effect on the relationships between MO, EO, environmental-friendly values among management, business sustainability practices and commitment to sustainability among SMEs in South Africa, as conceptualised in Figure 25 below.

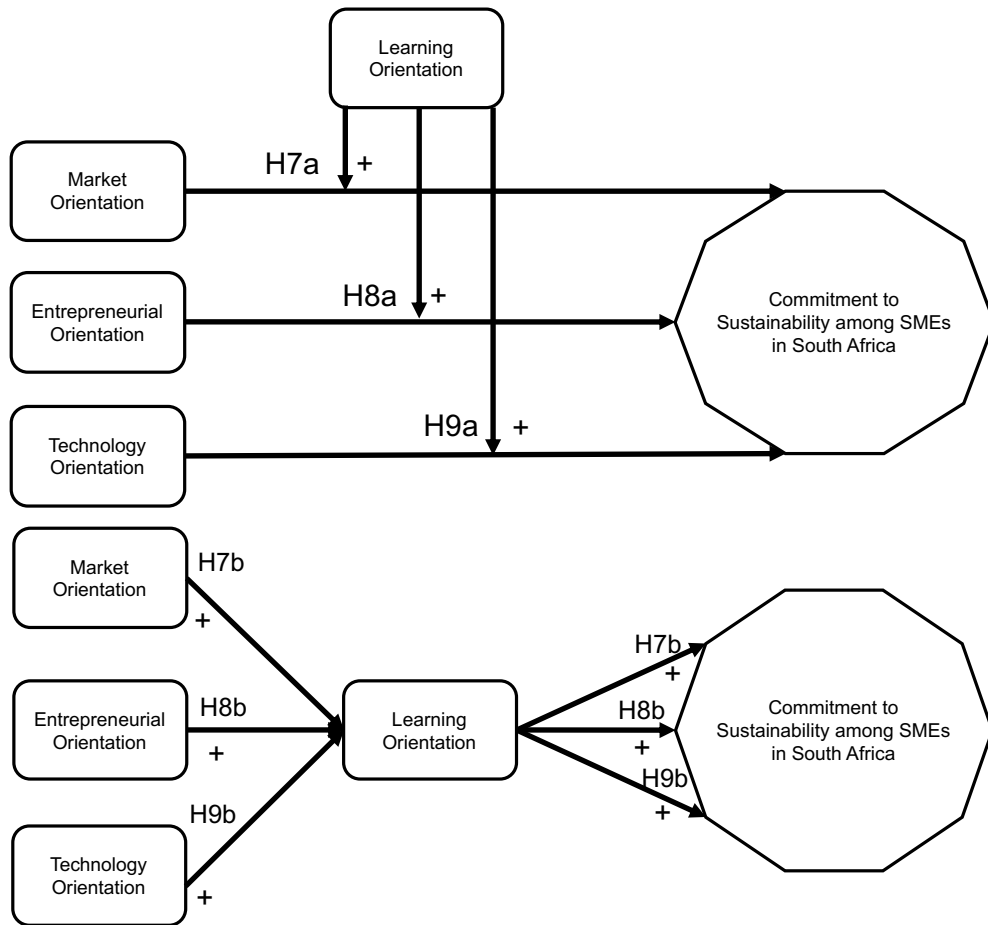


Figure 25 – Objective 3
Source: Author's compilation

3.4.1. The moderator effect of LO on the relationship between MO and commitment to sustainability among SMEs in South Africa (H7a)

This study hypothesises that LO has a moderator effect on the relationship between MO and commitment to sustainability among SMEs.

H0: No moderator effect of LO exists on the relationship between MO and commitment to sustainability among SMEs in South Africa.

H7a: Learning orientation has a moderator effect on the relationship between MO and commitment to sustainability among SMEs in South Africa.

3.4.2. The moderator effect of LO on the relationship between EO and commitment to sustainability among SMEs in South Africa (H8a)

This study hypothesises that LO has a moderator effect on the relationship between EO and commitment to sustainability among SMEs.

H0: No moderator effect of LO exists on the relationship between EO and commitment to sustainability among SMEs in South Africa

H8a Learning orientation has a moderating effect on the relationship between EO and commitment to sustainability among SMEs in South Africa.

3.4.3. The moderator effect of LO on the relationship between TO and commitment to sustainability among SMEs in South Africa (H9a)

This study hypothesises that LO has a moderator effect on the relationship between TO and commitment to sustainability among SMEs.

H0: No moderator effect of LO exists on the relationship between TO and commitment to sustainability among SMEs in South Africa

H9a Learning orientation has a moderating effect on the relationship between TO and commitment to sustainability among SMEs in South Africa.

3.4.4. The mediator effect of LO on the relationship between MO and commitment to sustainability among SMEs in South Africa (H7b)

This study hypothesises that LO has a mediator effect on the relationship between MO and commitment to sustainability among SMEs.

H0: No mediator effect of LO exists on the relationship between MO and commitment to sustainability among SMEs in South Africa.

H7b: Learning orientation has a mediator effect on the relationship between MO and commitment to sustainability among SMEs in South Africa.

3.4.5. The mediator effect of LO on the relationship between EO and commitment to sustainability among SMEs in South Africa (H8b)

This study hypothesises that LO has a moderator effect on the relationship between EO and commitment to sustainability among SMEs.

H0: No mediator effect of LO exists on the relationship between EO and commitment to sustainability among SMEs in South Africa

H8b Learning orientation has a mediator effect on the relationship between EO and commitment to sustainability among SMEs in South Africa.

3.4.6. The mediator effect of LO on the relationship between TO and commitment to sustainability among SMEs in South Africa (H9b)

This study hypothesises that LO has a moderator effect on the relationship between TO and commitment to sustainability among SMEs.

H0: No mediator effect of LO exists on the relationship between TO and commitment to sustainability among SMEs in South Africa

H9b Learning orientation has a mediator effect on the relationship between TO and commitment to sustainability among SMEs in South Africa.

3.5. CONCLUSION

Based on the literature, to narrow down the theory present, deductive reasoning was used to formulate the research hypotheses. Figure 26 below shows the hypothesised theoretical model and the aim is to test the hypotheses in order to examine the relationships between the various strategic orientations, environment-friendly values among management, business sustainability practices and commitment to sustainability.

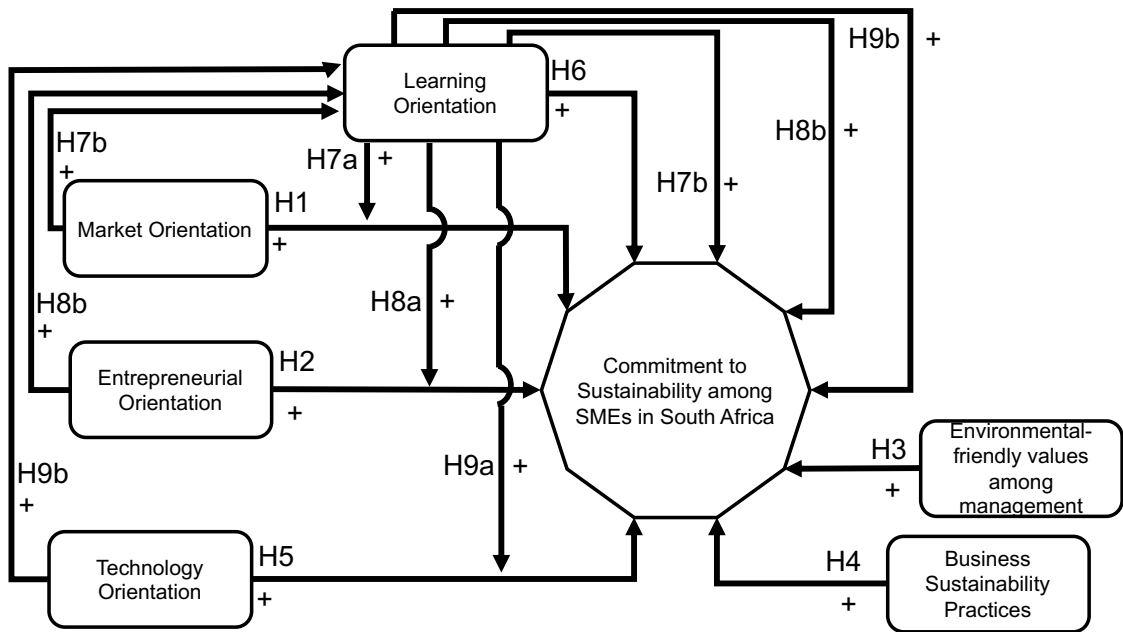


Figure 26 – Commitment to sustainability proposed model

Source: Author's compilation

4. CHAPTER 4: RESEARCH METHODOLOGY DESIGN

4.1. INTRODUCTION

This chapter discusses the research methodology and design used in this study to test the hypotheses set out in Chapter 3. The literature review in Chapter 2 was used to guide the design of the methodology. A quick overview of the route map used in this research study is illustrated in Figure 27 below.

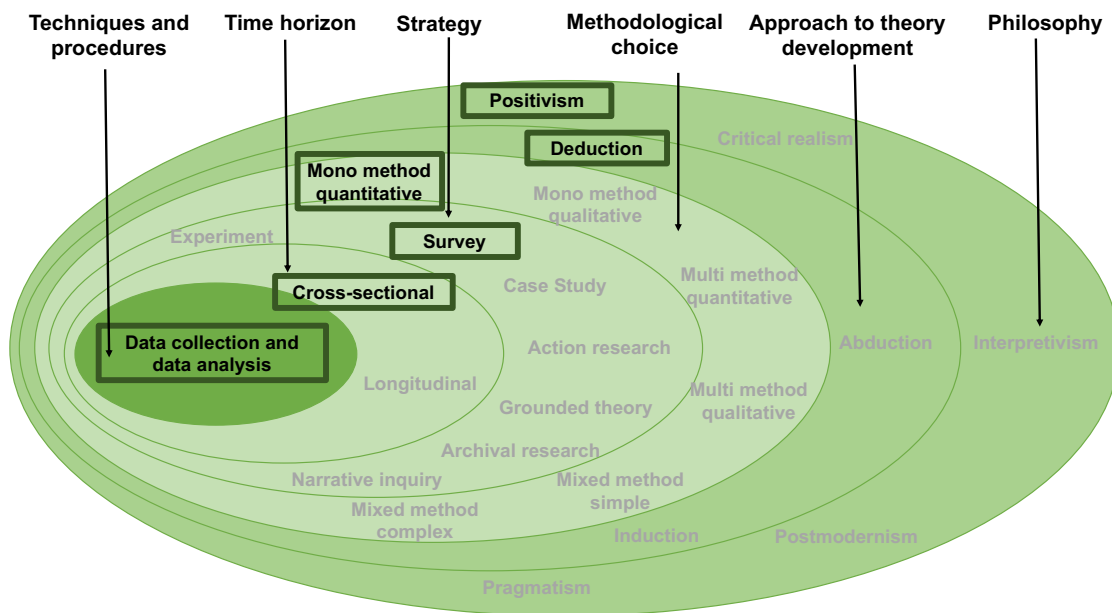


Figure 27 – The research onion

Source: Author's compilation adapted from Saunders, M.N. & Lewis, P. (2018). *Doing Research in Business and Management: An essential guide to planning your project.* (2nd ed.). Pearson.

From Figure 27 above, the study utilised a positivism philosophy which holds the position that because reality exists tangibly and externally, the suitable way to gather data is to observe experiences directly or to measure them using surveys or other instruments (Bell et al., 2019). The approach to theory development was deductive and is appropriate for this study as it “involves the development of a theory that is subjected to rigorous testing” (Saunders, Lewis, & Thornhill, 2009, pp 124). From the literature review, several hypothesised relationships between the various strategic orientations, environment-friendly management values, sustainability practices, and commitment to sustainability among SMEs were suggested and according to Jansson et al. (2017) a quantitative methodology was advised. In addition, much research in the area of the study used case studies or limited samples

to study the issues according to Hofmann, Theyel, & Wood (2012). The study required to evaluate the nature of the connection between the variables (i.e. various strategic orientations and environment-friendly management values and commitment to sustainability) through deductive rationale which is used in most quantitative studies (Saunders & Lewis, 2018). Quantitative research is research which explains occurrences according to numerical data which in turn are analysed statistically (Yilmaz, 2013). The strategy used for this study was the survey strategy (Saunders et al., 2009) and will be further expanded upon in section 4.3.4 of the measurement instrument. Lastly, the time horizon chosen for this study is cross-sectional in nature because that is what a survey does – takes a snapshot in time. The design for the rest of the section of this study is summarised in Figure 28 below.

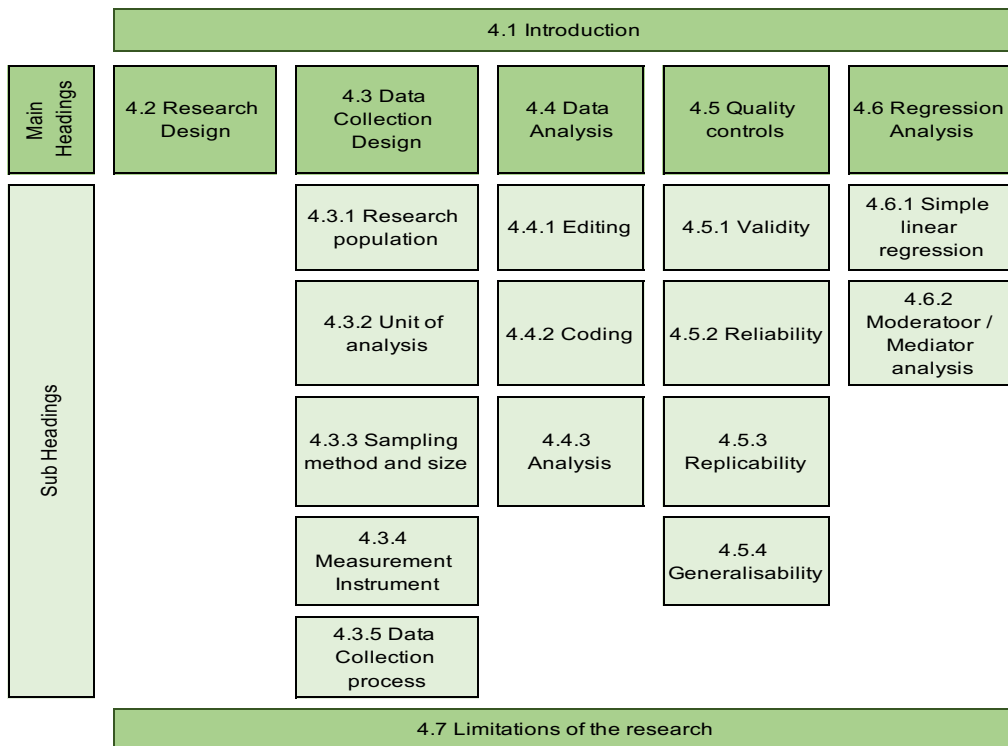


Figure 28 – Research methodology and design

Source: Author's compilation

4.2. RESEARCH DESIGN

The study, directed by the literature in Chapter 2, examined the hypotheses that were deduced from the literature and set out in Chapter 3. The study was divided into three parts namely extending the study geographically (replication – part 1); adding other strategic orientations to the study (extension – part 2); and looking at the

mediating and moderating effects of one of the strategic orientations (extension – part 3).

According to Hubbard, Vetter, & Little (1998), replication plays a fundamental role in the research process as it serves to protect against the incorporation of erroneous results in the literature. Morrison, Matuszek, & Self (2010), concur and state that replication can identify peculiarities that may have influenced earlier studies. Hubbard et al. (1998) define replication as a substantial repetition of the previously published research project, which is concerned with increasing the internal validity of the research design. It focuses on identifying whether the initial results are reproducible and involves duplicating all areas of the previous research. Hubbard et al. (1998) further go on to define replication with extension as a repetition of a previously published research study that is singularly focussed with increasing the external validity or generalizability of previous research findings. Replications with extensions go further by determining the scope and limits of the initial findings by assessing if they can be generalized to other populations, time periods, organizations, geographical regions, measurement instruments, etc. (Hubbard et al., 1998). They are also one of the strongest methods for building external generalisations enhancing external statistical validations according to Morrison et al. (2010). Both Hubbard et al. (1998) and Morrison et al. (2010) state that replication with extension studies strengthens reliability, repeatability, and are fundamental to knowledge development.

The replication (part 1) tested the role of MO and EO, management values, and sustainability practices in small and medium-sized enterprises in South Africa. The extension (part 2) included and explained TO and LO in small and medium-sized enterprises in South Africa with regards to commitment to sustainability. The extension (part 3) explained the moderating and mediating effects of LO on the other strategic orientation concerning commitment to sustainability. Refer to Figure 29 below.

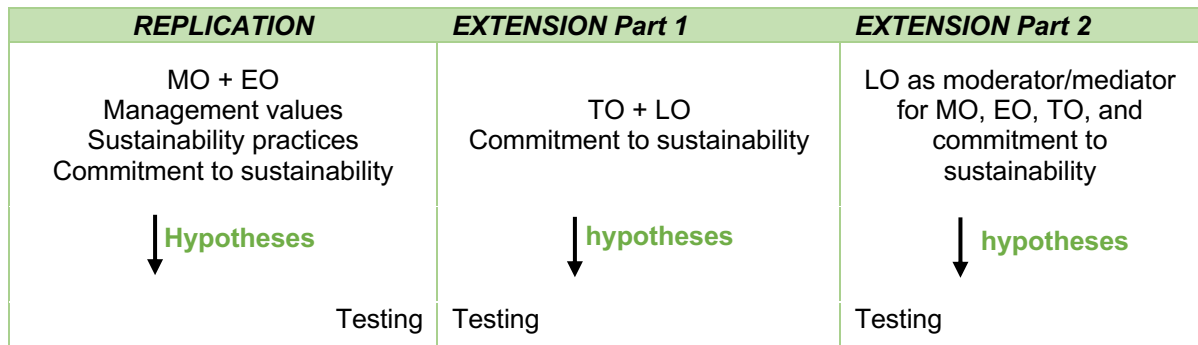




Figure 29 – Division of the research study

Source: Author's compilation

Saunders, Lewis, & Thornhill (2009) classified the research purpose into 3 categories, namely exploratory, descriptive and explanatory. Those used in this study are depicted in Table 12 below.

Table 12 – The classification of research purpose

Research Purpose	Definition	Suitability defence	Status
Descriptive	These types of studies focus on describing the situation, events or real-life scenario and display an accurate profile of these events (Saunders & Lewis, 2018). Because of its nature, these types of studies may be a precursor to explanation.	In extending the study to include TO and LO, the study needed to describe their influence on commitment to sustainability.	
Explanatory	These types of studies establish causal relationships between variables emphasising on studying a problem in order to explain the relationship between the variables. It expands on the descriptive research by looking for an explanation behind the particular occurrence (Saunders & Lewis, 2018).	This study is focussing on the relationships between the variables. The main emphasis is to test the hypotheses that assumes a link between the variables and the commitment to sustainability.	

Source: Author's compilation modified from Saunders, M., Lewis, P., & Thornhill, A. (2009). Research methods for business students (5th ed.). Prentice Hall Financial Times; Saunders, M. N., & Lewis, P. (2018). Doing research in business & management: An essential guide to planning your project. (2nd ed.). Pearson.

From Table 12, it is evident that the overall design of the study would be both descriptive and explanatory as it looks to describe the relationships between the variables, but in addition to explain why these relationships occur and what the link is.

According to Bell et al. (2019), the research design guides the implementation of a research method and the analysis of consequent data. Bell et al. (2019) state that research design can take the following forms cross-sectional or social survey design,

experimental design (quasi-experiments), case study design, longitudinal design, and comparative design. The cross-sectional design involved collecting data on multiple cases to get variation, and all at once, i.e. single point in time. In cross-sectional field surveys, according to Bhattacharjee, (2012), both dependent and independent variables are measured at the same point in time. This was in order to get a systematic and standardised method for gauging variation with two or more variables, which are then examined to identify patterns of connection (Bell et al. 2019). The survey involved sending an online questionnaire to a select number of people from the main group and having them respond to the questionnaire.

Using an online survey made the data collection process easier and simpler in testing the hypotheses as the data could be analysed using spreadsheets and software. The survey needed to be completed by CEOs and people in senior positions, who have limited time to complete the survey. Sending a questionnaire online meant that they were not rushed and could complete it in their own time regardless of where they were. A larger response rate could be obtained compared to manually sending out the questionnaire via post, as people are likely to have access to devices such as PCs, smartphones or Tablets. This further showed that the method chosen was a suitable strategy.

4.3. DATA COLLECTION DESIGN

4.3.1. Research Population

Bell et al. (2019) define a population as the creation of parts from which the sample is to be chosen. Small and medium-sized enterprises in South Africa were defined in chapter 2 of the literature review. The population was defined as all SMEs in South Africa to ensure that the definition of the sampling frame was met. Bhattacharjee (2012) describes this as an accessible section of the target population from where a sample can be drawn. Accessible usually meaning a list with contact information.

The original study by Jansson et al. (2017) used an existing SMEs database from northern Sweden and partly based on the work of Kärnä, Hansen, & Juslin (2003). The population of SMEs from northern Sweden mainly included the forestry industry, paper and pulp industry, as highlighted by Kärnä et al. (2003). Using the same analogy for a South African context would have meant that the forestry industry in Mpumalanga province would have needed to be used. However, most of the SMMEs

that occur in South Africa are situated in Gauteng province, which is the industrial hub of South Africa. Refer to Figure 30 below.

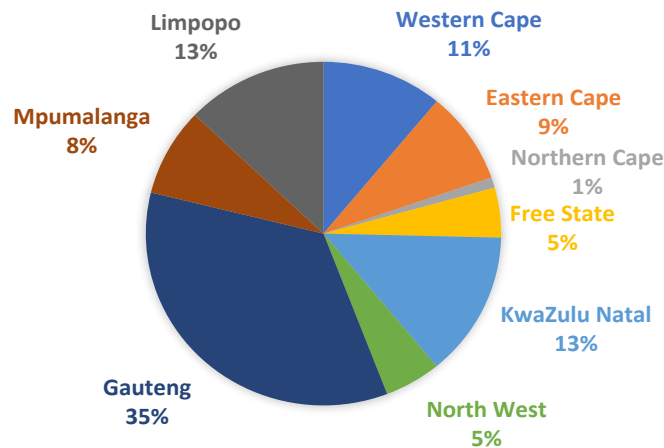


Figure 30 – Total number of SMMEs per province

Source: Author's compilation adapted from SEDA. (2018). SMME Quarterly update: 1st quarter 2018. Retrieved from <http://www.seda.org.za/Publications/Publications/SMME%20Quarterly%202018-Q1.pdf>

From Figure 30 above, it is clear that Gauteng makes up the largest portion of SMMEs in South Africa, accounting for 35% of the total number of SMMEs. This is followed by KwaZulu-Natal and Limpopo both with 13% of the SMMEs. The Western Cape trails in third place with 11% of SMMEs. Further looking at SMME distribution in terms of the 11 sectors or sub-sectors of industry, Figure 31 below shows that Gauteng has the most extensive distribution of SMMEs in the various category sectors. The largest category is the trade and accommodation sector, followed by manufacturing, and thirdly by financial and business services

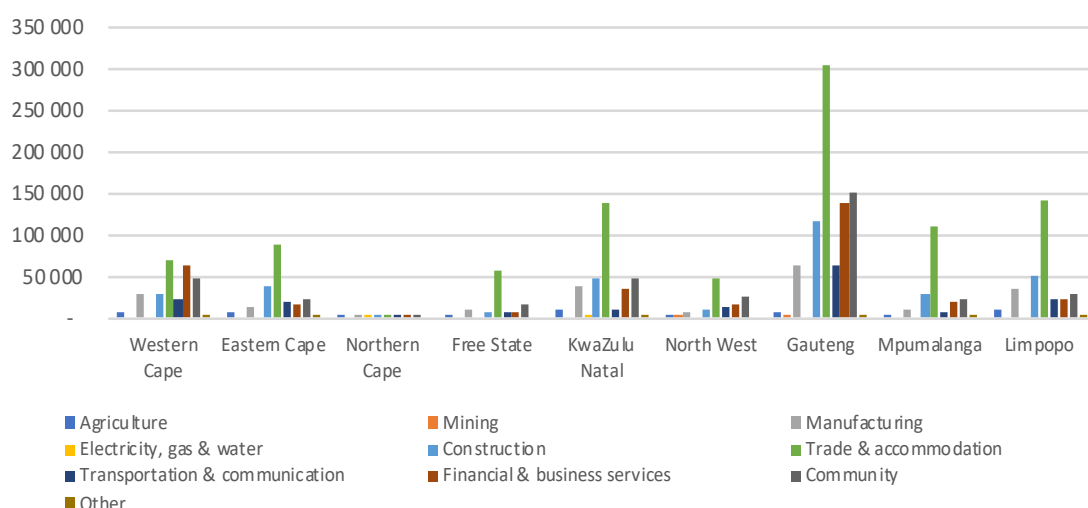


Figure 31 – SME distribution across the provinces

Source: SEDA. (2018). SMME Quarterly update: 1st quarter 2018. Retrieved from <http://www.seda.org.za/Publications/Publications/SMME%20Quarterly%202018-Q1.pdf>

The economic and financial hub of South Africa is situated in the city of Johannesburg, Gauteng province. It generates 17% of the country's gross domestic product mostly through manufacturing, retail and service industry sectors (City of Johannesburg, 2018). There is an excellent road, rail and air network which takes manufactured goods and products in and out of the city daily and also connects the largest inland port in the country, City Deep, with the rest of the country (City of Johannesburg, 2018). To ensure that the growing business process outsourcing industry is globally competitive, Johannesburg has installed a modern information and communications technology infrastructure. There is an immense manufacturing sector ranging from clothing, cosmetics, technological equipment, and furniture, which are all made and assembled in Johannesburg (City of Johannesburg, 2018). Heavier industries manufacturing motor vehicle parts, equipment and engineering products are also found in the metropolis. The Joburg Market serves the large, fast-moving perishable goods industry, trading fresh vegetables, fruit and meat daily (City of Johannesburg, 2018). Based on these facts and for the purposes of this study, SMEs, who operated in the formal sector, with less than 250 employees, situated in the Gauteng province were considered.

4.3.2. Unit of analysis

"The unit of analysis refers to the person, collective, or object that is the target of the investigation" (Bhattacharjee, 2012, pp9). Understanding the unit of analysis, therefore, provided what kind of data was to be collected for the study and from whom or what it was to be collected from. In this study, the questionnaire was sent to individual senior managers and owners of SMEs in all sectors in Gauteng, South Africa. The response related to the various questions asked in the questionnaire. According to Bhattacharjee (2012), the survey method is preferred for studies that have individuals as the unit of analysis. Since this study is interested in determining the influence of strategic orientation and management values on commitment to sustainability, the unit of analysis for this study was individual people (i.e. senior managers, owners, or CEOs).

4.3.3. Sampling method and size

A sample is defined as the actual part or subset of a population of interest identified and selected for observation, according to Bhattacharjee (2012). As it is not feasible to send out questionnaires to all the SMEs, sampling was employed and made it

possible to produce findings that are characteristic of the whole population. It was also cost-effective in that sense. Table 13 below provides an overview of the total number of SMMEs, the number of formal SMMEs, the number of informal SMMEs, the percentage operating in trade and accommodation, the percentage operating in financial and business services, the percentage black-owned formal SMMEs, and the percentage contribution of SMEs to the turnover of all enterprises.

Table 13 – Overview of SMMEs

KEY INDICATOR	2018 Q1	2018 Q2	2018 Q3
Number of SMMEs	2 443 163	2 440 760	2 556 891
Number of formal SMMEs	658 719	683 621	734 023
Number of informal SMMEs	1 714 233	1 670 416	1 756 313
Number of jobs provided	8 886 015	9 593 640	10 067 628
% operating in trade & accommodation	39.3%	39.3%	40.4%
% operating in community services	15.1%	14.0%	13.7%
% operating in construction	13.6%	14.5%	14.7%
% operating in financial & business services	13.3%	13.4%	13.3%
% black owned formal SMMEs	74.9%	74.8%	75.1%
% contribution of SMEs* to turnover of all enterprises#	40.0%	38.7%	37.9%

*excluding micro-enterprises

#excluding agriculture, financial intermediation, insurance and government institutions

Source: SEDA. (2018). SMME Quarterly update: 3rd quarter 2018. Retrieved from <http://www.seda.org.za/Publications/Publications/SMME%20Quarterly.%202018-Q3.pdf>

Looking at Table 13 above the number of formal SMMEs total 658 719. To make contact with every SME would be very difficult.

4.3.3.1. Sampling Method

The sampling process was made up of several stages, namely defining the target population, which was done above in section 4.3; choosing a sampling frame, which in this study was SMEs; and lastly choosing a sample from the sampling frame using a well-defined sampling technique (Bhattacharjee, 2012). Well-defined sampling techniques are characterised into two broad categories, namely probability or random sampling, and non-probability sampling. Probability sampling is the main way that researchers seek to generate a representative sample, according to Bell et al. (2019). There are different types of probability sampling including simple random sample; systematic sample; stratified random sampling; multi-stage cluster sampling (Bell et al., 2019); cluster sampling; matched-pairs sampling; multi-stage sampling Bhattacharjee (2012). A random sample in probability theory and statistics is a

subset of data which has been selected from a larger data set, i.e. population. Each element of a random sample is chosen entirely by chance and has an equal probability of being selected in order to get a non-biased representation of the total population.

For the purposes of this study, systematic sampling was conducted. Systematic sampling is a form of simple random sampling whereby units are selected directly from the sampling frame without resorting to random numbers (Bell et al., 2019). If one is selecting 1 SME in 15, as in the case of this study, with a systematic sample, a random start between 1 and 15 inclusive of both numbers would be made. This can be done using a Table of random numbers and selecting a number, e.g. 7, and after that taking every 15th SME on the list so that the sequence would be as follows 7, 22, 37, 52, 67, 82... With this approach, it removes the need to assign numbers to all the SMEs and then looking to see whose number has been drawn by the process. With systematic sampling, it is essential not to inherently order the sampling frame as this may bias the resulting sample. The database for this study was not reordered in alphabetical order, or by any other form (Bell et al., 2019). Although it was selected from CIPC according to province and company type, it was not explicitly reordered according to company type, but randomised through the excel function (RAND).

4.3.3.2. *Database*

To obtain data and to be able to determine the sample size, the database must be acquired. There was no one definitive database for information as a whole on SMEs in South Africa as there were different numbers from different agencies, e.g. SBI, SEDA, DTI.

Appendix 1 depicts the process of obtaining information on SMEs database. The search started with the Industrial Development Corporation (IDC), after that being transferred to the DTI, who in turn contacted SEDA. The data that SEDA had was obtained through extrapolation using different databases, adding up VAT paying (SARS records) census, home-based businesses, municipality licenses datasets based on licenses issues, as well as the department of Labour datasets. The database was finally obtained from the Companies Intellectual Property Commission (CIPC) (see approval in Appendix 2).

The individuals selected from the individual SMEs in the database were suitable based on their designation in the SME and are the most appropriate participants to respond to the questionnaire. This assisted in meeting the objectives of the study. The questionnaire was sent out to the potential participants from a compiled list of SMEs, which included their email addresses. The database was the most updated list of registered formal SMEs and the diverse selection of individuals from varying sectors was considered to increase the likelihood of obtaining responses from senior executives and owners, who would display the environment-friendly management values and sustainability practices in the SMEs, as they represented the company (Jansson et al., 2017). This aided in focussing the research aims, and the appropriate topic of interest occurred in the sample selected.

The CIPC database was reviewed and cleaned up as follows:

- The database was filtering by company types only for Gauteng province.
- Once the list had been scaled down only to Gauteng, the list was once again reviewed and checked for accuracy, and only active companies were selected.
- The database was further reviewed after removal of non-active companies by eliminating those that did not have any contact details and email addresses. This reduced the number of SMEs in the database; however, the size was still large.
- Companies with email addresses and contact details were then left without ordering the list alphabetically, by registration number, by registration date, by size, or by company type, thus ensuring a representative sample.

This research study used systematic sampling, which is where the sampling frame was ordered according to several criteria and elements were selected at regular intervals through the list (Bhattacharjee, 2012). As there were over 114 000 SMEs in Gauteng, every 15th SME was chosen based upon the total sample size required. This ensured that there was no overrepresentation of medium or small SMEs in the sample and that all SMEs were generally uniformly represented (Bhattacharjee, 2012). From this sample, as stated earlier, the samples were chosen from randomising the database through the Excel function (RAND).

4.3.3.3. *Sample Size*

For researchers to support or reject their hypotheses, the information that is obtained needs to be comprehensive and representative (Baruch, 1999). Sample size in a quantitative study, therefore, is essential for sample accuracy and to infer credible conclusions from the findings. According to Bell et al. (2019), absolute size and not relative size is important in determining the size of a sample. Increasing the sample size is expected to increase the accuracy of a sample, indicating that as the sample size increases, sampling error decreases (Bell et al., 2019). Thus, sampling error is an important component of any decision of sample size in that it is the amount of error that one is prepared to accept. This is not the only component of determining the sample size. Other components include time and cost, non-response, and heterogeneity of the population.

From a time and cost perspective, taking what was suggested about the larger sample size, it is noted that after a certain point, the increase in sample accuracy is less pronounced the greater the sample size. In other words, it, therefore, becomes uneconomical if striving for smaller and smaller increments of precision.

The sample size to be used was calculated using the sample size calculator from CheckMarket (2019). In determining the sample size, the researcher used the Figures from SEDA and calculated the sample size based on this using a margin of error of 2% and a confidence level of 95%. The margin of error was determined by the specified confidence level, the sample size, and the population standard deviation (Wegner, 2016). It is the small amount that is allowed for in case of miscalculation or change in circumstances. The confidence level, according to Wegner (2016), specifies the probability that the measure of its precision, i.e. the confidence interval, will cover the true population mean. It shows what the uncertainty is with a certain statistic.

The study done by Jansson et al. (2017) sent out the link to the web questionnaire to 4714 individuals, each speaking for an SME. A response rate of 10% was obtained and was deemed acceptable based on the short response time and the breadth of companies receiving the survey link (Jansson et al., 2017).

Taking, therefore, the response rate of 25% for short online surveys, as stated by Deutskens, the number of questionnaires to be sent out is calculated as 9 508 SMEs. The calculation of the sample size using this statistic is displayed in Figure 32 below.

Sample size		
Population size:	230551	How many people are in the group your sample represents? (The sample size does not change much for populations larger than 20,000.)
Margin of error:	2%	This is the plus-or-minus figure usually reported in newspaper or television opinion poll results. For example, if you use a margin of error of 4% and 47% percent of your sample picks an answer, you can be "sure" that if you had asked the question to the entire population, between 43% (47-4) and 51% (47+4) would have picked that answer.
Confidence level:	95%	This tells you how sure you can be of the margin of error. It is expressed as a percentage and represents how often the true percentage of the population who would pick an answer lies within the margin of error.
Required sample size:	2377	Number of respondents needed
Estimated response rate:	25%	What percent of those asked to participate in the survey will do so. Response rates vary greatly depending on many factors including the distribution method (e-mail, paper, phone...), type of communication (B2C, B2B...), quality of the invitation, use of incentives, etc.
Number to invite:	9508	This is the number of individuals out of the population you need to ask to participate, in order to achieve the required sample size based on the expected response rate.

Figure 32 – Sample size calculation

Source: CheckMarket. (2019). Sample size calculator. Retrieved from <https://www.checkmarket.com/sample-size-calculator/>

From Figure 32 below the population size was inserted together with the margin of error, the confidence level, and the estimated response rate. This determined the required sample size and the number of invites sent out.

To ensure that a representative sample was obtained and to compensate for non-response, additional SMEs were chosen so that the number of questionnaires sent out increased by 20%.

4.3.4. Measurement instrument

The measurement instrument used was a survey questionnaire as it provided consistency since every respondent answered the same question as others. The survey research method involved using a standardised questionnaire or interview to gather data about people, organisations. and their behaviours, preferences, in a systematic manner (Bhattacharjee, 2012).

There are several inherent strengths of survey research, according to Bhattacharjee (2012) in that it is an excellent form of measuring a wide variety of unobservable data; it is ideally suited for remotely collecting data that is too large to observe directly; it is discreet in nature; and ability to respond at the convenience of the respondent. There are several disadvantages to survey research, which according to Bhattacharjee (2012) include several biases (e.g. sampling bias, non-response bias, social desirability bias, and recall bias).

The survey questionnaire was used in this study and was an instrument consisting of a set of questions. Professor Jansson provided the questionnaire used in the previous study (Appendix 3). The survey questionnaire was intact for MO, EO, management values, and sustainability practices for the replication study. It was modified then to accommodate the additional variables of TO and LO as part of the extension to the study. See instrument at Appendix 6. Creswell (2014) advises that where an instrument is modified or combined with other instruments, the validity and reliability need to be re-established, and permission needs to be granted for the use of these instruments. See consent letter in Appendix 4. The modified questionnaire is sectioned into a number of parts.

- The introduction serves as an opening to present the research study, the purpose of the research, and the benefits of conducting the study.
- Section A contains a number of background questions on company and personal information (e.g. size, sector, no. of employees, gender, position in the company). This will assist in determining their suitability of each respondent for the research and will also function as control variables.
- Section B includes questions, which deal with the independent variables that are based on the research hypotheses. They concern the company's strategic focus specifically for the replication study of MO and EO.
- Section C includes questions which deal with the independent variables that are based on the research hypotheses. They concern the company's strategic focus specifically for the extension of the study to include TO and LO.
- Section D contains questions which deal with the dependent variable that are based on the hypotheses for commitment to sustainability
- Section E incorporates questions which deal with the independent variables that are based on the hypotheses for business sustainability practices

- Section F contains questions which deal with the independent variable that is based on the hypotheses for environmental-friendly values among management.
- Section G concludes with general questions.

Questions in Section B, C, D, E and F will be used to answer the research questions. Parts of the measurement instrument contain five-point Likert scales, which have already been used by other researchers. The scale anchors are shown in Table 15 and 16 below.

Table 14 – Five-point Likert scale anchors

Scale no.	Descriptor
1	Strongly disagree
2	Disagree
3	Undecided
4	Agree
5	Strongly agree

Source: Jansson, J., Nilsson, J., Modig, F., & Hed Vall, G. (2017). Commitment to sustainability in small and medium-sized enterprises: The influence of strategic orientations and management values. *Business Strategy and the Environment*, 26(1), 69-83.

Table 15 – Five-point Likert scale anchors for Business Sustainability Practices

Scale no.	Descriptor	Scale no.	Descriptor
1	To a very limited extent	1	Not at all
2	To a limited extent	2	Very little
3	Neither here nor there	3	Neither here nor there
4	To a fair extent	4	Fair extent
5	To almost full extent	5	Very large extent

Source: Nasution, H.N., Mavondo, F.T., Matanda, M.J., & Ndubisi, N.O. (2011). Entrepreneurship: Its relationship with market orientation and learning orientation and as antecedents to innovation and customer value. *Industrial Marketing Management*, 40, 336-345.

This assisted in evaluating the extent and type of relationship between strategic orientations, environment-friendly management values, sustainability and commitment to sustainability.

4.3.4.1. Questionnaire design

Being a replication study with extensions and basing the study on the research done by Jansson et al. (2017), the original research questionnaire was obtained from Professor Jansson. Originally written in Swedish, Professor Jansson translated the questionnaire into English and shared relevant information of questions asked and omitted. Some very useful data was received from the original study, but not all the

data or design details were obtained. The research questionnaire took into consideration two of the strategic orientations (MO and EO), management values, sustainability practice and commitment to sustainability.

The researcher has extended the questionnaire to include other strategic orientations and have added further questions on TO (Zahra & Covin, 1993; Zhou, Kin, & Yim, 2005) and LO (Nasution et al., 2011), that follow similar wording to the original MO and EO variables. Having extended the study to include other strategic orientations, the survey questionnaire was established to collect information from each respondent on a number of latent variables, which are MO, EO, TO, LO, environment-friendly management values, and sustainability practices. Similar wording was used:

- *“Below are some questions related to the aggressive technological posture - To what extent does your company focus on the following in comparison to your major competitors? (Scale from 1, much lower, to 5, much higher).”*
- *“Concerning your company in relation to automation and process innovation - To what extent does your company focus on the following in comparison to your major competitors? (Scale from 1, much lower, to 5, much higher).”*

Each of the constructs were measured by hypotheses, which were established from the literature and previous study.

Before sending the questionnaire to possible respondents, the questionnaire was reconfigured into an attractive layout as advised by Bell et al. (2019). This enhanced the responses rate. The questionnaire provided clear instructions on how to respond.

4.3.4.2. Pre-testing of the Questionnaire

The survey questionnaire was pre-tested to confirm validity and reliability, as well as ensure that the questions being asked are easy to understand (Saunders & Lewis, 2018). The survey questionnaire was sent to ten individuals within the MBA group that meet the population criteria of owning or being a senior executive in a small or medium-sized enterprise. The intention behind this was that any problems identified prior to the questionnaire being sent out to the larger group could be corrected as part of the pre-testing process. Feedback from these ten individuals provided feedback of their experience in completing the questionnaire. The questions that

were posted to this trial group asked if there were any problems in the pre-test process, including difficult to understand questions, correct wording or phrasing of questions. The feedback gained from the trial group enabled modifications to the final questionnaire prior to it being distributed.

It takes respondents roughly 15-30 minutes for completion of the questionnaire and in conducting the pre-test, this time was verified. Other potential issues, including too many questions, or unclearly questions were also identified and adjusted.

4.3.5. Data collecting process

The source of the data is an online self-administered survey that was hosted through Google Forms, which is an online surveying tool. The e-survey for self-completion was sent out via Google Forms by the researcher, with an introductory note. See sample email in Appendix 5. The link to the online survey formed part of the email addressed to the potential respondents.

From a non-response perspective, most survey questionnaires include a certain amount of non-response. Reasons for non-response include failure to deliver the questionnaires to the target population (e.g. email bounced back due to inactive or wrong email address, absent from work) and the reluctance of people to respond (Baruch, 1999; Baruch & Holtom, 2008; Bell et al., 2019). This study addressed some of the steps to improve the response rate, as stated by Bell et al. (2019). Refer to Table 14 below for what was done.

Table 16 – Design to improve the response rate

No.	Steps to improve the response rate	What was done in this study
1.	Attaching a good cover letter or email, which explains the reasons for the research, why it is important, and why the recipient has been selected;	A cover email explaining the research is attached to the link being sent out. Refer to Appendix 5 for sample email.
2.	If individuals do not respond at first, follow up with two or three further emails two weeks after the initial mailing, restating the purpose and aim of the research. If no response is received, a follow up after two weeks with the covering letter and attached questionnaire should be sent out. Millar & Dillman (2011) concur with the increase to improve responsiveness and indicate that follow up correspondence be sent earlier and more frequently;	An email tracking system was put into place to manage the responses of the SMEs and the follow-up processes. It identified the initial send out date, the status of the response, follow-up one date sent, status of follow-up one, follow-up two date posted, status of follow-up two, follow-up three date sent, status of follow-up three, and final date sent, status of final.
3.	Shorter questionnaires achieve better response rate than longer ones. Deutskens de Ruyter, K., Wetzels, M. and Oosterveld, P. (2004) identified that for surveys, which take 15-30 minutes for completion (short online), the response rate was 25%, and for surveys, which take in excess of 30 minutes for completion (long online), the response rate was 17%;	The setup of the questionnaire allows for natural response by choosing a value on the Likert scale provided. Refer to Appendix 6 for the modified questionnaire. The time estimated to complete the questionnaire was in-line with a short online questionnaire, i.e. 15-30 minutes. This was verified through the pre-test of the questionnaire.
4.	Clear instructions and an attractive layout improve response rates;	Google Forms allowed for an attractive layout to be chosen and the instructions included were clear and concise according to the pre-test of the questionnaire. Refer to Appendix 6.
5.	The appearance of the questionnaire must not be too bulky or long;	The questionnaire is divided into sections and focuses the respondent to specific areas. Refer to Appendix 6 for the modified questionnaire.
6.	Begin the questionnaire with questions that are of interest to the respondent;	The questionnaire starts with general questions (i.e. section A). This puts the respondent at ease as the questions are familiar and easy to complete. Refer to Section A of the questionnaire in Appendix 6.
7.	A few open questions should be included as people are put off by having to type too much;	The questionnaire is set-up to answer questionnaires using a scale. There is minimal typing required and should, therefore, not put off the respondents. Refer to Appendix 6.
8.	Incentivising the recipients is a way of increasing the response rate.	This study has not incentivised the recipients in any form or way. Completion of the questionnaire was voluntary and not coerced.

Source: Author's compilation

Looking at the heterogeneity of the population, when a sample is very diverse, the population which it represents is likely to be highly varied (Bell et al., 2019). When it is relatively homogeneous or similar, the amount of variation is less. This means that the greater the heterogeneity or diversity of a population, the greater the sample size is required to be (Bell et al., 2019).

To address the low response rate, a pre-test questionnaire, discussed in section 4.3.4.2 above, assisted in eliminating problems from unclear questions or respondents who may seek clarification on questions. As previously stated above, the number of questionnaires sent out were increased to consider non-responses (incl. out of office, absence from work, leave) and that low response rates were typical of online internet surveys. In terms of reliability and validity, the measurement instrument was analysed for Cronbach's Alpha and found to be reliable and valid despite the low response rate.

4.4. ANALYSIS APPROACH

Being a quantitative study, the analysis approach used descriptive statistics and multiple regression analysis (Quinlan, Babin, Carr, Griffin, & Zikmund, 2019). This was chosen for the replication, following the analysis of the original study. For the extension study, a multivariate analysis allows the testing for both moderating and mediating variables. The multivariate analysis involved the simultaneous analysis of three or more variables, according to Bell et al. (2019) and Hayes, (2013). For the data to be examined, computer data analysis tools were used including Microsoft Excel and Statistical Package for Social Science (SPSS).

The data analysis process for quantitative data analysis consisted of editing, coding and analysis as data processing steps (Kumar, 2014), as discussed below.

4.4.1. Editing

To address any inconsistencies and incompleteness in data, Kumar (2014) advises that editing is needed to check for aspects such as missing values and outlier values. Due to the parameters set for the questionnaire, all questions needed to be answered before going forward, which resulted in no missing values being found. The number of responses received were actually values with no missing data. Again, due to the

questionnaire set up and the Likert scales used, no outliers were present. Overall during the data editing process, 0 responses were removed

4.4.2. Coding

The responses received from survey questionnaires must be analysed using a codebook (Appendix 7) where the variables are coded (Kumar, 2014). The responses were captured, ready for quantitative analysis.

A number of questions were reverse coded, and these included: MO_EF_7c; MO_EF_7d; LO_SV_16f; LO_OM_17b; LO_OM_17e; and MV_27e. This is a standard practice as a confirmatory check on other questions.

4.4.3. Analysis

Kumar (2014) states that a frame of analysis must be developed and appropriate software tools utilised. This research focused on detecting and describing the relationships between independent and dependent variables, which were based on correlation analysis and could be used for:

- Factor analysis – reducing a mass of variables into a simple message (fewer variables) (Field, 2018),
- Correlation – exploring the association between two variables,
- Regression – predicting scores on one variable, given scores on another variable,
- Multiple regression – predicting scores on a dependent variable, given scores of more than one independent variable.

Using SPSS, different statistical analyses were used to determine the reliability and validity of the data. The various tests are explained below. First the test for quality control are described in paragraph 4.5 followed by the tests for the regression analysis in paragraph 4.6. The main analysis follows in Chapter 5.

4.5. QUALITY CONTROLS

For sound quantitative research, reliability, validity, replicability and generalizability are required (J. D. Brown, 2015). These are discussed below in further detail.

4.5.1. Validity

The most important criterion of research is validity, which “is concerned with the integrity of conclusions that are generated from a piece of research” (Bell et al., 2019). Validity refers, according to Bell et al. (2019), to whether or not an “an indicator or set of indicators that is devised to gauge a concept really measures that concept”.

Factor analysis is the summation and data reduction of information. Highly interrelated variables are grouped together with sets of observed variables sharing common variance-covariance characteristics and together define a construct according to Hair, Black, Babin, Anderson, & Tatham (2006). Factor analysis confirms the subset of observed variables, which define the construct. It is done from either an exploratory or confirmatory perspective (Hair et al., 2006). Exploratory Factor Analysis (EFA) is used to understand the structure of a set of variables, to develop a questionnaire to measure latent constructs, or to reduce a data set to a more manageable size (Field, 2018). As the questionnaire was based on known scales, the researcher knew which questions (observed variables) were expected to load onto each latent construct. Confirmatory factor analysis was performed where the researcher had a preconceived model of the structure of the data based on theory, according to Hair et al. (2006). As identified in the literature review, the constructs for the strategic orientations MO and EO have been established by numerous sources depending on certain views. EFA was done as confirmation.

The steps required in EFA and the requirements are detailed by Pallant (2011) as:

- assessment of the suitability of the data for factor analysis;
- factor extraction to determine smallest number of factors; and
- factor rotation and interpretation.

Table 17 below illustrates the steps and requirements.

Table 17 – EFA steps and requirements

EFA Steps	
Suitability of data: Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity	According to Field (2018), the KMO test is recommended for sample sizes greater than 300. KMO and Bartlett's test of Sphericity measures were done to ensure that the sample is adequate for factor analysis
	For factor analysis to be done the KMO value must be above 0.6 while Bartlett's test of Sphericity must be statistically significant (Pallant, 2011)

<i>Number of factors:</i> Kaiser's criterion	Hair et al. (2006) state that derived factors must be practically significant, and this is done by considering factor Eigenvalues (Pallant, 2011)
	Components with Eigenvalues of 1 or more are only included (Field, 2018; Pallant, 2011)
<i>Factor rotation and interpretation:</i> Varimax rotation	The extraction of principal components aims to maximise the variance explained (varimax). Varimax rotation is the most common approach and was used in the study by Jansson et al. (2017). It aims to minimise the number of variables with high loadings on each factor (Pallant, 2011)
	Items having the highest loading are associated with the components (Pallant, 2011)

Source: Author's compilation

4.5.2. Reliability

Reliability is of particular concern in a quantitative study as the researcher is likely to be concerned about the stability of a measure and if the results of the study are repeatable. Bell et al. (2019) define reliability as “the consistency of a measure of a concept”. In determining if a measure is reliable or not, these prominent factors need to be considered as displayed in Table 18 below.

Table 18 – Defining of factors

<i>Factors</i>	<i>How it is addressed</i>
<i>Stability – this refers to steadiness of a measure over time and is checks for fluctuations</i>	To test for stability or test-retest reliability, one is testing whether or not the data collection instrument produces the same result over time (Quinlan et al., 2019). In this study, the measurement instrument was sent out to over 13800 SMEs. Four (4) follow-up emails were sent out to the respondents. Each cycle produced results indicating that the stability test had passed as the same result was achieved over time.
<i>Internal reliability – this refers to consistency among the indicators that make up the scale or index</i>	To test for internal reliability, Cronbach's alpha was used. According to Bell et al. (2019), the Cronbach's alpha “estimates the average of all possible split-half reliability coefficients”. A Figure of 0,8 is used to designate an acceptable level of internal reliability and should raise no objection, according to Baruch (1999). Although no lower limit has been identified for Cronbach's alpha (Baruch, 1999), Struwig & Lillah (2017) indicate a limit of 0,7.
<i>Inter-rater reliability – this refers to the uniformity among more than one rater when translating the data and the possibility of there being a lack of consistency in their decisions</i>	To test for inter-rater reliability, one is testing whether raters consistently agree with each other (Quinlan, Babin, Carr, Griffin, & Zikmund, 2019b). This study was testing inter-rater reliability by conducting a replication study of the study conducted by Jansson et al. (2017).

Source: Author's compilation

From the above Table, it explains the various factors that have been addressed in this study and set out in Chapter 5. For this study, the Cronbach's alpha was tested for all the constructs and compared against the previous study findings results.

4.5.3. Replicability

According to Brown (2015), replicability is the degree to which a study provides sufficient information to verify the results by repeating the study. If the researcher does not clearly define the process in sufficient detail, i.e. similar to a recipe, replication is not possible (Bell et al., 2019; Brown, 2015).

This study was a replication study and was repeating the process used by Jansson et al. (2017) for MO and EO, management values, and sustainable practices in South African SMEs. Although the geographical location was changed, the questions and methodology used are maintained. The study goes further by extending to include TO and LO, and the methodology used was clearly defined, thus allowing for replication.

4.5.4. Generalisability

In quantitative research, the researcher hopes that the results can be generalised beyond the context in which the research was conducted (Bell et al., 2019). The degree to which the results of a study are meaningful, beyond the sample to the population that the sample represents is known as generalizability (Brown, 2015).

The population in his study is SMEs in Gauteng, and this is therefore the population to which the study can claim generalisability. As stated in section 4.3 above, the samples taken were randomised, and the design of the instrument allowed for generalisability.

4.6. REGRESSION ANALYSIS

Regression analysis can be used as a statistical analysis that seeks to quantify a relationship between the variables, with a measure of the strength of that relationship (Wegner, 2016). Objective 1 investigated the linear relationships between MO, EO, environmental-friendly values among management, business sustainability practices, and commitment to sustainability. Objective 2 investigated the linear

relationships between TO, LO, and commitment to sustainability. Regression analysis, therefore, was used in this case to determine these relationships between the different independent and dependent variables.

4.6.1. **Simple linear regression**

In simple linear regression, there is a single dependent variable denoted as Y , and a single independent variable denoted as X (Wegner, 2016), and this is therefore appropriate to test hypotheses 1 to 6. The regression coefficient indicates the strength of the relationship between the independent variable X and the dependent variable Y (Hair et al., 2006). A positive coefficient b_1 indicates a positive linear relationship.

The method of least squares is used in linear regression and guides the regression analysis to find the best-fitting straight-line equation by minimising the sum of the squared deviations of all the data points from the line (Creswell, 2014; Wegner, 2016). The test will be applied using SPSS. The magnitude by R^2 calibrates the model's predictive accuracy as well as the statistical significance of the overall model. This provides an indication of the significance of the linear relationship proposed.

The relationship between a pair of variables can be displayed graphically by producing a scatter plot of the data (Wegner, 2016), which according to Field (2018) is the first step in regression analysis. In a scatter plot, the data is plotted on a two-dimensional graph with the dependent variable on the y -axis and the independent variable on the x -axis. The nature and strength of the relationship between the variables are identified by the pattern of the data plotted (Wegner, 2016). These scatter plots are used in Chapter 5 to show the various relationships for hypotheses 1 to 6.

4.6.2. **Multiple regression: Moderator / Mediator Analysis**

Objective 3 (hypotheses 7 to 9) investigated the moderator and/or mediator effect LO has on the relationships between MO, EO, TO and commitment to sustainability. Moderator/mediator analysis was used to investigate the objective that required a multiple linear regression analysis. Moderation refers to the conditions under which

an effect varies in size, whereas mediation refers to underlying mechanisms and processes that connect antecedents and outcomes (A. F. Hayes, 2013).

According to Hayes (2013), the association between two variables is moderated when the strength or sign depends on a third variable Z. This relationship has been displayed graphically in Figure 13 above. Statistically, moderation analysis tests for interaction between Z and X, in a model of Y (A. F. Hayes, 2013).

Mediation analysis was used to understand how an effect of X on Y operates (A. F. Hayes & Rockwood, 2017). A mediation model is a set of two or more causal events linked together in sequence of the form $X \rightarrow M \rightarrow Y$. Mediator variable (M) must be causally located between X and Y, and must be affected by X, and it, in turn, must affect Y (A. F. Hayes & Rockwood, 2017). Perfect mediation occurs when the relationship between the predictor and outcome is completely erased by including the mediator in the model. When analysing the direct and indirect effect of X on Y, the indirect effect is tested using non-parametric bootstrapping (A. F. Hayes, 2013). If the null of zero (0) falls between the lower and upper bounds of the 95% confidence interval, then the inference is that the population indirect effect is zero.

Both mediation and moderation analysis were conducted using PROCESS for SPSS (A. F. Hayes, 2013; Preacher & Hayes, 2004).

4.7. LIMITATIONS OF THE RESEARCH

In interpreting the results from the original study, the one limitation concerned the operationalization of both dependent and independent variables (Jansson et al., 2017). There were a number of limitations in this study, namely:

- the definitions and measurement scales that the respondents used concerning MO, EO, TO, LO, and sustainability of SMEs. There is a possibility that different conceptualisations of these variables would yield differing results.
- the questions use in the measurement instrument for the replication study were not the same in this replication study as compared to Jansson et al., (2017), as many deleted questions from the previous study were used. This resulted in a different measurement instrument being used.
- the survey questionnaire was only sent out online, which limited the number of responses. Sending it through alternate means such as mail or through face-to-

face interviews, could have possibly increased the number of responses received.

- as the survey questionnaire was administered online, the limitation was that responses were unlikely to be detailed enough to offer explanatory answers to the relationships that might be identified or to clarify the responses to the questions. The key to administering online questionnaires was to make it as comprehensive as possible.
- the standardised questions in the survey questionnaire limited the responses that was provided. The researcher had no context or opportunity to understand the activities that were taking place. The researcher also has no opportunity to ask respondents to justify or clarify their responses.
- as the questionnaire was in English, there was a possibility of misinterpretation of questions as English is just one of the eleven official languages in South Africa. However, the business language is English, and the responded group were purposively selected and do understand English very well.
- The low response rate to the survey questionnaire could be a limitation. However, for this study the strong results for validation of the measurement instrument, show that this is not the case.

5. CHAPTER 5 – RESULTS

5.1. INTRODUCTION

This chapter presents the key research results responding to the research questions and hypotheses formulated in Chapter 3. The key results are analysed after organising and summarising the data collected through the survey questionnaires, which were sent out to SMEs. The chapter starts with highlighting the response rate to the survey questionnaires that were sent out. To explain the composition of the sample, the survey demographics of the population are discussed. The regression analysis for the replication study, the extension study, and LO as moderator or as mediator then follow. The subjects discussed in this section is shown in Figure 33 below.

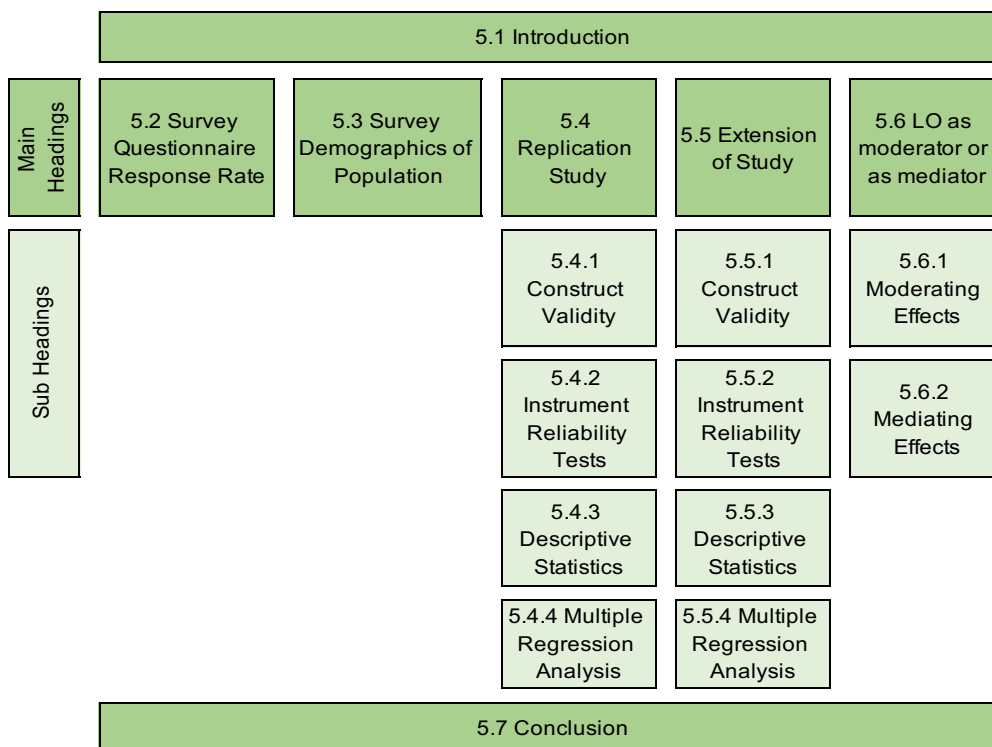


Figure 33 – Results design

Source: Author's compilation

5.2. SURVEY QUESTIONNAIRE RESPONSE RATE

The data was collected over a 2-month period from the 28th of July 2019. The survey questionnaire was sent out to 13 808 SMEs, using Google Forms. Of these 2082

(15.08%) failed to deliver the questionnaires to the target population (i.e. the email bounced back due to inactive or wrong email address, or absent from work). Four rounds of follow-up emails were sent out roughly ten days apart on 16th August 2019, 30 August 2019, 10th September 2019, and 28th September 2019. Responses for the first and second follow-ups yielded a low number of responses at 32 and 37 responses, respectively. The third follow-up email was amended including the subject title, and this yielded a higher number of responses of 74. The last and final plea sent out yielded another good response of 58 responses.

The number of survey questionnaires completed was 278 and this represents a response rate of 2.37%, which is below the target of 3% indicated in section 4.3.3.3.

The set-up of the measurement instrument allowed for the responses to have fully completed questionnaires resulting in a 100% completion rate. No questions were partly answered, and the distribution of the responses for the Likert scale questions can be seen for each question in the frequency Tables below.

5.3. SURVEY DEMOGRAPHICS OF POPULATION

The survey questionnaires, which had been sent out, were largely completed by respondents who were the owners of the enterprises. The enterprises that they correspond to primarily fall in the Finance and Business Solution sector. Of the 278 responses received, 169 (61%) were owners, 26 (9%) were CEOs, 56 (20%) were Senior Executives, 19 (7%) were middle management, and 8 (3%) were Office Administrators. Figure 34 presents the percentage contribution of each job level.

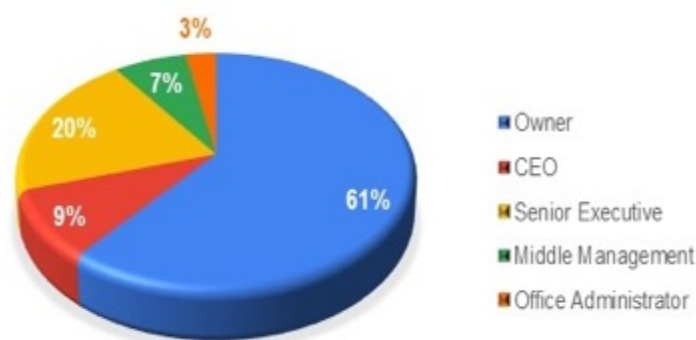


Figure 34 – Percentage contribution of respondents based on Job Level

Source: Author's compilation

The total number of strategy makers were 251 (90%), and 27 (10%) were operational and administrative staff. Figure 35 presents the percentage contribution of decision levels.

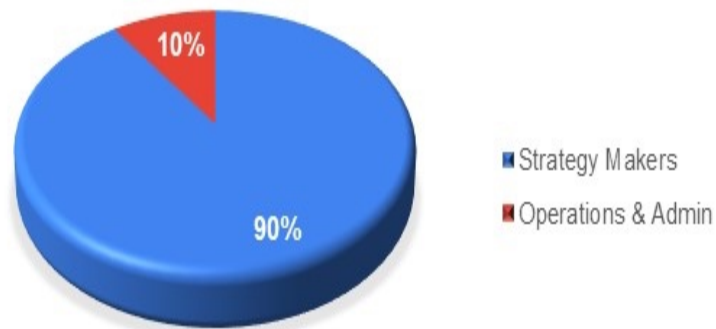


Figure 35 – Percentage contribution of respondents based on decision-making levels

Source: Author's compilation

The respondents were in their current positions, primarily for over ten years (133 – 48%). This is followed by 1 – 3 years (65 – 23%); then by 4 – 6 years (47 – 17%); and lastly 7 – 9 years (33 – 12%). Figure 36 presents the percentage contribution of duration in current position.

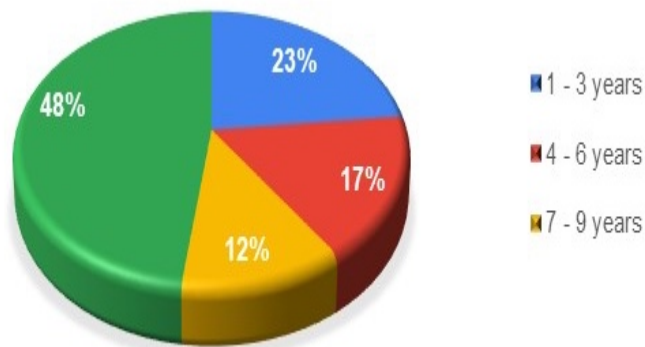


Figure 36 – Percentage contribution of respondents based on duration in current position

Source: Author's compilation

The survey questionnaires were completed from a gender perspective mainly by males with a split of 187 (67%) versus 91 (33%) of females. Figure 37 presents the percentage contribution of gender.

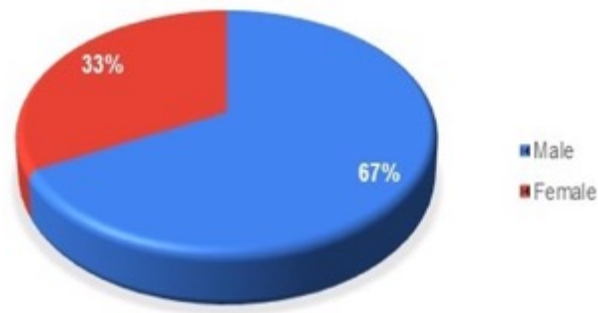


Figure 37 – Percentage contribution of respondents based on gender
 Source: Author's compilation

From an age perspective, the respondent in the 40 – 49 age group were the largest group (88 – 32%). The next age group is 50 – 59 (73 – 26%); 60 – 69 age group (49 – 18%); 30 – 39 age group (38 – 17%); older than 70 (12 – 4%); and last by younger than 30 (8 – 3%). Figure 38 presents the split between the percentages of respondent's age groups.

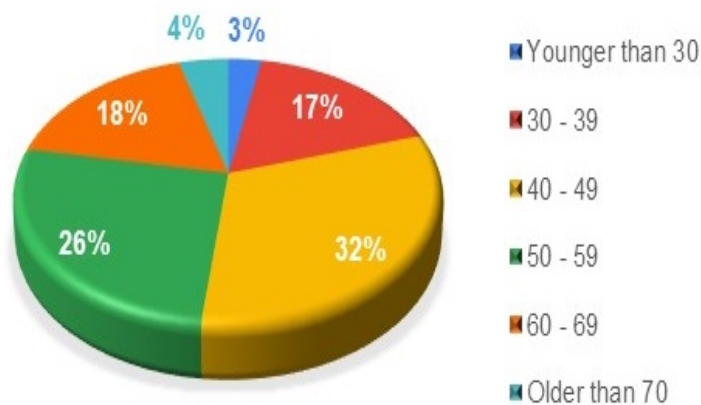


Figure 38 – Percentage contribution of respondents based on age
 Source: Author's compilation

The education level of the respondents was high, with the largest group of respondents having a postgraduate degree (124 – 44%) or graduate degree (114 – 41%). Matriculants or Grade 12 learners account for 13% (36); followed by Grade 10 – 11 (2 – 1%) and less than Grade 9 (2 – 1%). Figure 39 presents the results of the education level of the respondents.

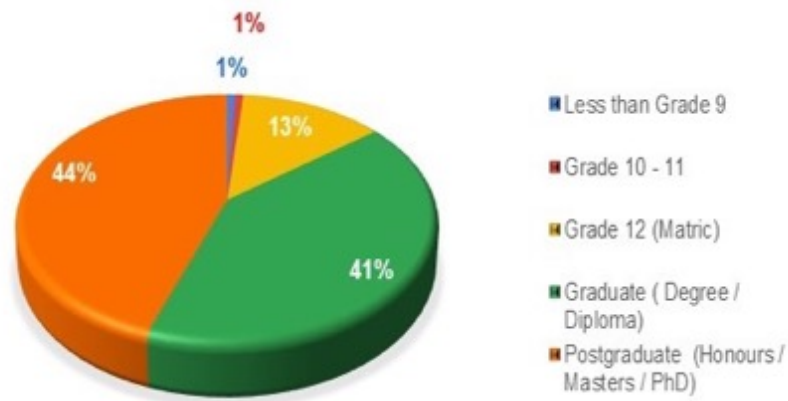


Figure 39 – Percentage contribution of respondents based on the education level

Source: Author's compilation

From the responses, the results indicate that company size of less than 10 employees had 122 (44%) responses. This was followed by company size between 10 and 49 employees with 64 (23%) responses. The next was company size with only the owner with 50 (18%); then company size with more than 250 employees with 22 (8%); and last by company size between 50 and 249 employees with 20 (7%). Figure 40 presents the percentage analysis by company size.

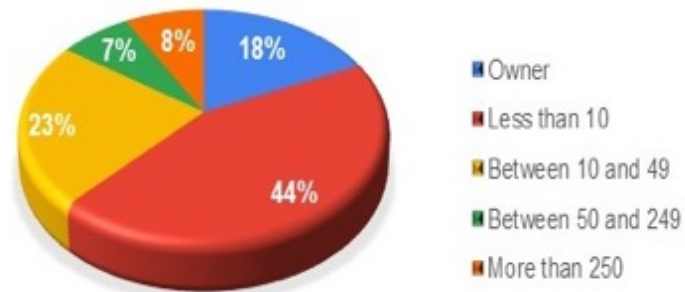


Figure 40 – Percentage contribution of respondents based on Company size

Source: Author's compilation

The responses indicate that the main customers for SMEs are other companies (176 – 63%), followed by consumers/households (70 – 25%) and then public organisations (32 – 12%). Figure 41 presents the main customers of SMEs graphically.

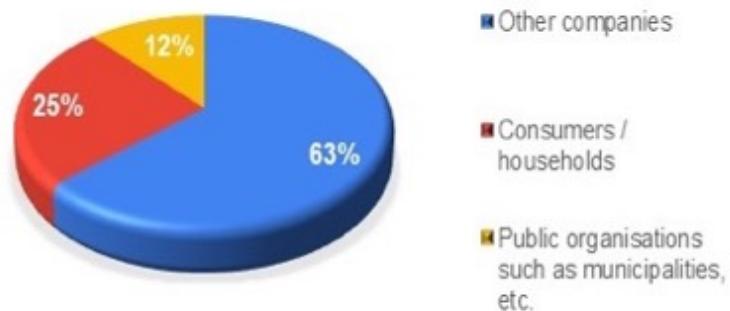


Figure 41 – Percentage contribution of respondents based on Main Customers

Source: Author's compilation

Having sent out the survey questionnaires to SMEs in Gauteng province only, the responses were located in Johannesburg including Soweto, Lenasia with 128 responses (46%); Tshwane including greater Pretoria with 79 (28%); Ekurhuleni with 42 (15%); West Rand with 21 (8%); and lastly Sedibeng with 3 (8%). Figure 42 presents the location spread of the SMEs.

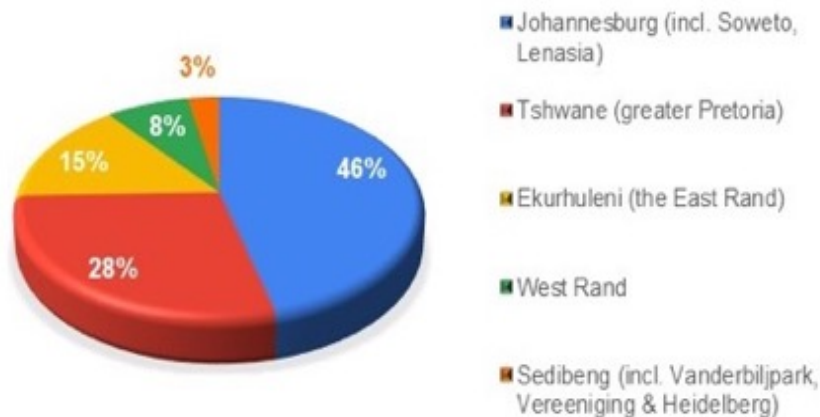


Figure 42 – Percentage contribution of respondents based on Location

Source: Author's compilation

The highest number of responses concerning industries in which SMEs operate was from the Finance and Business Solution sector (91 – 33%). This was followed by Insurance, Company Service & Consultancy (30 – 11%); Construction (27 – 10%); Manufacturing (23 – 8%); and Mining & Quarrying (15 – 5%). Figure 43 presents the numerical contribution of each sector.

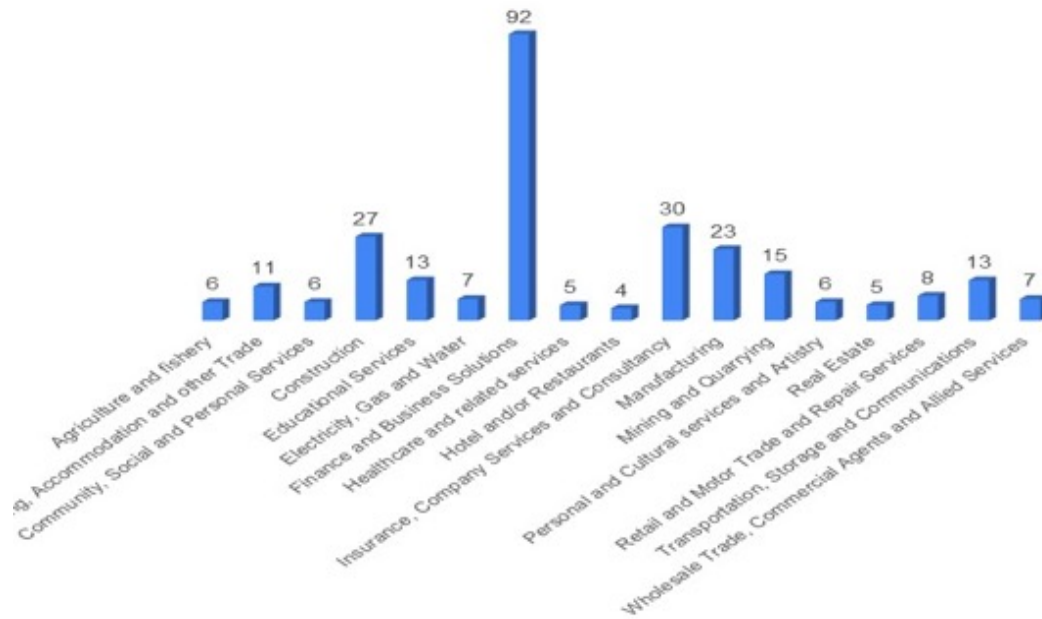


Figure 43 – Numerical contribution of respondents based on industry sector
 Source: Author's compilation

Figure 44 is a graphical presentation of the Pareto of industry sectors and shows a high propensity towards financial services and ICT companies.

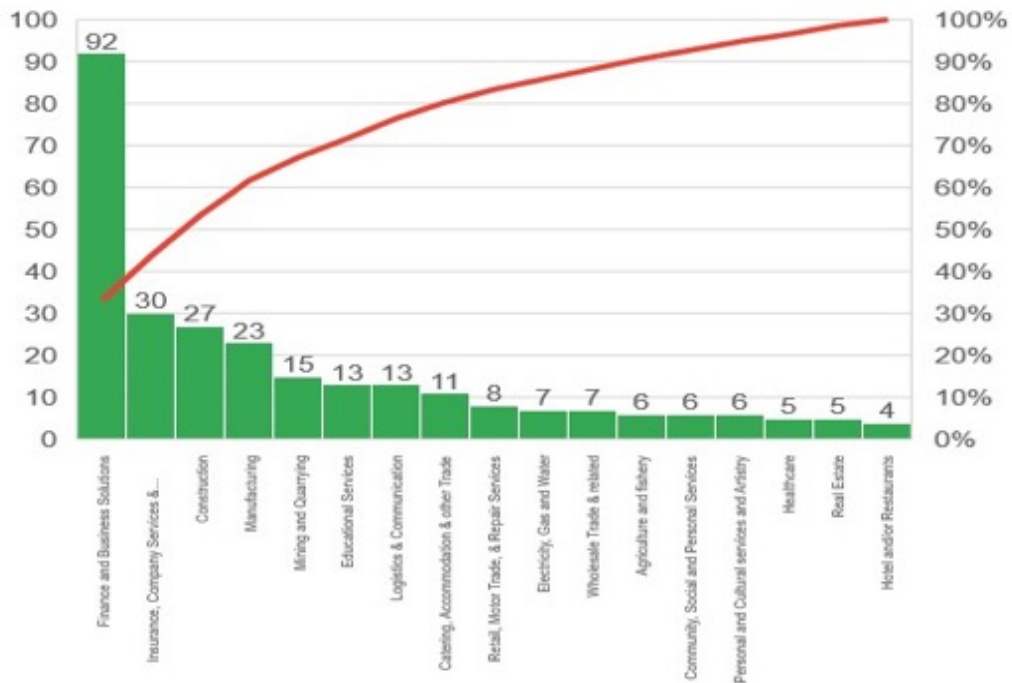


Figure 44 – Pareto analysis of respondents based on industry sector
 Source: Author's compilation

In summary, the survey demographic show that:

- Industry – 44% finance and business solutions or insurance and company services & consultancy
- Location – 74% in Johannesburg and Tshwane
- Size – 85% less than 50 employees (i.e. micro, very small, small SMEs)
- Education level – 85% graduate or postgraduate degree holders
- Age – 80% over 40
- Gender – 67% male

5.4. REPLICATION STUDY

5.4.1. Construct Validity

Construct validity involves verifying the questions the research was based on. This is done before any comprehensive tests are performed on the data and is done through exploratory factor analysis (EFA). The Kaiser-Meyer-Olkin (KMO) and Bartlett's test for sphericity are the tests done to determine if EFA is required and this is outlined in Chapter 4 section 4.5.1. The following sections will show the KMO and Bartlett's test for sphericity test results for the replication study.

5.4.1.1. KMO and Bartlett's test for sphericity results

The KMO measure of sampling adequacy for all the combined items is 0.861, which is greater than the recommended lower limit of 0.5. The Bartlett's test for sphericity is statistically significant at $p < 0.000$ (Sig.); the standard is a significance level of $p < 0.05$.

The results of both the KMO and Bartlett's test for sphericity is an outcome from the factor analysis conducted with the available data. The results indicate that it makes a factor analysis appropriate for this study. In the study by (Jansson et al., 2017), the KMO value was 0.781.

i. Anti-image matrix

The anti-image matrix Table, produced as part of the factor analysis, was analysed. This is a measure of sampling adequacy and indicates how strongly one item is correlated with other items in the matrix. The cut-off value is > 0.70 . According to Field (2017), an anti-image diagonal value per observable variable of greater than

0.4 is generally accepted to reflect correlation among the variables. Correlations above 0.4 are therefore considered relatively strong correlations, while between 0.2 and 0.4 as moderate correlations, and below 0.2 as weak correlations (Shortell, 2001).

For MO, there were 11 variables greater than 0.4, which show strong correlations. There were two variables greater than 0.2 but below 0.4, which show moderate correlations. The number of variables below 0.2 was 0. In order for a factor analysis to be conducted, no variables were required to be deleted.

For EO, there were eight variables greater than 0.4, which show strong correlations. There were three variables greater than 0.2 but below 0.4, which show moderate correlations. The number of variables below 0.2 was 0. In order for a factor analysis to be conducted, no variables were required to be deleted.

For sustainability practices, there were six variables greater than 0.4, which show strong correlations. There were five variables greater than 0.2 but below 0.4, which show moderate correlations. There were 0 variables below 0.2. In order for a factor analysis to be conducted, no variables were required to be deleted.

For management values, there were five variables greater than 0.4, which show strong correlations. There were 0 variables greater than 0.2 but below 0.4, which show moderate correlations. There were 0 variables below 0.2, which shows weak correlation. In order for a factor analysis to be conducted, no variables were required to be deleted.

ii. Communality

The communalities extraction from the above tests were obtained using principle component analysis (PCA) and showed values greater than the minimum of 0.3 for all the observed variables. Communality values range from zero (0) to one (1), where one indicated that the variable can be fully defined by the factors and has no exclusivity. Conversely, a value of zero indicates that the variable cannot be predicted at all from any of the factors (Field, 2017). A high value is preferred as this shows that the observed dataset is mirrored in the measuring instrument. For the

replication, there were no values below 0.475. From the previous study by Jansson et al. (2017), the communalities were all above 0.5, which was a satisfactory result.

5.4.1.2. Exploratory factor analysis results

Using PCA, as an extraction method, with a varimax rotation method, the exploratory factor analysis identified ten factors. The total variance explained accounts for 66.47% and is shown in Table 19 below and was confirmed by the scree plot.

Table 19 – Total variance explained for the replication study

Total Variance Explained			
Components	Initial Eigenvalues		
	Total	% of Var	Cum %
1	9.374	23.435	23.435
2	3.590	8.974	32.409
3	2.502	6.256	38.665
4	2.392	5.980	44.644
5	1.947	4.867	49.511
6	1.888	4.719	54.230
7	1.499	3.748	57.979
8	1.285	3.212	61.191
9	1.084	2.709	63.900
10	1.028	2.571	66.470

Extraction Method: Principal Component Analysis.

Source: Author's compilation

There were five components extracted from the two strategic orientations (MO and EO) shown in Table 20, with the total variance explained = 74.5%. For the two similar strategic orientations of MO and EO in the study by Jansson et al. (2017), five factors or components were identified. Detailed results of the factor analysis for all statements are indicated in Table 20 and align with the number of components identified in Table 19 above.

Table 20 – Exploratory factor analysis results for the replication study

Statements	Rotated Component Matrix ^a										Communalities Extraction	
	Component											
	1	2	3	4	5	6	7	8	9	10		
EO_MAC_11a	.822											.724
EO_MAC_11b	.739											.652

EO_PA_10a	.726									.621	
EO_MAC_11c	.713									.693	
EO_MAC_11d	.696									.748	
EO_PA_10c	.606							.379		.601	
EO_PA_10b	.598							.353		.621	
EO_PA_10d	.559			.300						.526	
MO_CP_6c		.782								.682	
MO_CP_6b		.717								.626	
MO_CP_6d		.650								.621	
MO_CP_6a	.302	.622								.536	
MO_CP_6e		.616								.558	
MO_EF_7b	.443	.469					.348			.640	
MO_EF_7a	.363	.449								.527	
SP_P_26b			.840							.763	
SP_P_26c			.802							.755	
SP_P_26e			.773							.653	
SP_P_26d			.767							.646	
SP_P_26a			.741							.683	
MO_CF_8b				.826						.734	
MO_CF_8a				.786						.656	
MO_CF_8c				.748						.702	
MO_CF_8d				.622						.642	
SP_R_25c					.907					.863	
SP_R_25a					.883					.831	
SP_R_25b					.793					.702	
SP_R_24					.487					.475	
MV_27b						.754				.632	
MV_27a						.714				.553	
MV_27d						.680				.585	
MV_27c						.661				.561	
MO_EF_7d							.838			.791	
MO_EF_7c							.832			.792	
SP_C_23								.844		.737	
SP_C_22								.775		.719	
EO_RT_9b	.329								.698	.687	
EO_RT_9a									.629	.598	
EO_RT_9c							.478		.531	.681	
MV_27e										.854	.772

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 7 iterations.
Remove: MO_EF_7b; MO_EF_7a; MV_2

Source: Author's compilation

If the item's largest coefficient was associated with that factor, an item was loaded onto it. A coefficient closer to one (1) shows that the question is highly associated with the factor, while a coefficient closer to zero (0) shows a lower association with the factor. Factor loadings for varimax can be classified as 0.45 and above = fair; 0.55 and above = good; 0.63 and above = very good; and 0.71 and above = excellent. A minimum coefficient threshold of 0.3 is suggested by Shortell (2001), and it is suggested that items with a lower loading should be disregarded.

From Table 20 above, Component 1 contains all the questions that relate to the constructs for EO – Innovativeness (Market and Competitors) and EO – Proactiveness. All the questions had a coefficient value of above 0.5, and the communalities value for the constructs were good to excellent. Although four items tapping into innovativeness were used in the questionnaire, these items cross-loaded heavily with proactiveness and were thus incorporated together into one factor jointly. This is seen in Table 20 above under Component 1. Reviewing the items and the literature, both innovativeness and proactiveness are relate conceptually. According to some studies (Covin & Slevin, 1989; G. T. Lumpkin & Dess, 2001), innovativeness and proactiveness are difficult to separate. Covin & Slevin (1989) and G. T. Lumpkin & Dess (2001) also found a similar relationship between proactiveness and innovativeness with these items cross-loaded heavily with proactiveness.

Component 2 contains all the questions that relate to the constructs for MO – Coordination & Planning. All the five questions for coordination & planning had a coefficient value of above 0.6, and the communalities value for the construct was very good. Two of the questions for external focus were loaded with coordination & planning at a lower value of 0.4.

Component 3 contains all the questions that relate to the construct for SP – Practices. All the questions had a coefficient value of above 0.7, and the communalities value for the constructs were all excellent.

Component 4 contains all the questions that relate to the construct for MO – Customer Focus. All the questions had a coefficient value of above 0.6, and the communalities value for the construct was very good.

Component 5 contains all the questions that related to the construct for SP – recycling. All the questions had a coefficient value of above 0.8, and the communalities value for the construct was excellent.

Component 6 contains all the questions that related to the construct for management values. All of the questions had a coefficient value of above 0.6, and the communalities value for the construct was very good.

Component 7 contains all the questions that related to the construct for MO – External Focus. Two of the questions had a coefficient value of above 0.8. These coefficients are above the minimum suggested threshold of 0.3 and the communalities value for these were excellent. Although not at a minimum threshold of 0.3 as indicated by (Campbell & Machin, 1999), the two MO_EF statements were removed from further analysis in the study as the inter-item correlation matrix shows that the first two items are closely associated and have little correlation to the last two, which are closely associated. See section 5.4.2.1. As this is the case, this would warrant removal of the questions when the construct was analysed.

Component 8 contains all the questions that related to the construct for SP – certification. All the questions had a coefficient value of above 0.7. The communalities values were excellent.

Component 9 contains all the questions that related to the construct for EO – Risk Taking. All of the questions had a coefficient value of above 0.5. The minimum threshold is 0.3, and this value is at the threshold. The communalities values were good.

Component 10 contains a question that related to the management values. The question had a coefficient value of above 0.8. The communalities value for this question was excellent.

The hypotheses were confirmed as valid in terms of nine constructs, which are MO – Coordination & Planning; MO – External Focus; MO – Customer Focus; EO – Risk-Taking; EO – New Product Development; EO – Proactiveness; SP – Recycling; SP – Practices; Management Values; and SP – Certification.

5.4.2. Instrument Reliability Tests

To measure the reliability of the measurement instrument, Cronbach's Alpha tests were performed for each of the constructs. The results showed that the measurement instrument was reliable. Not all the constructs had a Cronbach's Alpha coefficient of at least 0.60 and as such some of the questions were deleted to

improve the scores to an acceptable level. The scores for each construct are discussed in the following sections.

5.4.2.1. MO Cronbach's Alpha results

Reliability for the MO construct with 13 items is acceptable at a Cronbach's Alpha of 0.854. Reviewing the individual constructs for MO, the results shown in Table 21 show the scores for Cronbach's Alpha, which are all acceptable.

Table 21 –Cronbach's Alpha results for individual Constructs for MO

Construct	Cronbach's Alpha	Cronbach's Alpha Based on N of Standardized Items	Items
MO_CP	.805	.806	5
MO_EF	.773	.774	4
MO_CF	.819	.823	4

Source: Author's compilation

Running the tests for reliability provides an indication of the Cronbach's Alpha results per question. If a question was deleted, the new Cronbach's Alpha result is provided and would enable the researcher to decide if the improvement is significant or not. Cronbach's Alpha is measuring the consistency of responses between items on the scale and a small increase would not significantly change the conclusions. So, where there is a low Cronbach's Alpha, the preferred action is to remove the question.

For the MO_CP construct, the results show that deleting any of the items would not improve the Cronbach's Alpha. Also, the inter-item correlation matrix indicates that all items interact with one another. Therefore, all the questions for the construct corresponding to component 2 are appropriate and were used to test the hypotheses that relate to Coordination & Planning.

For MO_EF construct, the results show that deleting any of the items would improve the Cronbach's Alpha slightly. However, from the inter-item correlation matrix, the first two questions are closely associated and have little correlation to the last two, which are also closely associated. Therefore, the first two questions for the construct corresponding to component 2 were omitted (i.e. MO_EF_7a & MO_EF_7b) and were removed from further analysis. The last two, which were used to test the hypotheses relating to External Focus, correspond to component 7.

For the MO_CF construct, the results show that deleting any of the items would not improve the Cronbach's Alpha. Therefore, all the questions for the construct corresponding to component 4 are appropriate and were used to test the hypotheses that relate to customer focus.

Rerunning the Cronbach's Alpha after the deletion of the two questions gave a result of 0.819 with 11 items. MO_EF's amended Cronbach's Alpha was 0.861.

5.4.2.2. EO Cronbach's Alpha results

Reliability for the EO construct with 11 items is acceptable at a Cronbach's Alpha of 0.877. Reviewing the individual constructs for EO, the results shown in Table 22 show the scores for Cronbach's Alpha.

Table 22 – Cronbach's Alpha results for individual Constructs for EO

Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
EO_RT	.549	.556	3
EO_PA	.769	.772	4
EO_MAC	.873	.874	4

Source: Author's compilation

From Table 22 above the Cronbach's Alpha for the construct, EO_RT was below the 0.60 standard. Reviewing the reliability statistics, it was identified that deleting the last question, i.e. EO_RT_9c would improve the Cronbach's Alpha to 0.636, which is acceptable. The last question is not deemed appropriate for this study and was not used to test the hypotheses that relate to risk-taking. The other questions for the construct corresponding to component 9 are appropriate and were used to test the hypotheses that relate to risk-taking.

Results for the construct EO_PA showed that deleting any of the items would not improve the Cronbach's Alpha. Therefore, all the questions for the construct corresponding to component 1 are appropriate and were used to test the hypotheses that relate to new product development. Because of the heavy loading onto the first factor, EO_PA will only be used for further analysis.

Results for the construct EO_MAC showed that deleting any of the items would not improve the Cronbach's Alpha. Therefore, all the questions for the construct

corresponding to component 1 are appropriate and were used to test the hypotheses that relate to proactiveness. Because of the heavy loading onto the first factor, EO_MAC will be removed for further analysis.

Rerunning the Cronbach's Alpha after the deletion of the one questions gave a result of 0.887 with ten items. EO_RT's amended Cronbach's Alpha was 0.636.

5.4.2.3. Management Values Cronbach's Alpha results

Reliability for the Management Values construct with eleven items is at a Cronbach's Alpha of 0.571, which is not acceptable. Reviewing the reliability statistics, it was identified that deleting the last question, i.e. MV_27e would improve the Cronbach's Alpha to 0.688, which is acceptable. Therefore, the last question is not deemed appropriate for this study and was not used to test the hypotheses that relate to management values. The other questions for the construct corresponding to component 6 are appropriate and were used to test the hypotheses that relate to risk-taking.

5.4.2.4. Sustainability Practices Cronbach's Alpha results

Reliability for the sustainability practices (SP) construct with eleven items is acceptable at a Cronbach's Alpha of 0.818. Reviewing the individual constructs for SP, the results shown in Table 23 show the scores for Cronbach's Alpha, which are all acceptable.

Table 23 – Cronbach's Alpha results for individual Constructs for SP

Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
SP_P	.869	.872	5
SP_R	.827	.833	4
SP_C	.633	.694	2

Source: Author's compilation

For SP_P construct, the results show that deleting any of the items would not improve the Cronbach's Alpha. In addition, the inter-item correlation matrix indicates that all items interact with one another. Therefore, all the questions for the construct corresponding to component 3 are appropriate and were used to test the hypotheses that relate to sustainability practices.

For SP_R construct, the results show that deleting any of the items would not improve the Cronbach's Alpha. Therefore, all the questions for the construct corresponding to component 5 are appropriate and were used to test the hypotheses that relate to recycling.

For SP_C construct, the results show that deleting any of the items would not improve the Cronbach's Alpha. Therefore, all the questions for the construct corresponding to component 8 are appropriate and were used to test the hypotheses that relate to SP – certification.

5.4.2.5. Commitment to Sustainability Cronbach's Alpha results

Reliability for the Commitment to Sustainability (CtS) construct with seventeen items is acceptable at a Cronbach's Alpha of 0.888. Reviewing the reliability statistics show that deleting any of the items would not greatly improve the Cronbach's Alpha. Therefore, all the questions for the construct are appropriate and were used to test the hypotheses that relate to CtS.

5.4.3. Descriptive Statistics

Descriptive statistics are brief descriptive factors that summarise a given data set, which can be either a representation of the entire or a sample of a population (Kenton, 2019). It is broken down into two parts, namely:

- Measures of central tendency, which include the mean, median, and mode.
- Measures of spread or variability, which include the standard deviation, variance, the minimum and maximum variables and the kurtosis and skewness.

Descriptive statistics for each of the questions that make up a construct are given in the following sections and are broken down into these two measures. Table 24 below displays the results for the replication study.

Table 24 – Descriptive statistics for the replication study

	Mean	Median	StdDev	Variances	#items	sum of item variance	variance of total scores
MO	3,79	4	1,04	1,08	13	12,69	59,94
MO_CP	3,59	4	1,11	1,23	5	5,55	15,57
MO_EF	3,74	4	0,96	0,92	4	3,66	8,71

MO_CF	4,09	4	0,95	0,91	4	3,48	9,03
EO	3,36	4	1,09	1,18	11	12,24	60,48
EO_RT	3,30	3	1,03	1,05	3	3,12	4,93
EO_PA	3,32	3	1,12	1,25	4	4,52	10,68
EO_MAC	3,44	4	1,09	1,19	4	4,59	13,31
SP	2,99	3	1,45	2,10	11	16,96	66,76
SP_R	3,00	3	1,51	2,27	4	8,80	23,19
SP_P	3,56	4	1,08	1,17	5	5,80	19,07
SP_C	1,57	1	1,12	1,25	2	2,35	3,44
MV	2,49	2	1,31	1,72	5	7,72	14,01
CtS	3,51	4	1,06	1,12	17	15,00	91,77

Source: Author's compilation

From Table 24 above descriptively, it was found that the surveyed SMEs exhibited a higher degree of MO (mean = 3.79, SD = 1.04) than EO (mean = 3.36, SD = 1.09). Of the components of MO, customer focus exhibited the highest mean (4.09, SD = 0.95) and of the EO components, market and consumer (proactiveness) exhibited the highest mean (3.44, SD = 1.09). Of the components of SP, practices exhibited the highest mean (3.56, SD = 1.08). Management values exhibited a mean of 2.49, SD = 1.31. The lowest overall mean (1.57, SD = 1.12) was exhibited by one of the components of SP, certification. Overall, the results were satisfactory.

Descriptive statistics at the individual question level were reviewed and no unusual results were revealed.

5.4.4. Multiple Regression Analysis

The section below documents the results for each hypothesis and starts with checking for linearity via the scatter plots. This is followed by the results of strength-of-association, i.e. Pearson's Correlation Coefficient. After this, the regression analysis is presented. A regression analysis was run for each of the hypothesised relationships to test at a significance level of $p < 0.01$, denoted as Sig. in the regression tables. The R^2 statistic is reported for each analysis, together with the coefficients and significance of the dependence relationship.

5.4.4.1. *The influence of MO on commitment to sustainability*

Linear regression analysis was used to test if MO positively influences commitment to sustainability. The scatter plot checks linearity, and in case of a positive outcome,

the Pearson's bivariate correlation coefficient (r) is used as a statistical method to determine the strength-of-association between the two variables (Campbell & Machin, 1999). Figure 45 displays the result between MO and commitment to sustainability.

From Figure 45, a linear line seems probable, indicating a relationship between MO and commitment to sustainability. The equation was found for the relationship and was identified as $CtS = 34.09 + 0.61 MO$.

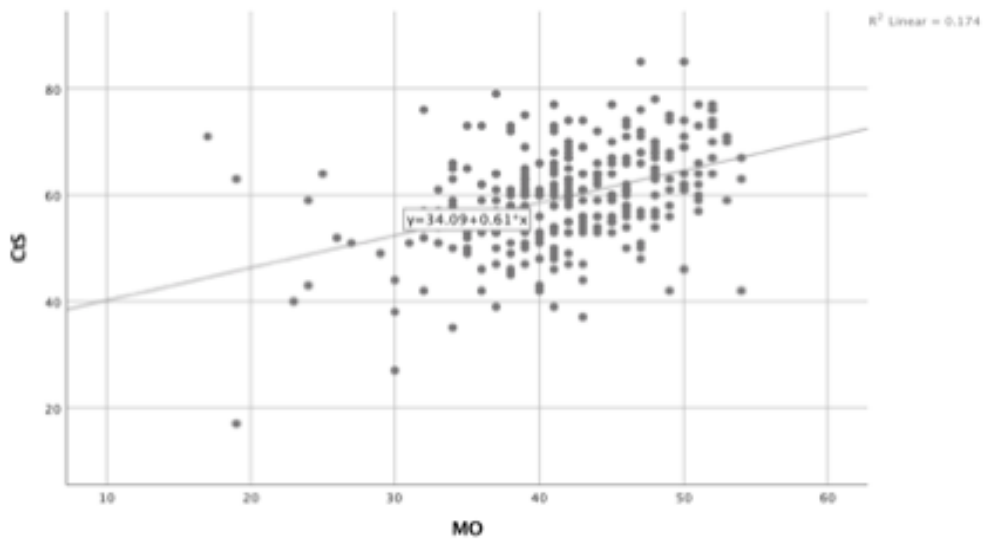


Figure 45 – Scatter plot for MO and commitment to sustainability

Source: Author's compilation

When using Pearson's Correlation Coefficient a perfect positive linear relationship is represented by a value of +1, indicating that as one variable increases in value, the other also increases in a linear manner (Campbell & Machin, 1999). Conversely, a value of -1 would indicate a perfect negative linear relationship with one variable increasing and the other decreasing in a linear manner. According to Ratner (2009), a value of 0 indicates no linear relationship between the variables. Values between 0 and 0.3 (0 and -0.3) represent a weak positive or negative linear relationship, while values between 0.3 and 0.7 (0.3 and -0.7) indicate a moderate positive or negative linear relationship (Ratner, 2009). Values between 0.7 and 1.0 represent a strong positive or negative linear relationship (Ratner, 2009). The results of the Pearson's Correlation Coefficient (r) between MO and commitment to sustainability is moderate and are shown in Table 25 below.

Table 25 – Pearson's Correlation between MO and CtS

Correlations			
		CtS	MO
Pearson Correlation	CtS	1.000	.417
	MO	.417	1.000
Sig. (1-tailed)	CtS	.	.000
	MO	.000	.

Source: Author's compilation

The output of the regression is indicated in Table 26 below.

Table 26 – Linear regression analysis for H1

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.417 ^a	.174	.171	8.72892

a Predictors: (Constant), MO

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4437.853	1	4437.853	58.244	.000 ^b
	Residual	21029.543	276	76.194		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), MO

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	34.089	3.395		10.040	.000
	MO	.612	.080	.417	7.632	.000

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found ($F = 58.244$, $p < 0.001$) with an R^2 of 0.174. The correlation coefficient (R) of 0.417 indicates that MO is moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that MO explains 17.1% of the variability of commitment to sustainability. The regression coefficient is significant, with a p-value of less than 0.001. The null hypothesis is therefore rejected at the 1% level of significance.

Further analysis on the individual components was done to see which specific components influence commitment to sustainability. Reviewing the individual components for MO, Table 27 displays the results for each regression variable.

Table 27 – Linear regression analysis for MO individual components

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	35.631	3.547		10.045	.000
MO_CP	.778	.149	.321	5.218	.000
MO_EF	.162	.303	.031	.536	.592
MO_CF	.543	.189	.171	2.874	.004

a Dependent Variable: CtS

Source: Author's compilation

From Table 27 above, we can see that, except for MO_EF, all other components significantly influence commitment to sustainability as their p-values = <0.001.

Therefore, in summary for MO, the results show that:

- MO, as a composite construct, does significantly influence commitment to sustainability.
- MO_CP and MO_CF, as individual constructs, do significantly influence commitment to sustainability.
- MO_EF, as an individual construct, does not significantly influence commitment to sustainability.

5.4.4.2. The influence of EO on commitment to sustainability

Moving on to the next hypothesis, to determine if there is a linear relationship between EO and commitment to sustainability, a scatter plot is drawn. Figure 46 displays the result between MO and commitment to sustainability.

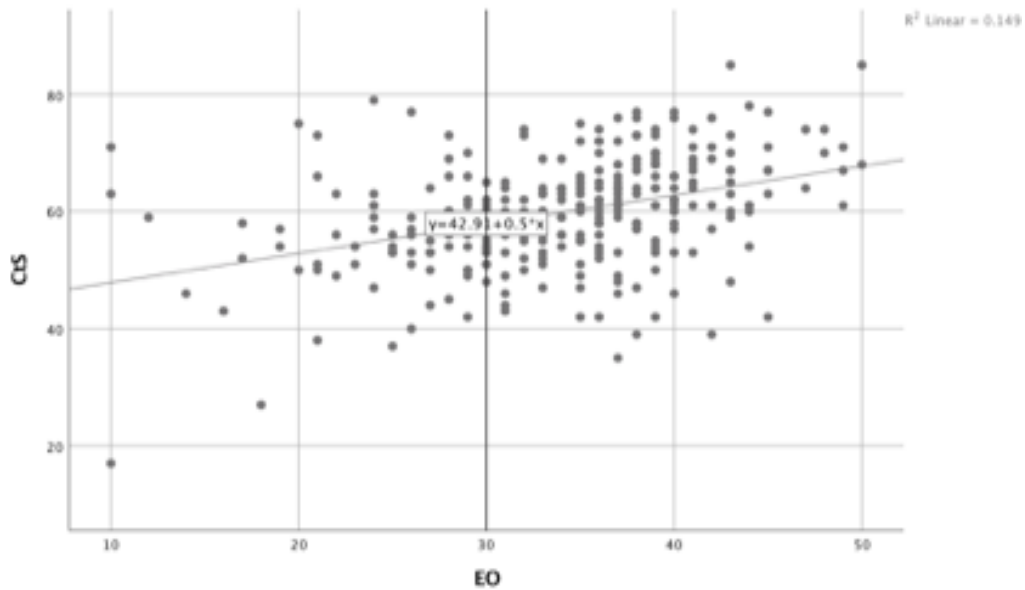


Figure 46 – Scatter plot for EO and commitment to sustainability

Source: Author's compilation

From Figure 44, a linear line seems probable, indicating a relationship between EO and commitment to sustainability. The equation was found for the relationship and was identified as $CtS = 42.91 + 0.5 EO$.

The results of the Pearson's Correlation Coefficient (r) between EO and commitment to sustainability are shown in Table 28 below and indicates a moderate relationship.

Table 28 – Pearson's Correlation between EO and commitment to sustainability

Correlations			
		CtS	EO
Pearson Correlation	CtS	1.000	.386
	EO	.386	1.000
Sig. (1-tailed)	CtS	.	.000
	EO	.000	.

Source: Author's compilation

The output of the regression is indicated in Table 29 below.

Table 29 – Linear regression analysis for H2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386 ^a	.149	.146	8.863

a Predictors: (Constant), EO

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3787.148	1	3787.148	48.212	.000 ^b
	Residual	21680.248	276	78.552		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), EO

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	42.914	2.474		17.346	.000
EO	.497	.072	.386	6.944	.000

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found ($F = 48.212, p < 0.001$) with an R^2 of 0.386. The correlation coefficient (R) of 0.386 indicates that EO is moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that EO explains 14.6% of the variability of commitment to sustainability. The regression coefficient is significant, with a p-value of less than 0.001. The null hypothesis is, therefore, rejected at the 1% level of significance.

Further analysis on the individual components was done to see which specific components influence commitment to sustainability. Reviewing the individual components for EO, Table 30 displays the results for each regression variable.

Table 30 – Linear regression analysis for EO individual components

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	42.802	2.500		17.123	.000
EO_RT	1.245	.363	.223	3.425	.001
EO_PA	.640	.191	.219	3.355	.001

a Dependent Variable: CtS

Source: Author's compilation

From Table 30, we can see that both EO_RT and EO_PA significantly influence commitment to sustainability as its p-values are < 0.001 .

Therefore, in summary for EO, the results show that:

- EO, as a composite construct, does significantly influence commitment to sustainability.
- EO_RT and EO_PA, as individual constructs, do significantly influence commitment to sustainability.

5.4.4.3. *The influence of MV on commitment to sustainability*

To determine if there is a linear relationship between MV and commitment to sustainability, a scatter plot is drawn. Figure 47 displays the result between MV and commitment to sustainability.

From Figure 47 below, a linear line seems probable, indicating a relationship between MV and commitment to sustainability. The equation was found for the relationship and was identified as $CtS = 52.59 + 0.68 MV$.

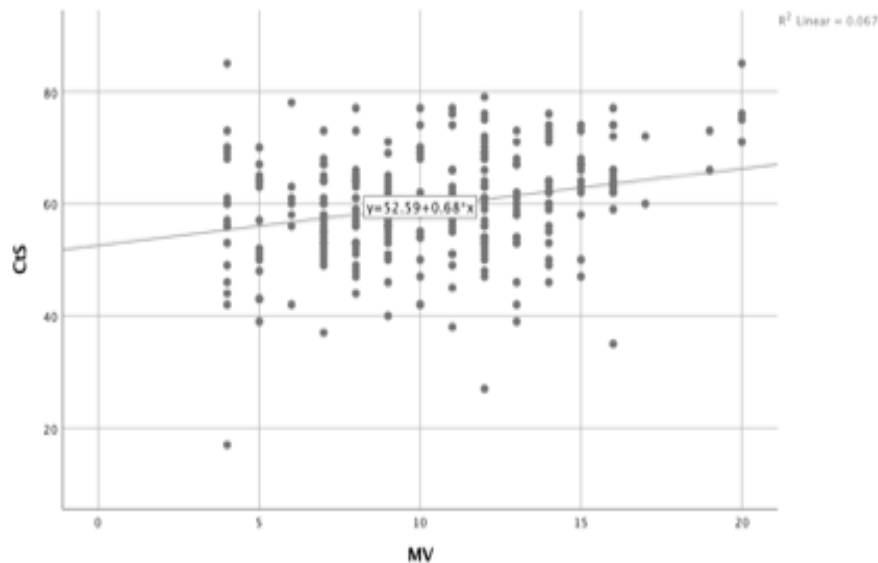


Figure 47 – Scatter plot for MV and commitment to sustainability

Source: Author's compilation

The results of the Pearson's Correlation Coefficient (r) between MV and commitment to sustainability are shown in Table 31 below and indicates a weak relationship.

Table 31 – Pearson's Correlation between MV and commitment to sustainability

Correlations			
		CtS	MV
Pearson Correlation	CtS	1.000	.258
	MV	.258	1.000
Sig. (1-tailed)	CtS	.	.000
	MV	.000	.

Source: Author's compilation

The output of the regression is indicated in Table 32 below.

Table 32 – Linear regression analysis for H3

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.258 ^a	.067	.063	9.280

a Predictors: (Constant), MV

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1699.367	1	1699.367	19.733	.000 ^b
	Residual	23768.029	276	86.116		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), MV

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	52.586	1.693		31.052	.000
MV	.683	.154	.258	4.442	.000

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found ($F = 19.733$, $p < 0.001$) with an R^2 of 0.063. The correlation coefficient (R) of 0.258 indicates that MV is moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that MV explains 6.3% of the variability of commitment to sustainability. The regression coefficient is significant, with a p-value of less than 0.001. The null hypothesis is therefore rejected at the 1% level of significance.

Therefore, in summary for MV, the results show that:

- MV does significantly influence commitment to sustainability.

5.4.4.4. The influence of SP on commitment to sustainability

To determine if there is a linear relationship between SP and commitment to sustainability, a scatter plot is drawn. Figure 48 displays the result between SP and commitment to sustainability.

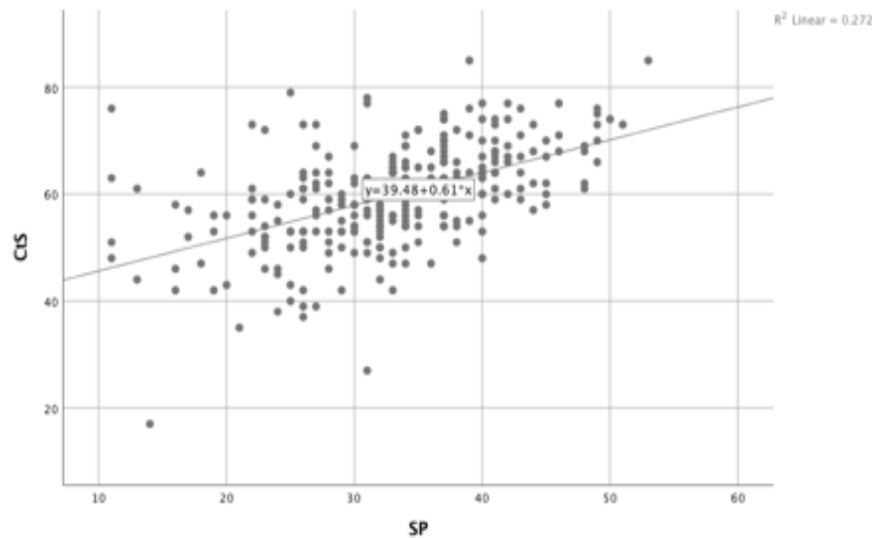


Figure 48 – Scatter plot for SP and commitment to sustainability

Source: Author's compilation

From Figure 48, a linear line seems probable, indicating a relationship between SP and commitment to sustainability. The equation was found for the relationship and was identified as $CtS = 39.48 + 0.61 SP$.

The results of the Pearson's Correlation Coefficient (r) between SP and commitment to sustainability are shown in Table 33 below and indicates a weak relationship.

Table 33 – Pearson's Correlation between SP and commitment to sustainability

Correlations			
		CtS	SP
Pearson Correlation	CtS	1.000	.521
	SP	.521	1.000
Sig. (1-tailed)	CtS	.	.000
	SP	.000	.

Source: Author's compilation

From table 33, there is a moderate relationship between SP and CtS. The output of the regression is indicated in Table 34 below.

Table 34 – Linear regression for H4

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.521 ^a	.272	.269	102.987

a Predictors: (Constant), MV

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6920.567	1	6920.567	102.987	.000 ^b
	Residual	18546.828	276	67.199		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), MV

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	39.483	2.051		19.250	.000
SP	.613	.060	.521	10.148	.000

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found ($F = 102.987, p < 0.001$) with an R^2 of 0.272. The correlation coefficient (R) of 0.521 indicates that SP is moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that SP explains 26.9% of the variability of commitment to sustainability. The regression coefficient is significant, with a p-value of less than 0.001. The null hypothesis is therefore rejected at the 1% level of significance.

The overall SP has been evaluated and further analysis on the individual components was done to see which specific components influence commitment to sustainability. Reviewing the individual components for SP, Table 35 displays the results for each regression variable.

Table 35 – Linear regression analysis for SP individual components

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	37.870	2.154		17.581	.000
SP_C	.936	.273	.181	3.430	.001
SP_R	.361	.107	.182	3.373	.001
SP_P	.817	.119	.373	6.856	.000

a Dependent Variable: CtS

Source: Author's compilation

From Table 35 above, we can see that all the components significantly influence commitment to sustainability as its p-values = <0.001.

Therefore, in summary for SP, the results show that:

- SP, as a composite construct, does significantly influence commitment to sustainability.
- SP_C, SP_R and SP_P, as individual constructs, do significantly influence commitment to sustainability.

5.4.4.5. Replication Regression per Jansson et al. (2017)

Jansson et al., (2017) conducted four types of regression analysis to test the hypotheses. This study followed the same regression analysis.

i. MO and EO as composite constructs (H1 and H2)

To determine if there is a linear relationship between MO, EO and commitment to sustainability, a regression analysis was run. The output of the regression is indicated in Table 36 below.

Table 36 – Linear regression analysis for H1 & H2

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.449 ^a	.201	.195	8.600

a Predictors: (Constant), MO, EO

b Dependent Variable: CtS

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5126.179	2	2563.089	34.651	.000 ^b
	Residual	20341.217	275	73.968		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), MO, EO

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.853	3.370		9.749	.000
	EO	.268	.088	.208	3.051	.003
	MO	.425	.100	.290	4.255	.000

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found ($F = 34.651, p < 0.001$) with an R^2 of 0.201. The correlation coefficient ρ of 0.449 indicates that MO & EO is moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that MO & EO explains 19.5% of the variability of commitment to sustainability.

Therefore, in summary for MO & EO combined, the results show that:

- The regression coefficient is significant, with a p-value of less than 0.001. The null hypothesis is, therefore, rejected at the 1% level of significance.
- Both MO and EO, as composite constructs do significantly influence commitment to sustainability.
- From the betas in Table 37 above, it is evident that MO contribute more than EO.
- As there were significant relationships between MO and EO and commitment to sustainability, H1 and H2 are supported.

ii. Individual components of MO and EO and commitment to sustainability

In order to further examine the relationship and explore which parts of MO and EO contribute to commitment to sustainability, the individual components of MO and EO were tested. The output of the regression is indicated in Table 37 below.

Table 37 – Linear regression analysis for individual components MO & EO and commitment to sustainability

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.470 ^a	.221	.203	8.558

a Predictors: (Constant), EO_PR, MO_EF, MO_CF, EO_RT, MO_CP, EO_PA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5618.352	6	936.392	12.785	.000 ^b
	Residual	19849.044	271	73.244		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), EO_PR, MO_EF, MO_CF, EO_RT, MO_CP, EO_PA

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.111	3.583		9.240	.000
	MO_CP	.599	.158	.247	3.782	.000
	MO_EF	.039	.315	.007	.123	.902
	MO_CF	.325	.198	.102	1.641	.102
	EO_RT	.927	.358	.166	2.588	.010
	EO_PA	.140	.245	.048	.570	.569
	EO_MAC	.154	.221	.059	.700	.484

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found ($F = 12.785, p < 0.001$) with an R^2 of 0.221. The correlation coefficient R of 0.470 indicates that the variables are moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that all the variables explain 20.3% of the variability of commitment to sustainability. From Table 37, MO_CP and EO_RT are significant with $p < 0.05$. All the other individual components of MO and EO were not significant.

Therefore, in summary for the individual components of MO & EO and commitment to sustainability, the results show that:

- The regression coefficient is significant, with a p-value of less than 0.001 for MO_CP and EO_RT.
- The null hypothesis is, therefore, rejected at the 1% level of significance for MO_CP and EO_RT.

- From the standardised betas in Table 38 above, it is evident that MO_CP contribute more than EO_RT.

iii. MV and SP and commitment to sustainability (H3 and H4)

To determine if there is a linear relationship between MV and SP and commitment to sustainability regression analysis was run. The output of the regression is indicated in Table 38 below.

Table 38 – Linear regression for H3-H4

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.557 ^a	.310	.300	8.020

a Predictors: (Constant), SP_P, MV, SP_C, SP_R

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7906.730	4	1976.682	30.730	.000 ^b
	Residual	17560.666	273	64.325		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), SP_P, MV, SP_C, SP_R

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	35.330	2.337		15.119	.000
	MV	.367	.139	.139	2.648	.009
	SP_C	.800	.275	.155	2.910	.004
	SP_R	.376	.106	.189	3.540	.000
	SP_P	.760	.120	.347	6.336	.000

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found ($F = 30.730, p < 0.001$) with an R^2 of 0.557. The correlation coefficient (R) of 0.557 indicates that MV and SP are moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that MV and SP explains 30.0% of the variability of commitment to sustainability. The regression coefficient is significant for all the components, with a p-value < 0.01 . The null hypothesis is therefore rejected at the 1% level of significance for MV and SP.

iv. MO and EO with other constructs (MV and SP)

To determine which parts of MO and EO contribute together with the other independent variables to explain commitment to sustainability, regression analysis was run. The output of the regression is indicated in Table 39 below.

Table 39 – Linear regression for individual components of MO and EO and MV and SP to explain commitment to sustainability

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.628 ^a	.394	.371	7.603

a Predictors: (Constant), MV, EO_MAC, SP_R, SP_C, MO_CF, SP_P, MO_EF, EO_RT, MO_CP, EO_PA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10032.874	10	1003.287	17.356	.000 ^b
	Residual	15434.522	267	57.807		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), MV, EO_MAC, SP_R, SP_C, MO_CF, SP_P, MO_EF, EO_RT, MO_CP, EO_PA

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20.075	3.660		5.485	.000
	MO_CP	.312	.145	.129	2.149	.033
	MO_EF	.303	.289	.057	1.047	.296
	MO_CF	.424	.179	.133	2.362	.019
	EO_RT	.656	.327	.118	2.005	.046
	EO_PA	-.005	.219	-.002	-.024	.981
	EO_MAC	.038	.198	.014	.189	.850
	SP_C	.733	.267	.142	2.748	.006
	SP_R	.197	.106	.099	1.848	.066
	SP_P	.639	.118	.292	5.413	.000
	MV	.374	.137	.141	2.737	.007

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found $F = 17.356$, $p < 0.001$) with an R^2 of 0.394. The correlation coefficient (R) of 0.628 indicates that the variables are moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that the variables explains 37.1% of the variability of commitment to sustainability.

In summary, the regression coefficient is significant for MO_CP, MO_CF, EO_RT, SP_C, SP_P, and MV. The null hypothesis is therefore rejected at the 1% level of significance for these variables.

5.4.4.6. Summary of results for objective 1

The study hypothesised that MO, EO, management values, and sustainability practices were positively related to commitment to sustainability among SMEs in South Africa. The regression analysis showed that there is a significant relationship between MO, EO, management values, sustainability practices and commitment to sustainability. Thus, research objective one was shown to be valid, and the summary of the results is visually displayed in Figure 49 below.

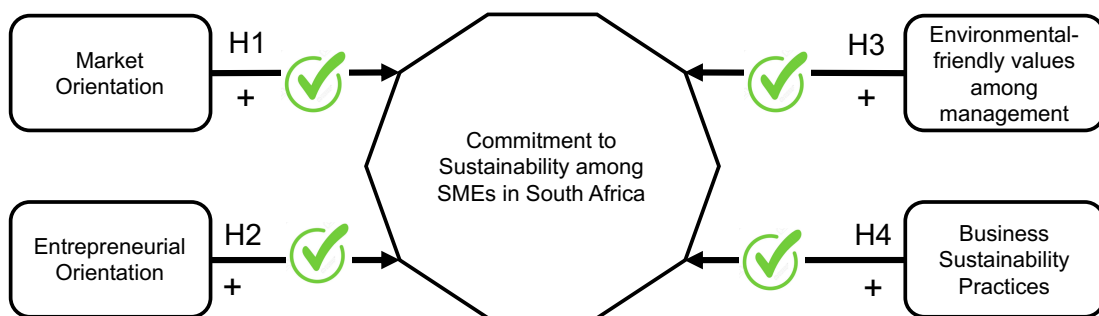


Figure 49 – Results from objective 1

Source: Author's compilation

5.5. EXTENSION STUDY PART 1

The extension study followed the same process as for the replication study. It included all the tests being run for the extension as well.

5.5.1. Construct Validity

In order to validate the constructs, exploratory factor analysis was done. To determine if an exploratory factor analysis was appropriate for the data collected, Kaiser Meyer Olkin (KMO) and Bartlett's test for sphericity was done. The following sections will show the KMO and Bartlett's test for sphericity test results for the extension study.

5.5.1.1. KMO and Bartlett's test for sphericity results

The KMO measure of sampling adequacy for all the combined items is 0.905, which is greater than the recommended lower limit of 0.5, i.e. is acceptable. The Bartlett's

test for sphericity standard is a significance level of $p < 0.05$ and the result obtained is statistically significant at $p < 0.001$ as it is below the standard level.

i. Anti-image matrix

The anti-image matrix Table, produced as part of the factor analysis, was analysed. For TO, there is one variable greater than 0.4, which shows strong correlations. There were seven variables greater than 0.2 but below 0.4, which shows moderate correlations. The number of variables below 0.2 was 0. No variables were required to be deleted in order for a factor analysis to be conducted.

For LO, there were six variables greater than 0.4, which shows strong correlations. There were eleven variables greater than 0.2 but below 0.4, which shows moderate correlations. The number of variables below 0.2 was 0. No variables were required to be deleted in order for a factor analysis to be conducted.

ii. Communality

Using principle axis factoring, the communalities extraction from the above tests showed values greater than the minimum of 0.3 for all the observed variables. From the results obtained, there are no values below 0.400 and is thus acceptable.

5.5.1.2. *Exploratory factor analysis results*

Using principle axis factoring (PCA) as an extraction method with a varimax rotation method, the exploratory factor analysis identified five factors. The total variance explained accounts for 70.44% and is shown in Table 40 below and was confirmed by the scree plot.

Table 40 – Total variance explained for the extension study

Total Variance Explained			
Components	Initial Eigenvalues		
	Total	% of Var	Cum %
1	9.912	39.648	39.648
2	3.346	13.385	53.033
3	1.757	7.028	60.061
4	1.422	5.688	65.749
5	1.173	4.693	70.442

Extraction Method: Principal Component Analysis.

Source: Author's compilation

Detailed results of the factor analysis for all statements are indicated in Table 37 and align with the number of components identified in Table 41 above.

Table 41 – Exploratory factor analysis results for extension

Statements	Rotated Component Matrix					Communalities
	Component 1	Component 2	Component 3	Component 4	Component 5	Extraction
LO_CL_15c	.837					.802
LO_CL_15b	.825					.781
LO_CL_15d	.816					.781
LO_CL_15a	.761					.668
LO_CL_15f	.695					.572
LO_OM_17d	.565	.521				.639
LO_OM_17a	.554	.510				.585
LO_SV_16c	.309	.781				.761
LO_SV_16b		.765				.748
LO_SV_16d		.758				.673
LO_SV_16a		.671	.303			.701
LO_SV_16e	.451	.660				.695
LO_OM_17c	.543	.556				.659
TO_NPD_14b			.885			.842
TO_NPD_14c			.856			.800
TO_NPD_14a			.839			.817
TO_A_12b			.743	.322		.728
TO_A_12a			.685	.312		.641
TO_AP_13a				.854		.835
TO_AP_13b			.352	.849		.876
TO_AP_13c			.410	.708		.689
LO_SV_16f					.812	.724
LO_OM_17e					.755	.671
LO_CL_15e					.595	.523
LO_OM_17b					.587	.400

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 6 iterations.

Remove: LO_OM_17a; LO_OM_17d; LO_OM_17c; LO_CL_15e

Source: Author's compilation

From Table 41 above, Component 1 contains all the questions that relate to the constructs for LO – Commitment to Learning and LO – Open-Mindedness. All the questions had a coefficient value of above 0.5, and the communalities value for the constructs were good. However, the two questions relating to LO_OM (LO_OM_17a & LO_OM_17d) were deleted as they were not related to commitment to learning.

Component 2 contains all the questions that relate to the constructs for LO – Shared Vision. All the five questions for shared vision had a coefficient value of above 0.6, and the communalities value for the construct was very good. However, the one question relating to LO_OM (LO_OM_17c) was deleted as it was not related to shared vision.

Component 3 contains all the questions that relate to TO – New Product Development. All the three questions for new product development had a coefficient value of above 0.8, and the communalities value for the construct was excellent as identified in section 5.5.2.1. Although two items tapping into the technological stance, i.e. aggressiveness were used in the questionnaire, these items cross-loaded heavily with new product development and were thus incorporated and joined together.

Component 4 contains all the questions that relate to TO – Automation and Process Innovation. All the three questions for automation and process innovation had a coefficient value of above 0.7, and the communalities value for the construct was excellent.

Component 5 contains a mixture of questions relating to LO – Open-mindedness. The questions that were included in this factor relate to Open-Mindedness (2 – LO_OM_17b; LO_OM_17e), Commitment to Learning (1 – LO_CL_15e), and Shared Vision (1 – LO_SV). All the questions had a coefficient value of above 0.5, and the communalities value for the construct was good. However, the 1 question relating to commitment to learning (LO_CL_15e) was deleted as it was not related to open-mindedness.

The hypotheses were formulated specifically in terms of five constructs which are TO – Automation and Process Innovation; TO – Technological Stance (incl. Aggressiveness and New Product Development; LO – Commitment to Learning; LO – Shared Vision; and LO – Open-Mindedness.

5.5.2. Instrument Reliability Tests

Cronbach's Alpha tests were performed for each of the constructs. The results showed that the measurement instrument was reliable. Not all the constructs had a

Cronbach's Alpha coefficient of at least 0.60 and as such some of the questions were deleted to improve the scores to an acceptable level. The scores for each construct are discussed in the following sections.

The overall Cronbach's alpha for the extension study was acceptable at 0.928, with 42 items being identified.

5.5.2.1. TO Cronbach's Alpha results

Reliability for the TO construct with 13 items is acceptable at a Cronbach's Alpha of 0.917. Reviewing the individual constructs for TO, the results shown in Table 42 show the scores for Cronbach's Alpha, which are all acceptable.

Table 42 – Cronbach's Alpha results for individual Constructs for TO

Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
TO_A	.884	.884	2
TO_AP	.878	.880	3
TO_NPD	.923	.923	3

Source: Author's compilation

For TO_A construct, the results show that deleting any of the items would not improve the Cronbach's Alpha as there are only two questions. In addition, the inter-item correlation matrix indicates that all items interact with one another. Therefore, all the questions for the construct corresponding to component 3 are appropriate and were used to test the hypotheses that relate to Technological stance. Because of the heavy loading onto the second factor, TO_A is joined with TO_NPD for further analysis.

Results for the construct TO_AP showed that deleting any of the items would not improve the Cronbach's Alpha. Therefore, all the questions for the construct corresponding to component 4 are appropriate and were used to test the hypotheses that relate to new product development.

The results show that deleting any of the items would not improve the Cronbach's Alpha. Therefore, all the questions for the construct are appropriate and were used to test the hypotheses that relate to TO – Automation and Process Innovation.

For the construct TO_NPD, the results show that deleting any of the items would not improve the Cronbach's Alpha. In addition, the inter-item correlation matrix indicates that all items interact with one another. Therefore, all the questions for the construct corresponding to component 3 are appropriate and were used to test the hypotheses that relate to Technological stance. Because of the heavy loading onto the second factor, TO_NPD is joined with TO_A for further analysis.

5.5.2.2. LO Cronbach's Alpha results

Reliability for the LO construct with 17 items is acceptable at a Cronbach's Alpha of 0.913. Reviewing the individual constructs for LO, the results shown in Table 43 show the scores for Cronbach's Alpha, which are all acceptable.

Table 43 – Cronbach's Alpha results for individual Constructs for LO

Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
LO_CL	.834	.860	6
LO_SV	.867	.876	6
LO_OM	.726	.746	5

Source: Author's compilation

For LO_CL construct, the results show that deleting any of the items would not improve the Cronbach's Alpha significantly. The inter-item correlation matrix indicates that all items interact with one another except LO_CL_15e, which has a very low correlation. It also did not correspond to the other questions concerning commitment to learning and was deleted. Therefore, five of the questions for the construct corresponding to component 1 are appropriate and were used to test the hypotheses that relate to commitment to learning.

For LO_SV construct, the results show that deleting any of the items would not improve the Cronbach's Alpha. Therefore, all the questions for the construct corresponding to component 2 are appropriate and were used to test the hypotheses that relate to LO – Shared Vision.

For LO_OM construct, the results show that deleting any of the items would not improve the Cronbach's Alpha. The inter-item correlation matrix indicates that not all the items interact with one another due to low correlations. Questions LO_OM_17a; LO_OM_17c; and LO_OM_17d all decrease the Cronbach's Alpha if

deleted and also do not correspond to the other questions. Therefore, only questions LO_OM_17b and LO_OM_17e for the construct corresponding to component 5 are appropriate and were used to test the hypotheses that relate to LO – Open-Mindedness.

5.5.2.3. Commitment to Sustainability Cronbach's Alpha results

Reliability for the Commitment to Sustainability (CtS) construct was the same as for the replication study and is discussed above in 5.4.2.5.

5.5.3. Descriptive Statistics

Descriptive statistics for each of the questions that make up a construct are given in the following sections are broken down into these two measures. Table 44 below displays the results for the replication study.

Table 44 – Descriptive statistics for the extension study

	Mean	Median	StdDev	Variances	#items	sum of item variance	variance of total scores
TO	3,293	3	1,080	1,165	8	9,228	48,143
TO_A	3,409	4	1,126	1,264	2	2,516	4,540
TO_AP	3,218	3	1,102	1,213	3	3,608	8,644
TO_NPD	3,289	3	1,019	1,036	3	3,105	8,060
LO	3,935	4	0,961	0,922	17	15,139	107,997
LO_CL	4,052	4	0,944	0,891	6	5,224	17,086
LO_SV	3,834	4	0,964	0,928	6	5,416	19,323
LO_OM	3,915	4	0,962	0,925	5	4,500	10,589
CtS	3,51	4	1,06	1,12	17	15,00	91,77

Source: Author's compilation

Descriptively from Table 42, it was found that the surveyed companies exhibited a higher degree of LO (mean = 3.935, SD = 0.961) than TO (mean = 3.293, SD = 1.080). Of the components of LO, commitment to learning us exhibited the highest mean (4.052, SD = 0.944) and of the TO components, aggressiveness exhibited the highest mean (3.409, SD = 1.126).

For individual questions, the results were evaluated and nothing out of the ordinary was found.

5.5.4. Multivariate Regression Analysis

The section below documents the results for each hypothesis and starts with checking for linearity via the scatter plots. This is followed by the results of strength-of-association, i.e. the Pearson's Correlation Coefficient. After this, the regression analysis is presented.

5.5.4.1. *The influence of TO on commitment to sustainability*

Linear regression analysis was used to test if TO positively influences commitment to sustainability. The scatter plot checks linearity, and in case of a positive outcome, the Pearson's bivariate correlation coefficient (r) is used as a statistical method to determine the strength-of-association between the two variables (Ratner, 2009). Figure 49 displays the result between MO and commitment to sustainability.

From Figure 50 below, a linear line seems probable, indicating a relationship between TO and commitment to sustainability. The equation was found for the relationship and was identified as $CtS = 47.96 + 0.45 TO$.

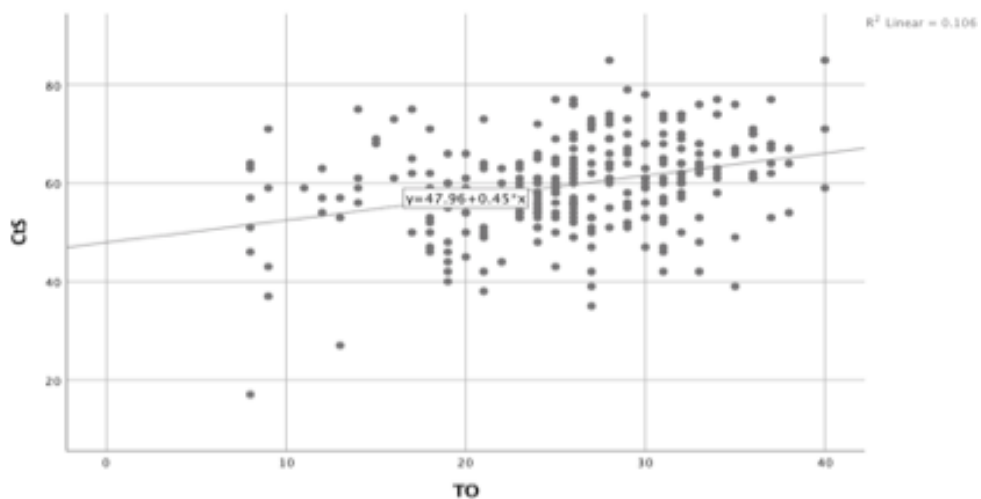


Figure 50 – Scatter plot for SP and commitment to sustainability

Source: Author's compilation

The results of the Pearson's Correlation Coefficient (r) between TO and commitment to sustainability are shown in Table 45 below and indicates a moderate relationship.

Table 45 – Pearson's Correlation between TO and commitment to sustainability

Correlations			
		CtS	TO
Pearson Correlation	CtS	1.000	.325
	TO	.325	1.000
Sig. (1-tailed)	CtS	.	.000
	TO	.000	.

The output of the regression is indicated in Table 46 below.

Table 46 – Linear regression for TO and commitment to sustainability

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.325 ^a	.106	.103	9.084

a Predictors: (Constant), TO

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2693.270	1	2693.270	32.640	.000 ^b
	Residual	22774.125	276	82.515		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), TO

Coefficients ^a					
Model	Unstandardized Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	47.955	2.125		22.566	.000
TO	.454	.079	.325	5.713	.000

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found ($F = 32.640, p < 0.001$) with an R^2 of 0.106. The correlation coefficient (R) of 0.325 indicates that TO is moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that TO explains 10.3% of the variability of commitment to sustainability. The regression coefficient is significant, with a p-value of less than 0.001. The null hypothesis is, therefore, rejected at the 1% level of significance.

The overall TO has been evaluated, and further analysis of the individual components was done to see which specific components influence commitment to sustainability. Reviewing the individual components for TO, Table 47 displays the results for each regression variable.

Table 47 – Linear regression analysis for TO individual components

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	47.693	2.127		22.426	.000
	TO_A	.313	.388	.069	.806	.421
	TO_AP	.136	.232	.043	.585	.559
	TO_NPD	.884	.285	.261	3.099	.002

a Dependent Variable: CtS

Source: Author's compilation

From Table 47 above, we can see that all the components significantly influence commitment to sustainability as its p-values = <0.001.

Therefore, in summary for TO, the results show that:

- TO, as a composite construct, does significantly influence commitment to sustainability.
- TO_A and TO_AP, as individual constructs, do not significantly influence commitment to sustainability.
- TO_NPD, as an individual construct, does significantly influence commitment to sustainability.

5.5.4.2. The influence of LO on commitment to sustainability

To determine if there is a linear relationship between LO and commitment to sustainability, a scatter plot is drawn. Figure 51 displays the result between LO and commitment to sustainability.

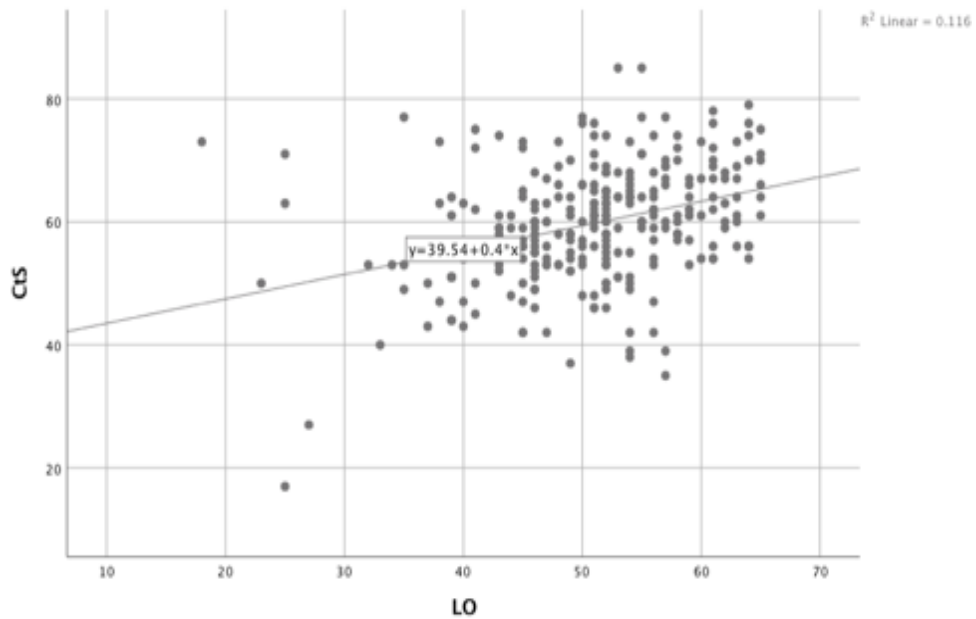


Figure 51 – Scatter plot for LO and commitment to sustainability (H6)

Source: Author's compilation

From Figure 53, a linear line seems probable, indicating a relationship between LO and commitment to sustainability. The equation was found for the relationship and was identified as $CtS = 39.54 + 0.40 LO$.

The results of the Pearson's Correlation Coefficient (r) between TO and commitment to sustainability are shown in Table 48 below and indicates a weak relationship.

Table 48 – Linear regression for H6

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.341 ^a	.116	.113	9.031

a Predictors: (Constant), LO

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2957.877	1	2957.877	36.268	.000 ^b
	Residual	22509.518	276	81.556		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), LO

Coefficients ^a					
Model	Unstandardized Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	39.543	3.389		11.668	.000
LO	.397	.066	.341	6.022	.000

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found ($F = 36.268, p < 0.001$) with an R^2 of 0.116. The correlation coefficient (R) of 0.341 indicates that LO is moderately correlated with commitment to sustainability. The adjusted R-square in the results indicates that LO explains 11.3% of the variability of commitment to sustainability. The regression coefficient is significant, with a p-value of less than 0.001. The null hypothesis is therefore rejected at the 1% level of significance.

The overall LO has been evaluated, and further analysis of the individual components was done to see which specific components influence commitment to sustainability. Reviewing the individual components for LO, Table 49 displays the results for each regression variable.

Table 49 – Linear regression analysis for LO individual components

Coefficients ^a						
Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	41.789	3.449		12.116	.000
	LO_CL	.152	.184	.060	.826	.409
	LO_SV	.789	.171	.364	4.626	.000
	LO_OM	-.435	.356	-.077	-1.221	.223

a Dependent Variable: CtS

Source: Author's compilation

From Table 49 above, we can see that LO_CL and LO_OM do not significantly influence commitment to sustainability. LO_SV significantly influence commitment to sustainability.

Therefore, in summary for LO, the results show that:

- LO, as a composite construct, does significantly influence commitment to sustainability.

- LO_CL and LO_OM, as individual constructs, do not significantly influence commitment to sustainability.
- LO_SV, as an individual construct, does significantly influence commitment to sustainability.

5.5.4.3. *Using the same regression format as Jansson et al. (2017)*

Jansson et al., (2017) conducted four types of regression analysis to test the hypotheses. This study followed the same regression analysis.

i. TO and LO as composite constructs (H5 and H6)

This study ran the regression analysis with TO and LO as composite constructs. To determine if there is a linear relationship between TO, LO and commitment to sustainability, a scatter plot is drawn. Figure 52 displays the result between the regression equation of TO and LO, and commitment to sustainability.

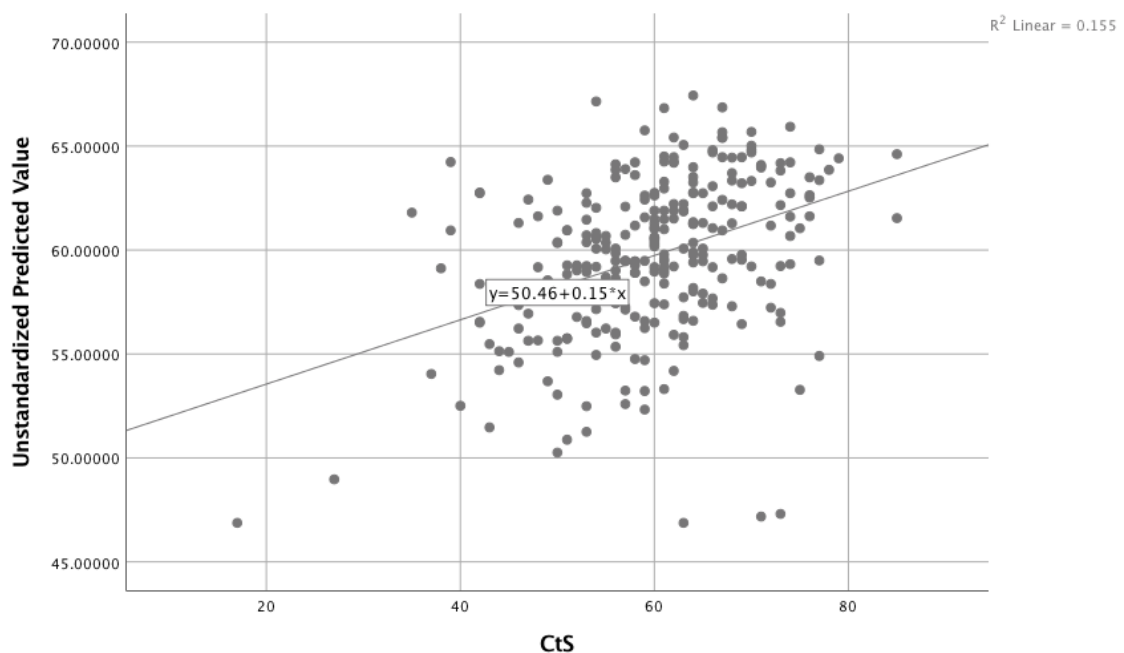


Figure 52 - Regression scatter plot for TO & LO

Source: Author's compilation

From Figure 52, a linear line seems probable, indicating a relationship between TO, LO and commitment to sustainability. The equation was found for the relationship and was identified as $CtS = 50.46 + 0.15 TO LO$.

The results of the Pearson's Correlation Coefficient (r) between TO and LO and commitment to sustainability are shown in Table 50 below and indicates a moderate relationship.

Table 50 – Linear regression analysis for TO individual components

Correlations				
		CtS	TO	LO
Pearson Correlation	CtS	1.000	.325	.341
	TO	.325	1.000	.436
	LO	.341	.436	1.000
Sig. (1-tailed)	CtS	.	.000	.000
	TO	.000	.	.000
	LO	.000	.000	.

Source: Author's compilation

There is a moderate relationship between TO and LO. The output of the regression is indicated in Table 51 below.

Table 51 – Linear regression analysis for H5 & H6

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.393 ^a	.155	.149	8.848

a Predictors: (Constant), LO, TO

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3938.936	2	1969.468	25.158	.000 ^b
	Residual	21528.460	275	78.285		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), LO, TO

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	37.293	3.381		11.031	.000
	TO	.304	.086	.218	3.540	.000
	LO	.286	.072	.246	3.989	.000

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found $F = 25.158$, $p < 0.001$) with an R^2 of 0.155. The correlation coefficient (R) of 0.393 indicates that TO & LO is moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that TO & LO explains 14.9% of the variability of commitment to sustainability.

The regression coefficient is significant, with a p-value of less than 0.001. The null hypothesis is, therefore, rejected at the 1% level of significance.

ii. Individual components of TO and LO and commitment to sustainability

In order to further examine the relationship and explore which parts of TO and LO contribute to commitment to sustainability, the individual components of TO and LO were tested. The output of the regression is indicated in Table 52 below.

Table 52 – Linear regression analysis for individual components TO & LO and commitment to sustainability

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.422 ^a	.178	.160	8.790

a Predictors: (Constant), LO_OM, TO_AP, LO_CL, TO_NPD, LO_SV, TO_A

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4527.351	6	754.558	9.765	.000 ^b
	Residual	20940.045	271	77.270		
	Total	25467.396	277			

a Dependent Variable: CtS

b Predictors: (Constant), LO_OM, TO_AP, LO_CL, TO_NPD, LO_SV, TO_A

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	39.259	3.514		11.174	.000
	TO_A	.018	.384	.004	.047	.962
	TO_AP	.053	.227	.017	.232	.816
	TO_NPD	.689	.281	.203	2.455	.015
	LO_CL	.051	.184	.020	.275	.784
	LO_SV	.625	.176	.288	3.559	.000
	LO_OM	-.296	.354	-.053	-.836	.404

a Dependent Variable: CtS

Source: Author's compilation

A significant regression equation was found $F = 9.765, p < 0.001$) with an R^2 of 0.781. The correlation coefficient R of 0.422 indicates that the variables are moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that all the variables explains 16.0% of the variability of commitment to sustainability. From Table 52, TO_NPD and LO_SV are significant with $p < 0.05$. All the other individual components of TO and LO were not significant.

Therefore, in summary for the individual components of TO & LO and commitment to sustainability, the results show that:

- The regression coefficient is significant, with a p-value of less than 0.001 for TO_NPD and LO_SV.
- The null hypothesis is, therefore, rejected at the 1% level of significance for TO_NPD and LO_SV.
- From the standardised betas in Table 52 above, it is evident that LO_SV contribute more than TO_NPD.

iii. MV and SP and commitment to sustainability (H3 and H4)

As it is exactly the same as for the replication study, refer to section 5.4.4.5 iii) above.

iv. TO and LO with other constructs (MV and SP)

To determine which parts of MO and EO contribute together with the other independent variables to explain commitment to sustainability, regression analysis was run. The output of the regression is indicated in Table 53 below.

Table 53 – Linear regression for individual components of TO and LO and MV and SP to explain commitment to sustainability

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.610a	.373	.349	7.736

a Predictors: (Constant), MV, LO_OM, TO_AP, SP_R, SP_C, SP_P, LO_CL, TO_NPD, LO_SV, TO_A

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9489.889	10	948.989	15.859	.000 ^b
	Residual	15977.506	267	59.841		
	Total	25467.396	277			

a Dependent Variable: Cts

b Predictors: (Constant), MV, LO_OM, TO_AP, SP_R, SP_C, SP_P, LO_CL, TO_NPD, LO_SV, TO_A

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	27.102	3.463		7.826	.000
	TO_A	-.094	.341	-.021	-.277	.782
	TO_AP	-.037	.201	-.012	-.187	.852
	TO_NPD	.426	.250	.126	1.703	.090
	LO_CL	.054	.164	.021	.333	.740
	LO_SV	.483	.161	.223	3.006	.003
	LO_OM	-.380	.314	-.068	-1.213	.226
	SP_C	.914	.273	.177	3.349	.001
	SP_R	.216	.108	.109	1.992	.047
	SP_P	.639	.119	.292	5.370	.000
	MV	.315	.137	.119	2.305	.022

a Dependent Variable: Cts

Source: Author's compilation

A significant regression equation was found ($F = 9.765, p < 0.001$) with an R^2 of 0.373. The correlation coefficient R of 0.610 indicates that the variables are moderately correlated to commitment to sustainability. The adjusted R-square in the results indicates that all the variables explain 34.9% of the variability of commitment to sustainability. From Table 53, LO_SV, SP_C, SP_R, SP_P, MV are significant with $p < 0.05$. All the other individual components of TO and LO were not significant.

In summary, the regression coefficient is significant for LO_SV, SP_C, SP_R, SP_P, and MV. The null hypothesis is therefore rejected at the 1% level of significance for these variables.

5.5.4.4. Summary of results for objective 2

The study hypothesised that TO and LO is positively related to commitment to sustainability among SMEs in South Africa. Regression analysis was conducted to verify this, and it was found that the results showed that there is a significant relationship between TO and commitment to sustainability, and between LO and commitment to sustainability. Thus, research objective two was shown to be valid, and the summary of the results is visually displayed in Figure 53 below.

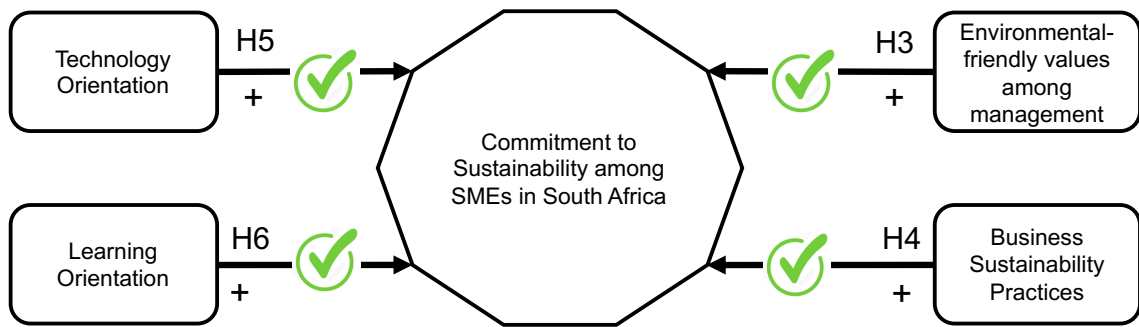


Figure 53 – Results from objective 2
Source: Author's compilation

The summary of the combined results for both objective 1 and 2 is visually displayed in Figure 54 below.

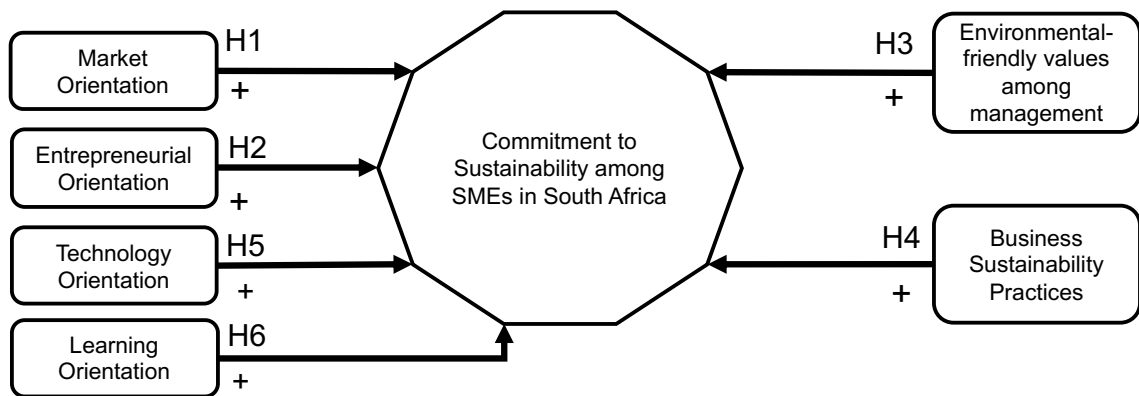


Figure 54 – Results from objective 1 and 2
Source: Author's compilation

5.6. EXTENSION STUDY PART 2 – LO AS MODERATOR OR AS MEDIATOR

For the final section of the analysis, moderation and mediation analyses were conducted using PROCESS, which is an add on to SPSS, which Andrew Hayes created (Hayes, 2013; Hayes, 2013a). Results for the hypotheses are discussed below and will begin with moderator effects and the mediator effects follow thereafter.

5.6.1. Moderator Effects

The section below determines whether LO has a moderator effect on the strategic orientation and commitment to sustainability. Moderation is shown by a significant interaction between variables. In interpreting the results for moderation, the

interaction (int_1) identifies the interaction effect. To determine if it is significant or not, the confidence intervals are examined to see if zero falls within the lower level confidence interval (LLCI) and the upper-level confidence interval (ULCI). If it does, then the interaction is not significant. If zero does not fall within those intervals, then the interaction effect is significant. In addition, a p-value of $p < 0.0001$ is significant.

5.6.1.1. *The moderator effect of LO on the relationship between MO and commitment to sustainability among SMEs in South Africa (H7a)*

The study hypothesises that LO has a moderator effect on the relationship between MO and commitment to sustainability. The results in Table 54 below indicate that the outcome variable (dependent variable) commitment to sustainability is significant as identified by the p-value, $p < 0.0001$. Under the model section:

- MO $b = 0.0420$, $t(274.0000) = 0.1174$, $p = 0.9066$ indicating that it is not significant
- LO $b = -0.2119$, $t(274.0000) = -0.7223$, $p = 0.4708$ indicating that it is not significant
- the interaction (int_1) value $b = 0.0093$, $t(274.0000) = 1.3046$, $p = 0.1931$ indicating that it is not significant
- in addition, zero (0) falls within the LLCI and ULCI (-0.0047 to 0.0233), indicating that it is not significant.
- The overall model: $F(3.0000;274.0000) = 21.4840$, $p = 0.0000$, $R^2 = 0.1904$.

Table 54 – PROCESS results of the moderator effect of LO on MO and commitment to sustainability

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.4364	.1904	75.2467	21.4840	3.0000	274.0000	.0000

Model						
	Coefficients	Std. Error	t	p	LLCI	ULCI
(Constant)	48.6269	13.8288	3.5164	.0005	21.4027	75.8511
MO	.0420	.3581	.1174	.9066	-.6630	.7471
LO	-.2119	.2933	-.7223	.4708	-.7893	.3656
Int_1	.0093	.0071	1.3046	.1931	-.0047	.0233

Source: Author's compilation

The interaction effect is visualised in Figure 55 below. LO is the moderator variable, the blue line indicates low-level LO effect, the red line indicates medium level LO effect, and green indicates high-level LO effect.

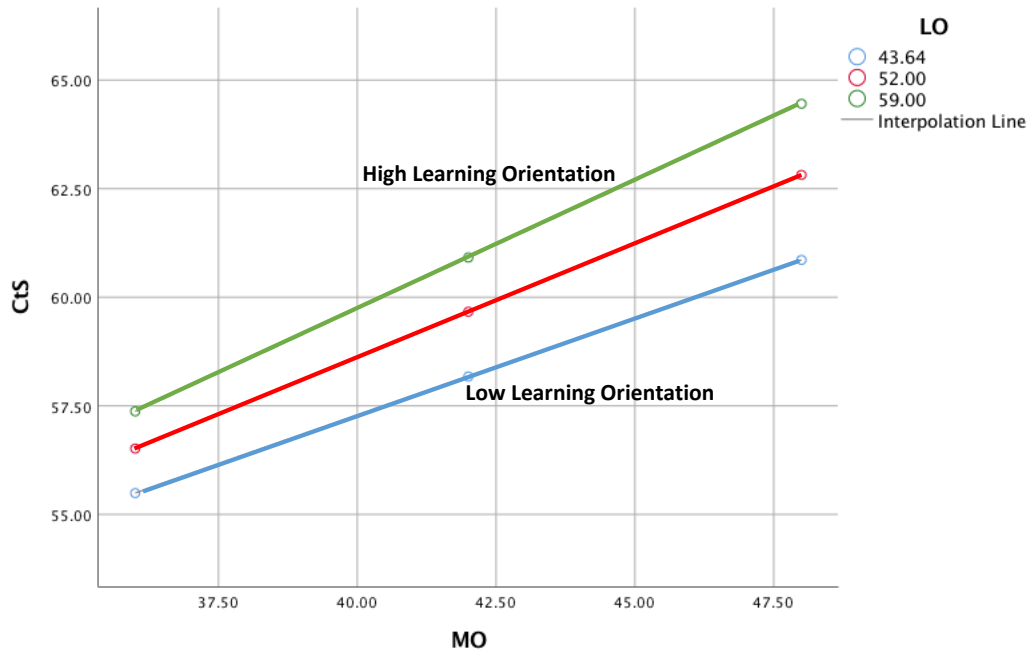


Figure 55 – Visualisation of LO effect on MO and commitment to sustainability
Source: Author's compilation

From Figure 56, there is no interaction between MO and commitment to sustainability through LO.

Therefore, based on the above results, LO is not a moderator of the relationship between MO and commitment to sustainability as there is:

- no interaction between the two variables;
- the p-values for MO, LO, and the interaction are above the standard (i.e. $p > 0.05$) and are not significant; and
- zero lies between the LLCI and ULCI indicating no interaction.

5.6.1.2. The moderator effect of LO on the relationship between EO and commitment to sustainability among SMEs in South Africa (H8a)

The study hypothesises that LO has a moderator effect on the relationship between EO and commitment to sustainability. The results in Table 55 below indicate that

the outcome variable (dependent variable) commitment to sustainability is significant as identified by the p-value, $p < 0.0001$. Under the model section:

- EO $b = 0.0738$, $t(274.0000) = 0.2157$, $p = 0.8293$ indicating that it is not significant
- LO $b = 0.0425$, $t(274.0000) = 0.2003$, $p = 0.8414$ indicating that it is not significant
- the interaction (int_1) value $b = 0.0058$, $t(274.0000) = 0.8831$, $p = 0.3780$ indicating that it is not significant
- in addition, zero (0) falls within the LLCI and ULCI (-0.0072 to 0.0189), indicating that it is not significant.
- The overall model: $F(3.0000; 274.0000) = 19.4878$, $p = 0.0000$, $R^2 = 0.1758$.

Table 55 – PROCESS results of the moderator effect of LO on EO and commitment to sustainability

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.4193	.1758	76.6021	19.4878	3.0000	274.0000	.0000

Model						
	Coefficients	Std. Error	t	p	LLCI	ULCI
(Constant)	44.8241	10.2790	4.3608	0.0000	24.5883	65.0598
EO	.0738	.3421	.2157	.8293	-.5997	.7473
LO	.0425	.2123	.2003	.8414	-.3755	.4606
Int_1	.0058	.0066	.8831	.3780	-.0072	.0189

Source: Author's compilation

The interaction effect is visualised in Figure 56 below. LO is the moderator variable, the blue line indicates low-level LO effect, the red line indicates medium level LO effect, and green indicates high-level LO effect. LO changes the interaction between EO and commitment to sustainability.

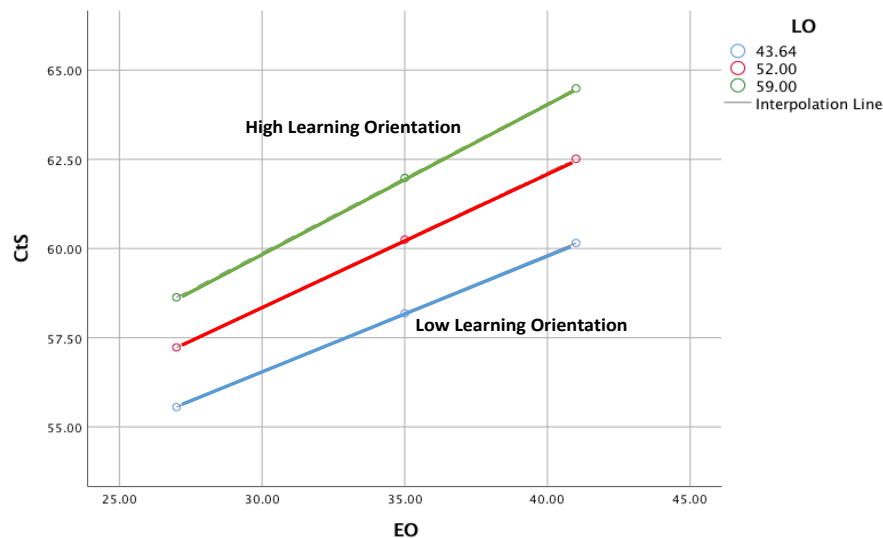


Figure 56 – Visualisation of LO effect on EO and commitment to sustainability
Source: Author's compilation

Therefore, based on the above results, LO is not a moderator of the relationship between EO and commitment to sustainability as there is:

- no interaction between the two variables as seen from the graph;
- the p-values for EO, LO, and the interaction are above the standard (i.e. $p > 0.05$) and are not significant; and
- zero lies between the LLCI and ULCI indicating no interaction.

5.6.1.3. The moderator effect of LO on the relationship between TO and commitment to sustainability among SMEs in South Africa (H9a)

The study hypothesises that LO has a moderator effect on the relationship between TO and commitment to sustainability. The results in Table 56 below indicate that the outcome variable (dependent variable) commitment to sustainability is significant as identified by the p-value, $p < 0.0001$. Under the model section:

- TO $b = .1942$, $t(274.0000) = 0.4689$, $p = 0.6395$ indicating that it is not significant
- LO $b = 0.2357$, $t(274.0000) = 1.1886$, $p = 0.2356$ indicating that it is not significant
- the interaction (int_1) value $b = 0.0022$, $t(274.0000) = 0.2715$, $p = 0.7862$ indicating that it is not significant
- in addition, zero (0) falls within the LLCI and ULCI (-0.0137 to 0.0180), indicating that it is not significant.
- The overall model: $F(3.0000; 274.0000) = 16.7398$, $p = 0.0000$, $R^2 = 0.1549$.

Table 56 – PROCESS results of the moderator effect of LO on TO and commitment to sustainability

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.3936	.1549	78.5499	16.7398	3.0000	274.0000	.0000

Model						
	Coefficients	Std. Error	t	p	LLCI	ULCI
(Constant)	39.7618	9.7015	4.0985	.0001	20.6629	58.8607
TO	.1942	.4141	.4689	.6395	-.6210	1.0094
LO	.2357	.1983	1.1886	.2356	-.1547	.6261
Int_1	.0022	.0081	.2715	.7862	-.0137	.0180

Source: Author's compilation

The interaction effect is visualised in Figure 57 below. LO is the moderator variable, the blue line indicates low-level LO effect, the red line indicates medium level LO effect, and green indicates high-level LO effect. LO changes the interaction between TO and commitment to sustainability.

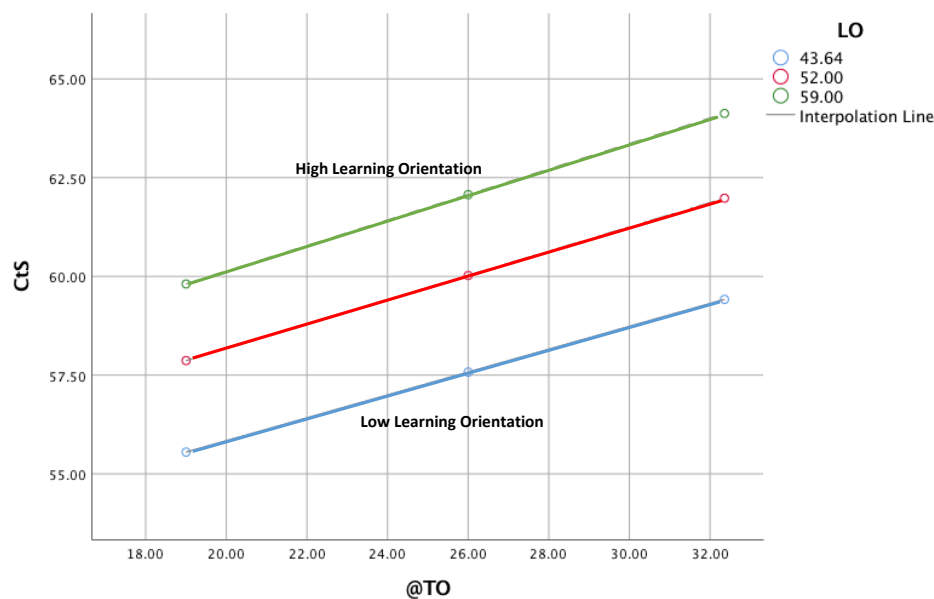


Figure 57 – Visualisation of LO effect on TO and commitment to sustainability

Source: Author's compilation

Therefore, based on the above results, LO is not a moderator of the relationship between EO and commitment to sustainability as there is:

- no interaction between the two variables as seen from the graph;

- the p-values for EO, LO, and the interaction are above the standard (i.e. $p > 0.05$) and are not significant; and
- zero lies between the LLCI and ULCI indicating no interaction.

5.6.1.4. Summary of results for the moderator effect

The study hypothesised that LO had a moderator effect on the relationship between MO, EO, TO and commitment to sustainability. Regression analysis was conducted to verify this, and it was found that the results showed no significant relationship between MO, EO, TO, and commitment to sustainability with LO as moderator. Thus, part of research objective three has proved not to be valid, and the summary of the results is visually displayed in Figure 58 below.

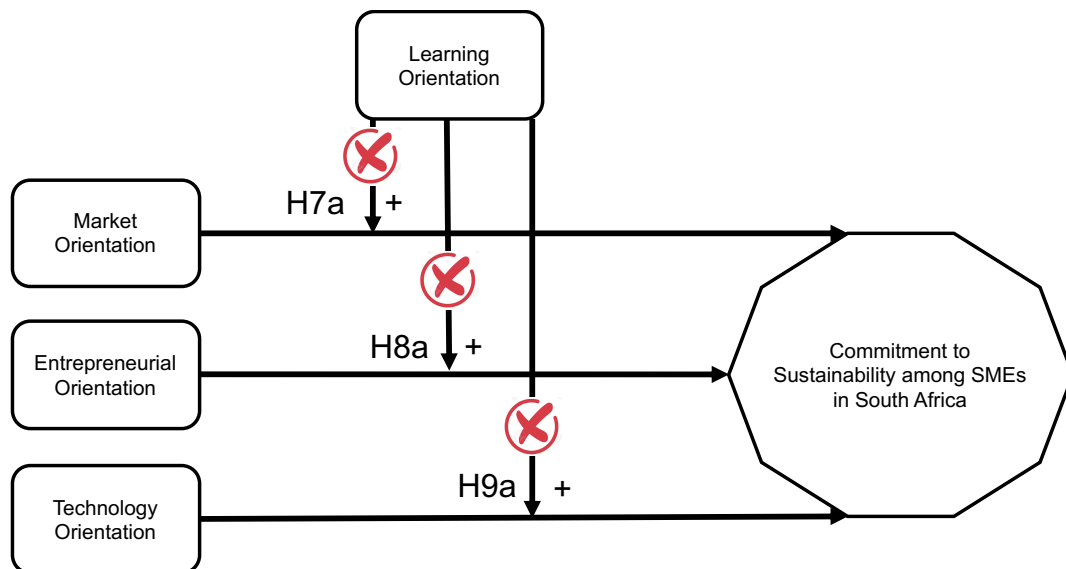


Figure 58 – Results from moderator effects

Source: Author's compilation

5.6.2. Mediator Effects

The section below determines whether LO has a mediator effect on the strategic orientation and commitment to sustainability. Whereas moderation alludes to the combined effect of two variables on an outcome, mediation refers to a situation when the relationship between a predictor variable and an outcome variable can be explained by their relationship to a third variable, i.e. the mediator (A. F. Hayes, 2013; Preacher & Hayes, 2004). Mediation has occurred if the strength of the relationship between the predictor and outcome is reduced by including the mediator (A. F.

Hayes, 2013). If zero falls outside the confidence interval, then the indirect effect is inferred to be non-zero (A. F. Hayes, 2013).

5.6.2.1. *The mediator effect of LO on the relationship between MO and commitment to sustainability among SMEs in South Africa (H7b)*

The study hypothesises that LO has a mediator effect on the relationship between MO and commitment to sustainability. The results are discussed in Table 57.

Table 57 – Regression for the mediation effect of LO on the relationship between MO and commitment to sustainability

OUTCOME VARIABLE: LO

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.6175	.3812	42.1791	170.0567	1.0000	276.0000	.0000

Coefficients						
Model	Coefficients	Std. Error	t	p	LLCI	ULCI
(Constant)	18.2642	2.5262	7.2300	.0000	13.2911	23.2372
MO	.7776	.0596	13.0406	.0000	.6602	.8949

OUTCOME VARIABLE: CtS

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.4306	.1854	75.4387	31.2952	2.0000	275.000	.0000

Coefficients						
Model	Coefficients	Std. Error	t	p	LLCI	ULCI
(Constant)	31.2364	3.6845	8.4779	.0000	23.9831	38.4897
MO	.4902	.1014	4.8354	.0000	.2906	.6898
LO	.1562	.0805	1.9399	.0534	-.0023	.3146

Source: Author's compilation

The results in Table 57 above indicate that the outcome variable LO is significant, as identified by the p-value, $p < 0.0001$. The path or direct effect from MO to LO was positive and statistically significant ($b = 0.7776$, $MSE = 0.0596$, $p < 0.001$). For the outcome variable CtS (commitment to sustainability) the direct effect from MO to CtS is positive and significant ($b = 0.4902$, $s.e. = 0.1014$, $p = < 0.001$), indicating that SMEs scoring higher on MO are more likely to have LO included than those scoring lower. The direct effect of LO on CtS is positive and significant ($b = 0.1562$, $s.e. =$

0.0805, $p = 0.0534$) indicating that SMEs scoring higher on LO are more likely to express an intention to commit to sustainability than those scoring lower on the measure. The direct and indirect effect of MO on CtS is displayed in Table 58.

Table 58 – Results of actual test for direct effect of MO on CtS

Direct effect of X on Y							
Effect	Std. Error	t	p	LLCI	ULCI	c'_ps	c'_cs
.4902	.1014	4.8354	.0000	.2906	.6898	.0511	.3346

Indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
LO	.1214	.0816	-.388	.2898

Partially standardised indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
LO	.0127	.0085	-.0040	.0300

Completely standardised indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
LO	.0829	.0552	-.0261	.1950

Source: Author's compilation

The results in Table 60 above indicate that the indirect effect is statistically not significant at 95% ($b = 0.1214$, $CI = -0.0388, 0.2898$). Figure 59 displays the strength of the direct and indirect effects of MO on CtS.

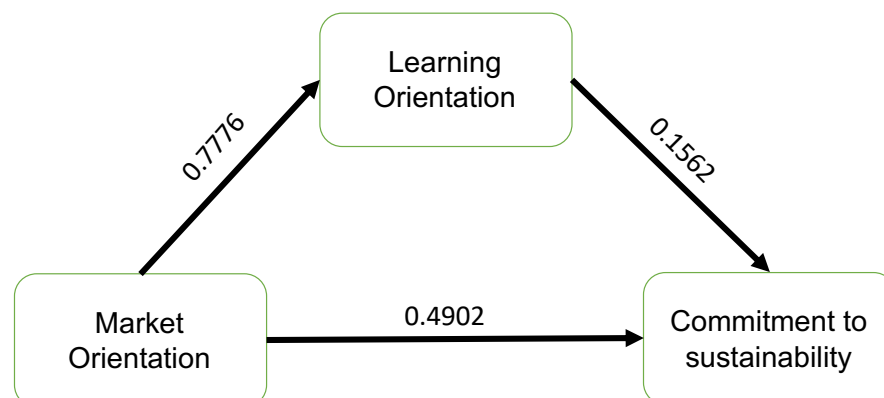


Figure 59 – Strength of direct and indirect effects of MO on CtS

Source: Author's compilation

Therefore, based on the above results, LO is not a mediator of the relationship between MO and commitment to sustainability as there is:

- The indirect effect is statistically not significant as zero falls between the LLCI and ULCI;
- Although the direct relationship between MO and commitment to sustainability is moderate (i.e. 0.4902), the mediated effect with LO is weak (0.127);

Regression analysis on the individual components of MO (i.e. MO_CP, MO_EF, and MO_CF) were done. The findings found that LO had a mediator effect on the relationship between MO_CP and commitment to sustainability, and between MO_CF and commitment to sustainability. MO_EF did not have LO as a mediator of the relationship between MO_EF and commitment to sustainability.

Therefore, based on the individual components of MO, it was found that:

- The indirect effect is statistically significant as zero falls between the LLCI and ULCI for MO-CP; and
- Thus, LO has a mediator effect on the relationship between MO_CP and commitment to sustainability
- The indirect effect is statistically NOT significant as zero falls between the LLCI and ULCI for MO-EF
- Thus, the null hypothesis is valid and LO has no mediator effect on the relationship between MO_EF and commitment to sustainability
- The indirect effect is statistically significant as zero falls between the LLCI and ULCI for MO-CF
- Thus, LO has a mediator effect on the relationship between MO_CF and commitment to sustainability

5.6.2.2. *The mediator effect of LO on the relationship between EO and commitment to sustainability among SMEs in South Africa (H8b)*

The study hypothesises that LO has a mediator effect on the relationship between EO and commitment to sustainability. The results are discussed in Table 59.

Table 59 – Regression for the mediation effect of LO on the relationship between EO and commitment to sustainability

OUTCOME VARIABLE: LO

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.5401	.2917	48.2842	113.6571	1.0000	276.0000	.0000

Coefficients						
Model	Coefficients	Std. Error	t	p	LLCI	ULCI
(Constant)	30.6178	1.9396	15.7856	.0000	26.7995	34.4361
EO	.5982	.0561	10.6610	.0000	.4877	.7086

OUTCOME VARIABLE: CtS

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.4165	.1735	76.5408	28.8649	2.0000	275.0000	.0000

Coefficients						
Model	Coefficients	Std. Error	t	p	LLCI	ULCI
(Constant)	36.3489	3.3687	10.7606	.0000	29.6172	42.8805
EO	.3667	.0839	4.3687	.0000	.2014	.5319
LO	.2177	.0758	2.8724	.0044	.0685	.3669

Source: Author's compilation

The results in Table 59 above indicate that the outcome variable LO is significant, as identified by the p-value, $p < 0.0001$. The path or direct effect from EO to LO was positive and statistically significant ($b = 0.5982$, $MSE = 48.2842$, $p < 0.001$). For the outcome variable CtS (commitment to sustainability) the direct effect from EO to CtS is positive and significant ($b = 0.3667$, $s.e. = 0.0839$, $p = < 0.001$), indicating that SMEs scoring higher on EO are more likely to have LO included than those scoring lower. The direct effect of LO on CtS is positive and significant ($b = 0.2177$, $s.e. = 0.0758$, $p = 0.0044$) indicating that SMEs scoring higher on LO are more likely to express an intention to commit to sustainability than those scoring lower on the measure. The direct and indirect effect of MO on CtS is displayed in Table 60.

Table 60 – Results of actual test for direct effect of EO on CtS

Direct effect of X on Y							
Effect	Std. Error	t	p	LLCI	ULCI	c'_ps	c'_cs
.3667	.0839	4.3687	.0000	.2014	.5319	.0382	.2846

Indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
LO	.1302	.0570	.2014	.2466

Partially standardised indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
LO	.0136	.0058	.0023	.0253

Completely standardised indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
LO	.1011	.0427	.0172	.1870

Source: Author's compilation

The results in Table 60 above indicate that the indirect effect is statistically significant at 95% ($b = 0.1302$, $CI = 0.2014, 0.2466$). Figure 60 displays the strength of the direct and indirect effects of EO on CtS.

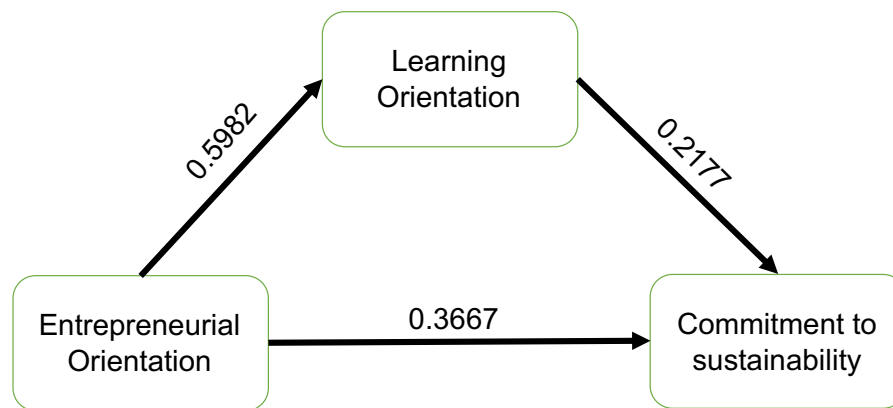


Figure 60 – Strength of direct and indirect effects of EO on CtS

Source: Author's compilation

Therefore, based on the above results, LO is a mediator of the relationship between EO and commitment to sustainability as there is:

- The indirect effect is statistically significant as zero falls between the LLCI and ULCI;
- Although the direct relationship between EO and commitment to sustainability is moderate (i.e. 0.3667), the mediated effect with LO is weak (0.1302);

5.6.2.3. *The mediator effect of LO on the relationship between TO and commitment to sustainability among SMEs in South Africa (H9b)*

The study hypothesises that LO has a mediator effect on the relationship between TO and commitment to sustainability. The results are discussed in Table 61.

Table 61 – Regression for the mediation effect of LO on the relationship between TO and commitment to sustainability

OUTCOME VARIABLE: LO

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.4359	.1900	55.2149	64.7463	1.0000	276.0000	.0000

Coefficients						
Model	Coefficients	Std. Error	t	p	LLCI	ULCI
(Constant)	37.2926	1.7384	21.4526	.0000	33.8704	40.7148
TO	.5225	.0649	8.0465	.0000	.3947	.6504

OUTCOME VARIABLE: CtS

Model Summary							
Model	R	R Square	MSE	F	df1	df2	p
1	.3933	.1547	78.2853	25.1576	2.0000	275.0000	.0000

Coefficients						
Model	Coefficients	Std. Error	t	p	LLCI	ULCI
(Constant)	37.2933	3.3807	11.0314	.0000	30.6381	43.9486
TO	.3042	.0859	3.5400	.0005	.1350	.4733
LO	.2859	.0717	3.9890	.0001	.1448	.4270

Source: Author's compilation

The results in Table 61 above indicate that the outcome variable LO is significant, as identified by the p-value, $p < 0.0001$. The path or direct effect from TO to LO was positive and statistically significant ($b = 0.5225$, $MSE = 55.2149$, $p < 0.001$). For the outcome variable CtS (commitment to sustainability) the direct effect from TO to CtS is positive and significant ($b = 0.3042$, $s.e. = 0.0859$, $p = < 0.001$), indicating that SMEs scoring higher on TO are more likely to have LO included than those scoring lower. The direct effect of LO on CtS is positive and significant ($b = 0.2859$, $s.e. = 0.0717$, $p = 0.0001$) indicating that SMEs scoring higher on LO are more likely to

express an intention to commit to sustainability than those scoring lower on the measure. The direct and indirect effect of MO on CtS is displayed in Table 62.

Table 62 – Results of actual test for direct effect of TO on CtS

Direct effect of X on Y							
Effect	Std. Error	t	p	LLCI	ULCI	c'_ps	c'_cs
.3042	.0859	3.5400	.0005	.1350	.4733	.0317	.2181

Indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
LO	.1494	.0524	.0551	.2582

Partially standardised indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
LO	.0156	.0052	.0059	.0260

Completely standardised indirect effect(s) of X on Y				
	Effect	BootSE	BootLLCI	BootULCI
LO	.1071	.0354	.0405	.1768

Source: Author's compilation

The results in Table 62 above indicate that the indirect effect is statistically significant at 95% ($b = 0.1494$, $CI = 0.0551, 0.2582$). Figure 61 displays the strength of the direct and indirect effects of TO on CtS.

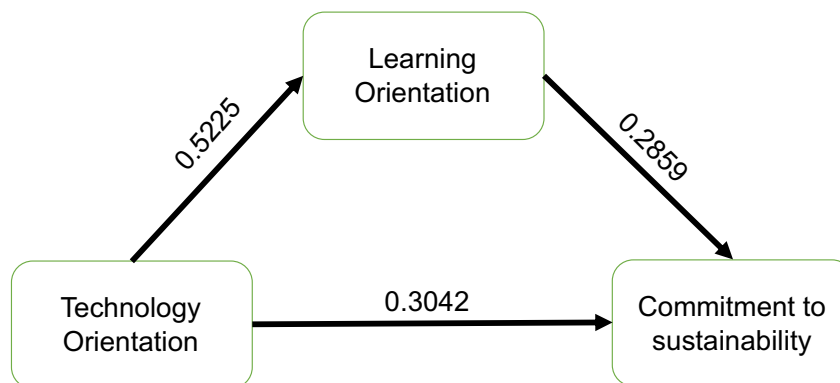


Figure 61 – Strength of direct and indirect effects of TO on CtS

Source: Author's compilation

Therefore, based on the above results, LO is a mediator of the relationship between TO and commitment to sustainability as there is:

- The indirect effect is statistically significant as zero falls between the LLCI and ULCI;

- Although the direct relationship between TO and commitment to sustainability is moderate (i.e. 0.3042), the mediated effect with LO is weak (0.1494);

5.6.2.4. Summary of results for the mediator effect

The study hypothesised that LO had a mediator effect on the relationship between MO, EO, TO and commitment to sustainability. This regression analysis showed no significant relationship between MO (as a whole) and commitment to sustainability with LO as a mediator. However, two components of MO showed significant relationship between MO_CP and MO_CF and commitment to sustainability with LO as a mediator. Regression analysis also showed a significant relationship between EO, TO, and commitment to sustainability with LO as mediator. Thus, objective three for mediation was shown not to be valid for MO but valid for EO and TO, and the summary of the results is visually displayed in Figure 62 below.

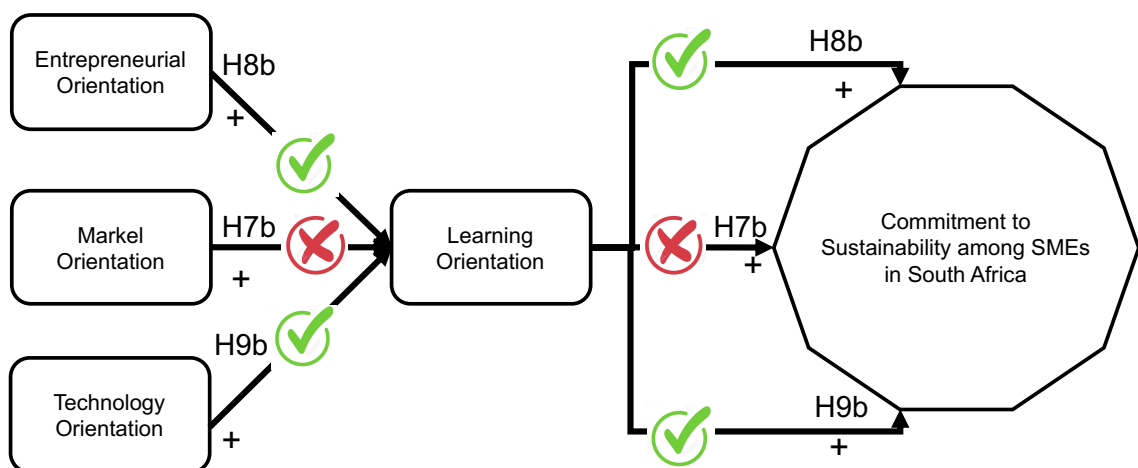


Figure 62 – Results from mediator effects

Source: Author's compilation

5.7. CONCLUSION

The results of this chapter based on the respondents of the survey questionnaire are summarised as follows:

- Demographics of the population provided descriptive information about the respondents.
- Objective 1: The results for the replication study provided an analysis of the behaviour of the independent and dependent variables. A regression analysis was used to investigate the hypotheses for the objective. Three of the

hypotheses were found to be significant and showed that MO, management values, and sustainability practices were positively related to commitment to sustainability. EO was found not to be significant, when combined with the other constructs. However, it was found that MO had a mediator effect on the relationship between EO and commitment to sustainability.

- Objective 2: The results for the extension study provided an analysis of two additional strategic orientations. A regression analysis was used to investigate the hypotheses for the objective. All the hypotheses were found to be significant and showed that TO and LO were positively related to commitment to sustainability.
- Objective 3: The results for the LO as moderator or as mediator study provided a regression analysis of both moderator and mediator relationships to investigate the effect of LO on the other strategic orientations and commitment to sustainability.
 - Moderator effect: Each of the hypotheses for the moderator effect of LO on the relationship between MO, EO, TO and commitment to sustainability were not significant and showed that LO was not a moderator between the relationships of MO, EO, TO, and commitment to sustainability.
 - Mediator effect: Two of the hypotheses for the mediator effect of LO on the relationship between EO, TO and commitment to sustainability were significant and showed that LO was a mediator between the relationships of EO, TO and commitment to sustainability. The hypotheses for the mediator effect of LO on the relationship between MO and commitment to sustainability was not significant and showed that LO was not a mediator between the relationship of MO and commitment to sustainability.
- The model for commitment to sustainability model is, therefore, depicted in Figure 63 below.

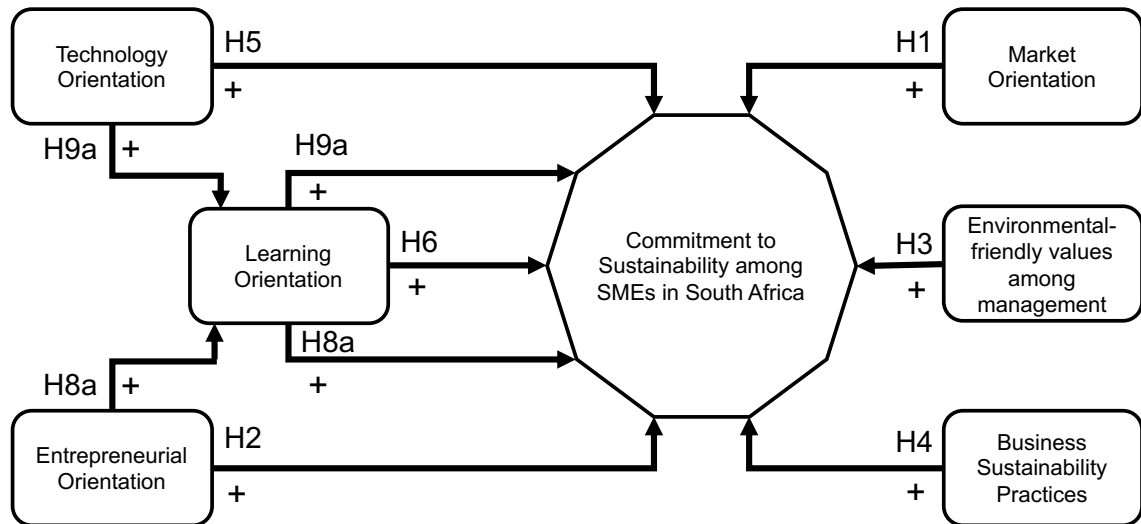


Figure 63 – Model for commitment to sustainability

Source: Author's compilation

The results presented in this chapter will be further discussed in Chapter 6 where a discussion with the literature is presented, including a comparison of the results of the original study by Jansson et al. (2017).

6. CHAPTER 6 – DISCUSSION

6.1. INTRODUCTION

This chapter discusses the key research results set-out in Chapter 5, with in the literature review in Chapter 2. The discussion is presented by sections and by hypothesis and contrasted to the key themes and constructs emerging from the literature reviewed. The discussion support, as well as provides new insights, which refines the existing body of literature on the influence of strategic orientations and management values on the commitment to sustainability among SMEs. The rest of the design of the layout for this section is shown in Figure 65 below. The chapter concludes with the summary diagram of the commitment to sustainability model.

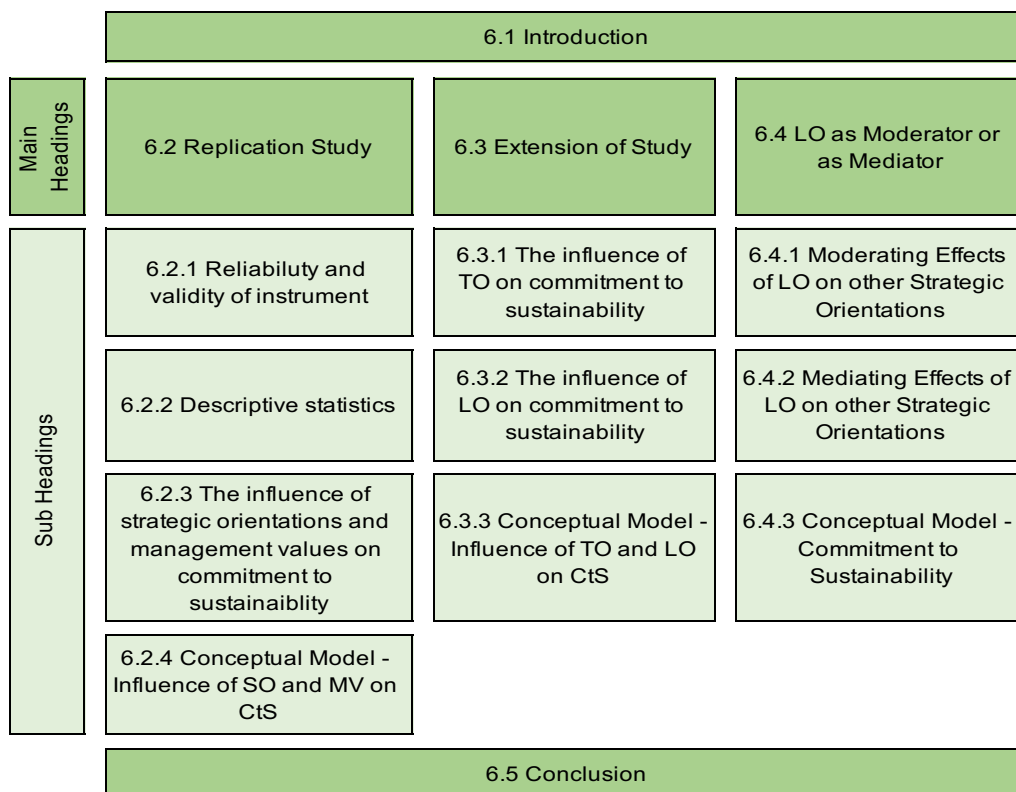


Figure 64 – Discussion summary

Source: Author's compilation

6.2. REPLICATION STUDY

6.2.1. Reliability and validity of instrument

As stated, reliability and validity are required for sound quantitative research (Brown, 2015). The suitability of the scales was assessed through a series of reliability and

validity tests and included Cronbach's Alpha, KMO and Bartlett's test for Sphericity, Exploratory Factor Analysis (EFA), and correlation analysis. Cronbach's Alpha provided the internal reliability of the instrument and values of 0.6 are deemed efficient (Bell et al., 2019). The EFA provided valuable insights concerning the scales used, as well as the components of the constructs and their relationships. The correlation analysis provided insights into the associations between the independent variables.

The reliability of the instrument used in this study was tested again as additional questions were added to the original instrument. The comparison between the instruments is displayed in Table 63 below.

Table 63 – Instrument reliability comparison

	Jansson et al. (2017)		This study (2019)	
	Items	Cronbach's α	Items	Cronbach's α
Dependent variable				
CtS, summated (CtS)	6	0.92	19	0.89
Independent variables				
MO, summated (MO)	8	0.73	11	0,82
Coordination & Planning (MO_CP)	3	0.78	5	0,80
External Focus (MO_EF)	2	0.83	2	0,86
Customer Focus (MO_CF)	3	0.75	4	0,82
EO,, summated (EO)	6	0.82	11	0,88
Risk Taking (EO_RT)	2	0.77	3	0,48
Proactiveness (EO_PA)	4	0.87	4	0,77
Market and Competitors (EO_MAC)			4	0,87
Proactiveness (EO_PA+EO_MAC)			8	0,89
MV, summated (MV)	4	0.62	4	0,69
SP, summated (SP)			13	0,81
Supply of sustainable products (SP_P)	4	0.83	5	0,87
Recycling in operations (SP_R)	3	0.73	4	0,83
Certification (SP_C)			2	0,63

Source: Author's compilation

From Table 63 above, the instrument for this study has more items per construct which adds richness to the questions and a more rounded view of each component. This is evidenced by this study achieving better Cronbach's Alpha scores for both MO and EO compared to the original study by Jansson et al. (2017). It was therefore, concluded that the measurement instrument was reliable and valid.

6.2.2. Descriptive Statistics

The comparison between the descriptive stats is displayed in Table 64 below.

Table 64 – Comparison of descriptive statistics

	Jansson et al. (2017)		This study (2019)	
	Mean	SD	Mean	SD
Dependent variable				
CtS, summated (CtS)	3.39	0.92	3.51	1.06
Independent variables				
MO, summated (MO)	3.81	0.59	3.81	1.05
Coordination & Planning (MO_CP)	3.64	0.93	3,59	1,11
External Focus (MO_EF)	3.85	0.85	3.78	0.96
Customer Focus (MO_CF)	3.96	0.77	4,09	0,95
EO,, summated (EO)	2.96	0.86	3.38	1.09
Risk Taking (EO_RT)	2.81	0.98	3.37	1.00
Proactiveness (EO_PA)	3.04	1.00	3,32	1,12
MV, summated (MV)	3.86	0.75	2,6	1,32
SP, summated (SP)			2,99	1,45
Supply of sustainable products (SP_P)	2.28	1.09	3,56	1,08
Recycling in operations (SP_R)	3.79	1.11	3	1,51
Certification (SP_C)			1,57	1,12

Source: Author's compilation

Descriptively, from Table 64 above it can be seen that for both the original study by Jansson et al. (2017) and this study (2019) that the surveyed SMEs exhibited a higher degree of MO (mean = 3.81 & 3.81; SD = 0.59 & 1.05) than EO (mean = 2.96 & 3.38; SD = 0.86 & 1.09). From the comparison this study exhibited a higher EO than the Jansson et al. study possibly due to the SMEs industry being more financial and business services related. Of the components of MO, customer focus achieved the highest mean (mean = 4.09; SD = 0.96), which is similar to the findings of Jansson et al. (mean = 3.96; SD = 0.77). Of the EO components, unlike Jansson et al. that found proactiveness as having the highest mean (mean = 3.04; SD = 1.00), this study found risk taking as having the highest mean (mean = 3.37; SD = 1.00). For the components of sustainability practices, supply of sustainable products (sustainability practices) had the highest mean for this study (mean = 3.56; SD = 1.08) compared to the study by Jansson et al. that found recycling in operations as having the highest mean (mean = 3.79; SD = 1.11). This could be due to this study that found the surveyed SMEs actively focussed on the practical aspects of sustainability more than just recycling.

6.2.3. Influence of strategic orientation and management values on commitment to sustainability

The purpose of the study was to replicate the study conducted by Jansson et al. (2017) within a different geographical area, namely South African, as proposed by Jansson et al. (2017) in their suggestions for further research. The study was to assess how MO, EO, environmental-friendly values among management, and business sustainability practices were related to commitment to sustainability in SMEs. Overall, the results show support for all four of the hypotheses, indicating that MO, EO, environmental-friendly values among management, and sustainability practices are related to commitment to sustainability in SMEs. The findings also show that one component of MO (coordination and planning) and one component of EO (risk taking) explain commitment to sustainability over the other components in MO and EO. This is research objective 1, as shown in Figure 65 below.



Figure 65 – Objective 1
Source: Author's compilation

The researcher will now compare between the Jansson et al. (2017) study in Sweden and this study in South Africa.

6.2.3.1. The influence of MO and EO on commitment to sustainability (H1 and H2)

The results of this study confirm the relationships between MO and EO and commitment to sustainability. Findings for the two hypotheses, which were proven through the findings, are displayed in Table 65 below and are compared to the original study.

Table 65 – MO and EO comparison

	Jansson et al. (2017)			This Study (2019)		
	Composite Model			Composite Model		
	β	t	Sig.	β	t	Sig.
MO, summated (MO)	0.348	4.74	0.000	0.290	4.255	0.000
EO,, summated (EO)	0.267	5.32	0.000	0.208	3.051	0.000
F	40.00		0.000	34.65		0.000
Adjusted R ²	0.148			0.195		

Source: Author's compilation

From table 65, both MO and EO are significant as their p-values <0.000. Both studies MO findings are stronger than compared to EO findings when compared to commitment to sustainability. The MO relationship in the study by Jansson is slightly stronger ($\beta = 0.348$) than this study ($\beta = 0.290$), and the EO relationship is stronger in the Jansson study ($\beta = 0.267$) than in this study ($\beta = 0.208$). Therefore, the findings confirm the relationship.

Further analysis of MO and EO components showed that not all components of MO and EO contribute equally to commitment to sustainability. Table 66 displays the results of the individual components.

Table 66 – Individual MO and EO comparison

	Jansson et al. (2017)			This Study (2019)		
	Factor model			Factor model		
	β	t	Sig.	β	t	Sig.
Coordination & Planning (MO_CP)	0.210	4.30	0.000	0.247	3,782	0.000
External Focus (MO_EF)	0.067	1.36	0.174	0.007	0.123	0.902
Customer Focus (MO_CF)	0.021	0.40	0.690	0.102	1.641	0.102
Risk Taking (EO_RT)	-0.030	-0.68	0.495	0.166	2.588	0.010
Proactiveness (EO_PA)	0.251	5.29	0.000	0.048	0.570	0.569
F	19.15		0.000	12.785		0.000
Adjusted R ²	0.168			0.203		

Source: Author's compilation

From table 66, the findings show that for MO, coordination and planning has a significant relationship with commitment to sustainability. This study found a slightly stronger relationship for coordination and planning ($\beta = 0.247$) than the Jansson et al. (2017) study ($\beta = 0.210$). The reason for this could be that a larger number of financial and business services SMEs responded, which are to a larger extent familiar with coordination and planning functions and amongst customers, since other companies were their primary customers. The fact that coordination and

planning was significant could be due to the fact that a large part of sustainability implementation involves more coordination and planning different functions and groups. This would be beneficial to SMEs. Similar to the Jansson et al. (2017) study, was the fact that external focus and customer focus were not significant and had no contribution to commitment to sustainability.

The findings also show that for EO, risk taking had a significant relationship with commitment to sustainability for this study, compared with the Jansson et al. (2017) study that showed EO, proactiveness, as having a significant relationship with commitment to sustainability. Risk taking, in this study, had a strong, positive relationship ($\beta = 0.2588$) compared with Jansson's study that had a negative insignificant relationship ($\beta = -0.030$). Whereas Jansson et al. (2017) found that risk taking by SMEs was an undesirable factor, SMEs in South Africa desired to take risks. The reason for this is that SMEs in South Africa, like in many developing markets, primarily focus on growth and profitability (Urban, 2010). Because of the larger percentage of very small SMEs that responded to this survey questionnaire, risk taking is taken more seriously from a survival aspect (Le Fleur et al., 2014; Research, 2016; SEDA, 2018). SMEs that take risks can have a competitive advantage over their competitors and for them taking a risk on sustainability, may benefit them in the long run from a business perspective. By implementing sustainability initiatives and practices, as identified by other studies (Struwig & Lillah, 2017), SMEs in South Africa have shown intention to commit to sustainability. This study further corroborates this from the findings on commitment to sustainability.

For proactiveness, Jansson's study has a positive, significant relationship ($\beta = 0.251$) compared with this study ($\beta = 0.0048$). In the study by Jansson et al., 2017 and others (Aragón-Correa et al., 2008; Aragón-Correa & Sharma, 2003), proactiveness is strongly argued for, stating that it enables companies to act on opportunities in the marketplace before their competitors. It is seen that, given that sustainability is becoming more prominent, proactive companies lead and act on sustainability related issues. In South Africa, SMEs were found to be proactive by some studies (Oni et al., 2019), however, not being displayed in this study.

6.2.3.2. The influence of MV and SP on commitment to sustainability (H3 and H4)

Going further and reviewing management values and sustainability practices, the results of this study confirm the relationships between MV and SP and commitment to sustainability. Findings for the two hypotheses, which were proven through the findings, are displayed in Table 67 below.

Table 67 – MV and SP comparison

Jansson et al. (2017)	Jansson et al. (2017)			This Study (2019)		
	Composite Model			Composite Model		
	β	t	Sig.	β	t	Sig.
MV, summated (MV)	0.094	1.89	0.059	0.158	3.168	0.002
Supply of sustainable products (SP_P)	0.262	7.52	0.000	0.293	5.532	0.000
Recycling in operations (SP_R)	0.148	4.27	0.000	0.099	1.873	0.062
Certification (SP_C)				0.127	2.507	0.013
F	38.92		0.000	39.927		0.000
Adjusted R ²	0.297			0.360		

Source: Author's compilation

In looking at sustainability, the behaviour of managers and the influence of management attitudes and values (Jenkins, 2009; Schaefer, Williams, & Blundel, 2018; Williams & Schaefer, 2013) needs to be looked at. The study therefore included environmental-friendly values among management and the findings show that for this study it is positive and significant ($\beta = 0.158$), compared to the study by Jansson et al. (2017), who did not find them significant ($\beta = 0.094$). The reason for this could be that the responses for this study largely came from very small to micro SMEs where there were less than 10 people within the business. This could explain individual opinions and attitudes being more important for the behaviour of the company than in larger companies. In the South African context, environmental-friendly values among management is driven by owners and senior executives, who have graduate or postgraduate qualifications, and may be more prone to having sustainability at the forefront of their minds.

From a business sustainability practices perspective, the findings show that unlike Jansson et al. (2017) that found recycling in operations ($\beta = 0.148$) and supply of sustainable products ($\beta = 0.262$) as significant in terms of sustainability practices, this study found that recycling in operations was not significant as p-value = 0.062 and that supply of sustainable products as significant ($\beta = 0.293$). This study also

found that certification is significant to commitment to sustainability ($\beta = 0.127$), which was omitted from the questions in the Jansson et al. (2017) study. One of the reasons that recycling may not be significant is that it is in its infancy stage in South Africa. Government initiatives such as the Green campaign (Stadium, 2019), has only recently been endorsed by President Ramaphosa. Recycling facilities are not as ubiquitous as in developed countries like Sweden, where recycling is a habit. Sustainability practices are however, improving in South Africa and that could explain the significance to commitment to sustainability by the supply of sustainable products component. Certification in addition, is becoming more and more of a requirement and most companies are starting to discuss and embark on sustainability certification as shown in the findings. This is in line with previous research (Cassells & Lewis, 2011, 2019; Lewis, Cassells, & Roxas, 2015; Struwig & Lillah, 2017)

Further analysis of individual MO and EO components with other constructs showed that not all components of MO and EO contribute equally to commitment to sustainability. Table 68 displays the results of the individual components.

Table 68 – MO and EO with other constructs (MV and SP) comparison

	Jansson et al. (2017)			This Study (2019)		
	Factor model			Factor model		
	β	t	Sig.	β	t	Sig.
Coordination & Planning (MO_CP)	0.153	3.38	0.001	0.129	2.149	0.033
External Focus (MO_EF)	0.066	1.44	0.150	0.057	1.047	0.296
Customer Focus (MO_CF)	0.008	0.17	0.864	0.133	2.362	0.019
Risk Taking (EO_RT)	-0.001	-0.03	0.978	0.118	2.005	0.046
Proactiveness (EO_PA)	0.188	4.24	0.000	-0.002	-0.024	0.981
MV, summated (MV)	0.089	1.80	0.073	0.141	2.737	0.007
Supply of sustainable products (SP_P)	0.250	7.13	0.000	0.292	5.413	0.000
Recycling in operations (SP_R)	0.146	4.24	0.000	0.099	1.848	0.066
Certification (SP_C)				0.142	2.748	0.006
F	25.56		0.000	17.356		0.000
Adjusted R ²	0.304			0.371		

Source: Author's compilation

Analysing all the individual components of MO and EO, together with the other independent components show that for MO, coordination and planning ($\beta = 0.129$) and customer focus ($\beta = 0.133$) are significant and positive for this study. Conversely the study for Jansson et al. (2017) showed that only coordination and planning ($\beta = 0.153$) was significant. The reason why this study showed both coordination and

planning and customer focus as having a significant relationship to commitment to sustainability could be that the SMEs in South Africa see sustainability as being a customer requirement and therefore are coordinating and planning on implementing sustainability within their companies. For EO, risk taking is significant for this study and proactiveness for the Jansson et al. (2017) study. Although Neneh & Van Zyl (2017) found a weak propensity of South African SMEs to take business risks, this study found that risk-taking in South African SMEs when it comes to sustainability is significant. Sustainability may be perceived to have a higher pay-off than other areas.

In conclusion, the findings support all the hypotheses indicating that MO (H1), EO (H2), environmental-friendly values among management (H3), and business sustainability practices (H4) are related to commitment to sustainability in SMEs in South Africa. This differs from the study of Jansson et al. (2017) where they found only three of the four hypotheses and found that environmental-friendly values among management not to be related to commitment to sustainability (H3). This study, like the of Jansson et al. (2017), found that not all the component of MO and EO explain commitment to sustainability. For MO, coordination and planning was found to explain commitment to sustainability for both studies. When run all together, this study found that, in addition, customer focus also explains commitment to sustainability because of the focus that SMEs in South Africa have on the customer. For EO, both studies concluded that different components explain commitment to sustainability - the study by Jansson et al. (2017) found that proactiveness explained commitment to sustainability, whilst this study found that risk taking explained commitment to sustainability.

6.2.4. Conceptual Model

For objective 1, the results have confirmed all the hypothesis. The conceptual framework can, therefore, be translated into the Model for Strategic Orientations and Management Values in relation to commitment to sustainability displayed in Figure 66 below.

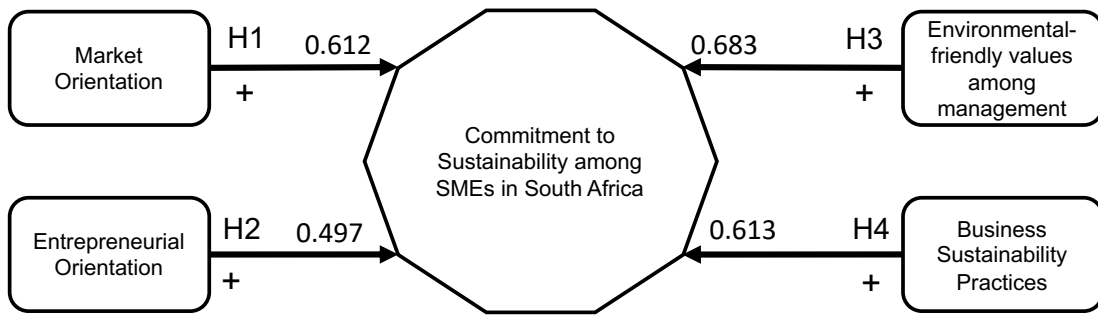


Figure 66 – Conceptual Model of objective 1

Source: Author's compilation

6.3. EXTENSION STUDY PART 1

The purpose of the study was to review two additional strategic orientations, i.e. TO and LO and assess how they related to commitment to sustainability in SMEs. This forms part of objective two, as shown in Figure 67 below.

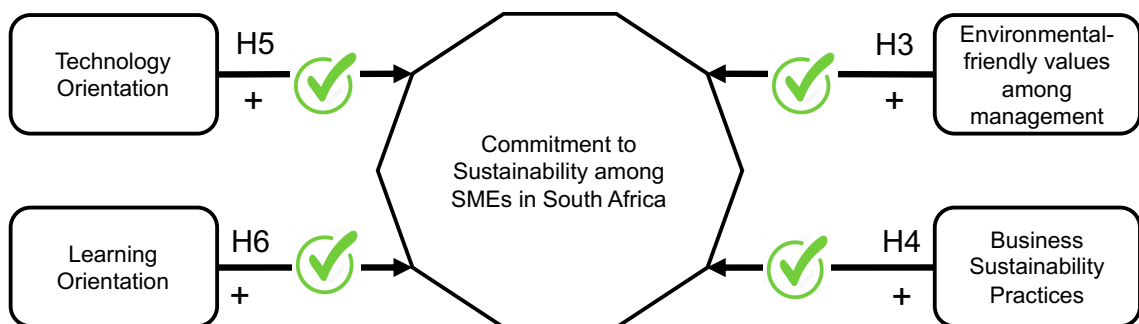


Figure 67 – Conceptual Model of objective 2

Source: Author's compilation

Overall, the results support all the hypotheses indicating that TO and LO are related to commitment to sustainability in SMEs in South Africa. This study found that all the component of TO and one component of LO (open-mindedness) explain commitment to sustainability over the other components in TO and LO and is objective 2.

6.3.1. The influence of TO and LO on commitment to sustainability (H5 and H6)

The results of this study confirm the relationships between TO and LO and commitment to sustainability. Findings for the two hypotheses, which were proven through the findings, are displayed in Table 69 below.

Table 69 – TO and LO comparison

	Composite Model		
	β	t	Sig.
TO, summated (TO)	0.218	3.540	0.000
LO,, summated (LO)	0.246	3.989	0.000
F	25.158		0.000
Adjusted R ²	0.149		

Source: Author's compilation

From table 69, both TO and LO are significant as their p-values <0.000. This study's LO findings ($\beta = 0.246$) are stronger than compared to TO findings ($\beta = 0.218$), when compared to commitment to sustainability.

Looking at the findings for TO, previous studies (Aminu & Shariff, 2017; Gao et al., 2007; Gatignon & Xuereb, 1997) have found a significant relationship between TO and business innovation performance. A high level of TO is required to maintain superior performance (Aminu & Shariff, 2017). Lee et al. (2013) agree that most firms maintain competitive fairness by using technologies to improve operational effectiveness, to create value, and to enhance consumer sensitivities to service quality. This is further substantiated as technology-oriented companies have the ability and will to acquire a substantial technological background and use it in the development of new products (Gatignon & Xuereb, 1997). Technological advancements create business opportunities and a competitive edge as companies use their technical knowledge to build new technical solutions to answer and meet the needs of the users (Grinstein, 2008; Hakala, 2011). Therefore, a company that has a positive TO, creates a competitive advantage. The findings confirm the relationships with commitment to sustainability and the hypotheses H5.

The findings show a slightly higher LO than TO. The capability of organisations to learn is seen as a competitive advantage (Frank et al., 2012). Narver & Slater (1990) identified that market-oriented businesses must develop a learning orientation culture to be competitive. Any organisation acting in a dynamic environment, therefore, needs to advance its knowledge base. A higher LO in SMEs in South Africa could advance the potential of increasing the knowledge base. The adoption of a learning orientation results in a positive effect on organisational commitment (Farrell, 1999). The assumption is that companies focused on the market will pick up on increasing environmental demands from customers and society in general and

will have to adapt to these changes through learning. Given the importance of LO to a company's long-term goals, strategies and activities, LO could also explain how companies address sustainability and environmental aspects of their operations (Frank et al., 2012). By incorporating sustainability into LO, a competitive advantage is created as the goal of strategic alignment of sustainability is achieved. The positive findings of this study confirm the hypothesis and thus the relationship between LO and commitment to sustainability.

Further analysis of TO and LO components showed that not all components of TO and LO contribute equally to commitment to sustainability. Table 70 displays the results of the individual components.

Table 70 – Individual TO and LO comparison

	Factor model		
	β	t	Sig.
Aggressiveness (TO_A)	0.004	0.047	0.962
Automation and Process Innovation (TO_AP)	0.017	0.232	0.816
New Product Development (TO_NPD)	0.203	2.455	0.015
Commitment to Learning (LO_CL)	0.020	0.275	0.784
Shared Vision (LO_SV)	0.288	3.559	0.000
Open-Mindedness (LO_OM)	-0.053	-0.836	0.404
F	9.765		
Adjusted R ²	0.160		

Source: Author's compilation

From table 70, the findings show that for TO, new product development ($\beta = 0.203$) there is a significant relationship with commitment to sustainability. According to Gatignon & Xuereb, (1997) technology oriented companies use their acquired technological background in the development of new products. The reason for new product development being significant on commitment to sustainability could be that a larger number of financial and business services SMEs responded, which have to come up with new products and services to be ahead of their competitors.

Further analysis of individual TO and LO components with other constructs showed that not all components of TO and LO contribute equally to commitment to sustainability. Table 71 displays the results of the individual components.

Table 71 – TO and LO with other constructs (MV and SP) comparison

	Factor model		
	β	t	Sig.
Aggressiveness (TO_A)	-.021	-.277	.782
Automation and Process Innovation (TO_AP)	-.012	-.187	.852
New Product Development (TO_NPD)	.126	1.703	.090
Commitment to Learning (LO_CL)	.021	.333	.740
Shared Vision (LO_SV)	.223	3.006	.003
Open-Mindedness (LO_OM)	-.068	-1.213	.226
Supply of sustainable products (SP_P)	.292	5.370	.000
Recycling in operations (SP_R)	.109	1.992	.047
Certification (SP_C)	.177	3.349	.001
Management Values (MV)	.119	2.305	.022
F	15.859		
Adjusted R ²	0.373		

Source: Author's compilation

Analysing all the individual components of TO and LO, together with the other independent components show that for LO, shared vision is significant for commitment to sustainability. As shared vision is an organisation-wide focus on learning, if a shared vision is not established, learning will be meaningless (Jyoti & Dev, 2015; Sinkula et al., 1997). Shared vision is usually communicated throughout an organisation and for SMEs in South Africa, this would be easier to do within a small company.

The findings show that for TO, none of the components (i.e. aggressiveness, automation and process innovation, and new product development) there is no significant relationship between them and commitment to sustainability. This is when run with all the other components. The reason for none of the TO components being significant, when run with the other components, may be that the other components may affect the them and may have a moderating or mediating effect upon them.

The findings also show that all the individual components of sustainability practices (i.e. supply of sustainable products, recycling in operations, and certification) are significant for commitment to sustainability. This may be facilitated and enhanced in a learning-oriented environment. The shared vision component may bring the sustainability practices into its creation and thus may influence the relationship with commitment to sustainability.

Management values also was found to have a significant influence on commitment to sustainability. This may be due to SMEs not being intentional, but rather reactive where they stumble protecting the environment as a by-product as identified by Ahinful et al., (2019) and Cassells & Lewis (2011). A learning-oriented environment may, therefore, be beneficial for establishing and redefining the attitudes and behaviours of management making them to think green. The ecopreneur, as Masurel (2007) refers to them as, radically transforms the sector in which they operate making a living and solving for environmental problems. The link between management values and sustainability practices has, therefore, been shown as essential and significant in commitment to sustainability.

In conclusion, the findings support both hypotheses indicating that TO (H5), LO (H6), environmental-friendly values among management (H3), and business sustainability practices (H4), are related to commitment to sustainability in SMEs in South Africa. Furthermore, this study found that not all individual components of TO and LO explain commitment to sustainability. When run all together, this study found that new product development (TO) also explained commitment to sustainability. However, this was negated when it was run together with all the other components (i.e. MV and SP). For LO, this study found that shared vision explained commitment to sustainability and this was possibly due to the size of the SMEs allowing for better communication throughout.

6.3.2. Conceptual model objective 2

For objective 2, the results have confirmed all the hypothesis. The conceptual framework can, therefore, be translated into the TO and LO in relation to commitment to sustainability displayed in Figure 66 below.

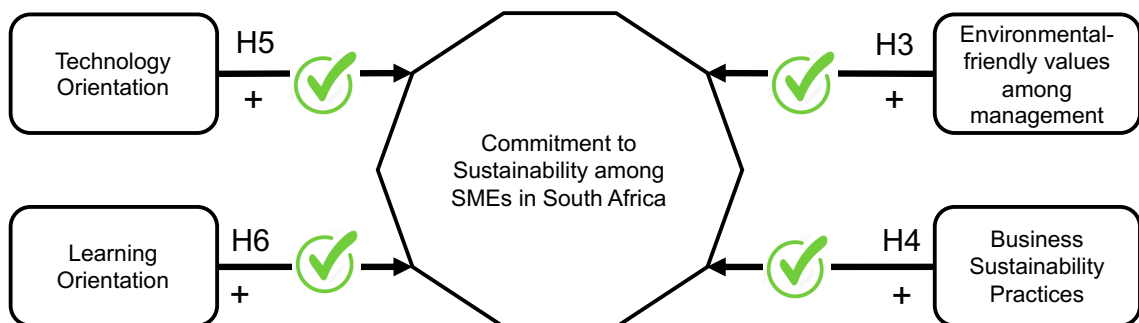


Figure 68 – Conceptual Model of objective 2

Source: Author's compilation

6.4. EXTENDED STUDY PART 2 – LO AS MODERATOR OR AS MEDIATOR

Causal relationships between variables depict a number of effects, i.e. direct effects, moderating effects, and mediating effects. Different orientations shape this relationship between strategic orientations and performance as mediators or moderators (Aloulou, 2018). The purpose of the study was to evaluate the interaction of LO on the other strategic orientations, i.e. MO, EO, and TO and assess how they related to commitment to sustainability in SMEs. This forms part of objective three, as shown in Figure 69 below.

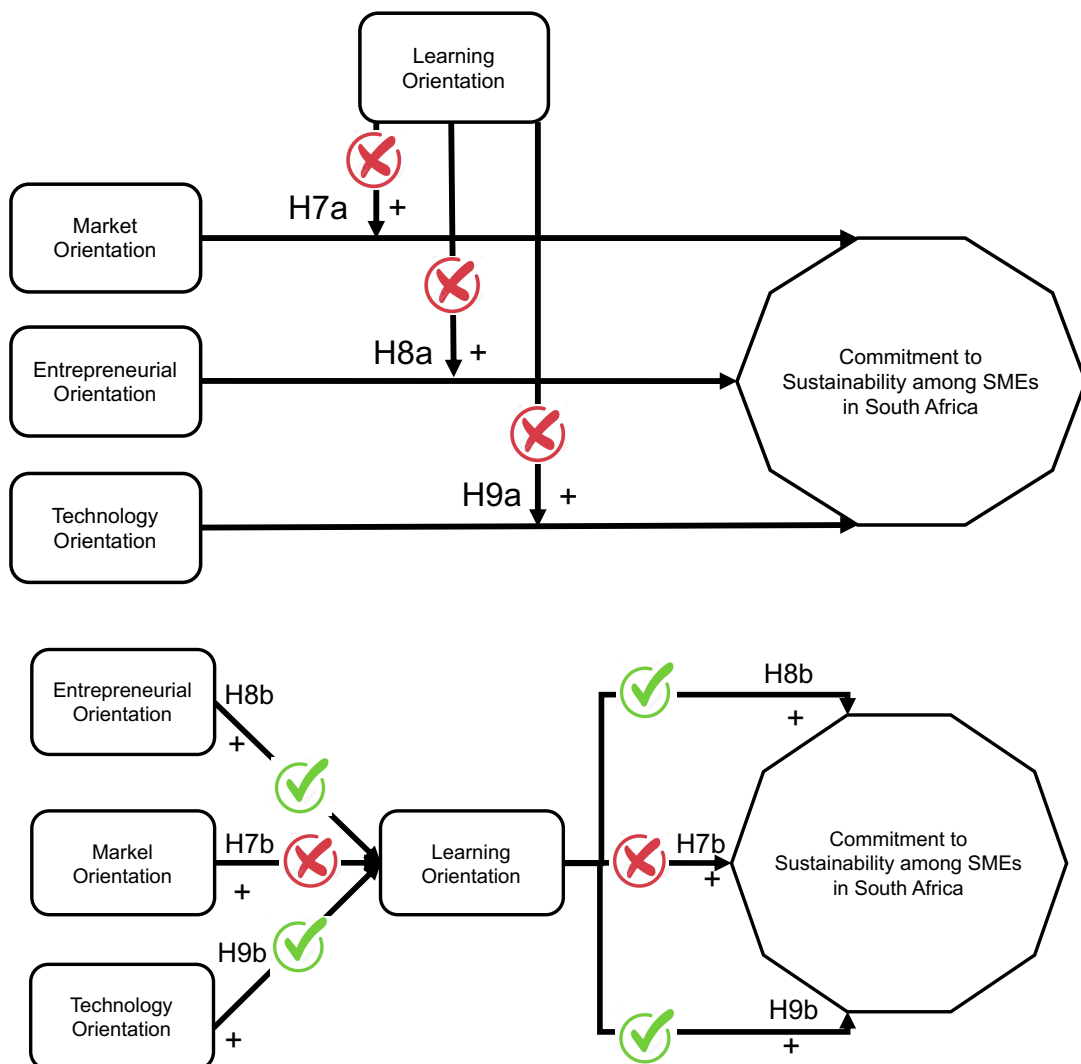


Figure 69 – Conceptual Model of objective 3

Source: Author's compilation

The study was carried out between evaluating the moderating effects of LO and mediating effects of LO. This was done through multiple regression, which provides insights into the relative importance of predictors, their relationships with the dependent variable (Hair et al., 2006). The moderator multiple regression included all three strategic orientations – MO, EO, and TO, and the dependent variable – commitment to sustainability.

6.4.1. Moderating effects of LO on other strategic orientations

Overall, the results for moderating effects did not support all the hypotheses indicating that the moderator effect of LO on the relationship between the strategic orientations and commitment to sustainability was not significant.

6.4.1.1. LO as a moderator on the relationship between MO and commitment to sustainability

The findings show that there is no significant relationship between MO and commitment to sustainability, which is moderated by LO. According to Baker & Sinkula (1999), LO enhances behaviours and results in superior performance. This is as a result of learning organisations gathering and circulating market information, as well as continuously questioning the core capabilities of the organisations (Beneke et al., 2016). Other studies (Farrell, 1999; Keskin, 2006) have found that the stronger the relationship between MO and performance, the greater the organisations LO. As various studies have investigated the moderating effects of LO with most considering its interactions with MO (Baker & Sinkula, 1999; Beneke et al., 2016; Jyoti & Dev, 2015; Ning et al., 2018; Pesämaa et al., 2013; Real et al., 2014), the researcher considered the same effect within a South African context. This was substantiated with literature identifying that a complementary aspect of MO is LO (Beneke et al., 2016).

Within a business environment, in order to survive, the business has to update its capabilities and skills as a means of survival. An effective strategy, therefore, is to have a high LO for sustaining and improving the competitive edge of a company and its performance (Vij & Farooq, 2015). Baker & Sinkula (1999) theorised that a LO enhances market-oriented behaviours leveraging the output to provide superior performance. Given the emphasis on information use in MO, the link with LO is

essential, with the role of information processing questioning the market and learning assumptions. The results, however, show a contrary view pertaining to MO.

In considering the reason for this, it is identified from research that a company can be “too close to the customer” in that their viewpoint is overly dependent on the perspective of a major stakeholder according to (Celuch et al., 2002), and that for a business to succeed in this type of situation, the company needs to have the ability to learn independently from its major customer. From the results, 63% of the customers of SMEs are other companies, and with the high number of SMEs in the financial and business services, it is believed that there may be a dependence on major customers, thereby allowing for dependence on the perspective of the major stakeholder. Another reason for the moderator effect not being significant is that studies, which found positive results, were conducted in large-scale organisations without directly taking differences in organisational size into account (Beneke et al., 2016). 44% of respondents came from very small SMEs where there were less than ten people within the company. Other studies, which found similar results (Baker & Sinkula, 1999; Beneke et al., 2016; Celuch et al., 2002), suggest that MO and LO may need to co-exist synergistically to improve organisational performance (Beneke et al., 2016).

6.4.1.2. LO as a moderator on the relationship between EO and commitment to sustainability

Entrepreneurship within organisations is a fundamental stance taken, which is instrumentally essential to strategic innovation (Rwigema et al., 2008). Various studies have shown that if the extent of LO is sufficiently great within a business, there will be a tendency for proactiveness and risk-taking (i.e. components of EO) to be developed in order to stimulate innovation within a business (Rhee et al., 2010). This may not necessarily allow for learning to take place as risk-taking involves making decisions and taking actions without specific knowledge of probable outcomes (Covin & Slevin, 1989; Lumpkin & Dess, 1996; Miller, 1983).

South African SMEs have also shown a moderate level of proactiveness and innovativeness and a weak propensity to risk-taking from a performance perspective (Neneh & Van Zyl, 2017; Oni et al., 2019), which could have thought to facilitate the LO moderator effect. However, the findings in this study show that

LO does not mediate the relationship between EO and commitment to sustainability. One of the reasons could be that from a sustainability angle, SMEs are focused on surviving and do not have time to consider the environment. Having an entrepreneurial-oriented environment focuses the business externally, which then weakens the relationship between EO and commitment to sustainability.

6.4.1.3. LO as a moderator on the relationship between TO and commitment to sustainability

From TO perspective, customers prefer technologically superior products and services, i.e. “technology push” (Kasim & Altinay, 2016). This promotes new ideas, comes with new knowledge, and develops learning. The results found was that LO had no significant moderator effect on the relationship between TO and commitment to sustainability. This could be due to the size of the business, taking into consideration that 63% of SMEs were very small, technology may be too costly to introduce into their business. Within the financial and business services sector, which had the largest representation, new product development may not be a high priority.

6.4.1.4. Conceptual model framework for objective 3 moderation

For part of objective 3, therefore, the results have not confirmed the hypotheses. The conceptual framework can, therefore, not be translated into any of the strategic orientations in relation to commitment to sustainability. LO does not have a moderator effect on the relationships between MO, EO, or TO on commitment to sustainability and is displayed in Figure 70 below.

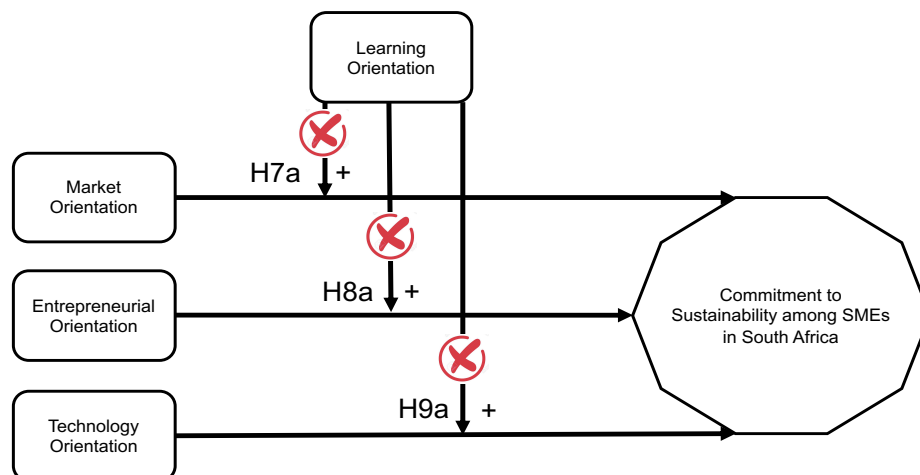


Figure 70 – Moderation effect of LO on other strategic orientations
Source: Author’s compilation

6.4.2. Mediating effects of LO on other strategic orientations

Mediation refers to a situation when the relationship between a predictor variable and an outcome variable can be explained by their relationship to a third variable, i.e. the mediator (A. F. Hayes, 2013). Statistical tests to determine mediation may be investigated through path analysis include multiple regression analyses, and structural equation modelling (Kim et al., 2001). For this study, multiple regression was used with the PROCESS add-on to SPSS (Preacher & Hayes, 2004). The mediator effects were calculated using this method of analysis.

6.4.2.1. *LO as a mediator on the relationship between MO and commitment to sustainability*

It has been shown that MO is likely to significantly enhance business performance when combined with a strong LO (Keskin, 2006). Given MO's emphasis on information use, its link with learning has impact on competitive advantage, as Baker & Sinkula (1999) identified independent and synergistic effects of MO and LO on organisational performance. Thus, MO impacts the scope of information processing activities, while LO influences the higher order examination of this activities (Celuch et al., 2002).

The results indicate that there is no mediator effect that LO has on the relationship between MO and commitment to sustainability. The reason for this could be the fact that with most of the respondents coming from financial and business services sector, market-oriented behaviours are more pronounced and that customer and competitor information gathering, and dissemination occurs at a much greater extent than learning-oriented behaviours. Companies thus start with information intensity and customer responsiveness, which drive MO. Having a customer focus and external focus

6.4.2.2. *LO as a mediator on the relationship between EO and commitment to sustainability*

In order to compete globally, a strong EO, at the organisation level, can provide the necessary competitive advantage for companies in emerging countries (Rwigema et al., 2008). Since EO represents the character of the organisation from a risk taking, proactiveness and innovativeness perspective (Covin & Slevin, 1989; Miller, 1983),

it has received a lot of attention due to its positive association with organisational performance. Studies have highlighted the interactions and relationships suggesting that LO mediates the EO-performance relationship (Li et al., 2008; Liu & Fu, 2011; Wang, 2008). Most of the studies investigated only a direct relationship between each strategic orientation and performance (Hakala, 2013; Kropp et al., 2006), with only a few studies investigating the EO and LO relationship (Hakala, 2011; Liu & Fu, 2011; Rhee et al., 2010; Wang, 2008). This study aimed to test the mediating effects of LO on the relationship between EO and commitment to sustainability.

The argument for the mediating effects of LO in the EO-performance relationship is twofold according to Hakala (2013). Firstly, new ways of thinking are encouraged through entrepreneurial, risk tolerant and innovative firms, which provide non-hierarchical environments. This allows for these new ideas to be tested, creating a fertile, open atmosphere for learning (Hakala, 2013). Secondly, the generation of material for the acquisition and evaluation of new information is established through entrepreneurial proactivity and the search for new opportunities. This information, according to Wang (2008), is then channelled into beneficial performance activities through common goals and vision. Studies by Anderson et al. (2009) argue that an increase in strategic learning is through the contribution of EO, and position EO as an antecedent of LO. As EO is an antecedent, the studies propose that the link between EO and performance is mediated by LO (Wang, 2008). The results from this study concur from a sustainability perspective, observing that the link or relationship between EO and commitment to sustainability is mediated by LO.

Companies that utilize LO are proactive and as the search for new opportunities generate material for learning, it may be that EO and LO act in duality (Hakala, 2013), which in turn allows the companies to improvise responses without destabilising its operations. It may thus be that both orientations rather than EO alone has an effect on the overall configuration of the firm's strategic orientation. Thus the balanced combination of EO and LO becomes the mechanism that is similar to dynamic capabilities, which enable adaptation and reconfiguration of activities within companies to cater for the rapidly changing environments (Hakala, 2013). Since the increased awareness and focus on sustainability, this duality is essential for SMEs within their environments.

6.4.2.3. *LO as a mediator on the relationship between TO and commitment to sustainability*

To maintain competitive advantage, most businesses are obliged to use technologies to improve operational effectiveness to create value and enhance consumer perceptions (Lee et al., 2013). Developing a TO unavoidably facilitates marketing activities as technology leads to customer captivity. An overemphasis on customers could, however, lead to trivial innovations which might lower the company's innovative competence (Zhou et al., 2005). Because customers are short-sighted, market-oriented companies may risk losing innovative creativity just to serve demands and needs from the customer (Zhou et al., 2005). Moreover, customers may not know what they want as they are not knowledgeable about the latest trends and technological developments.

Literature has also suggests that the role of technology in organisational goals and strategic marketing is closely interrelated (Lee et al., 2013). They are also proactive in acquiring new technologies and use sophisticated technologies in the development of their new and superior products (Gatignon & Xuereb, 1997). Accordingly, a technology-oriented company advocates a commitment to R&D, the acquisition of new technologies, and the application of the latest technology (Gatignon & Xuereb, 1997). TO is, therefore, closely related to innovation and product orientation (Aloulou, 2018; Grinstein, 2008; Hakala, 2011). The introduction of new products will decrease inactivity in the organisation and will enhance the flexibility of the organisation.

Taking this into consideration, the results show that the relationship between TO and commitment to sustainability is mediated by LO. This indicates that the link with LO is then necessary as knowledge and skills have to be employed in the creation of new products. Knowledge facilitates information creation and the company can use its technical knowledge to build new technical solutions to meet the needs of the users. A technology-oriented company encourages and tolerates "crazy ideas" from employees as creativity and invention are the organisational norms and values that guide its activities and strategies according to Zhou et al. (2005). Slater & Narver (1995) indicate that market-oriented and entrepreneurial-oriented companies greatly enhance a company's ability to learn as their focus is on market information

processing and proactivity towards change. Noble, Sinha, & Kumar (2002) suggest that a TO is an essential factor that leads to more knowledge-learning behaviours.

The results confirm this interaction between TO and LO and strengthen the role that LO plays as mediator in the relationship between TO and commitment to sustainability. Other studies (Zhou et al., 2005), have found that organizational learning (LO) acts as a partial mediator between strategic orientations and tech-based innovation, which suggests that strategic orientations do not automatically lead to better performance. In this study LO acted as a full mediator suggesting that strategic orientation, TO in this case, does lead to higher commitment to sustainability. Through knowledge gain, technology-oriented companies have a better understanding of the requirements for sustainability and thus have higher commitment to sustainability as they understand what strategic actions to take (Zhou et al., 2005). Because consumers in developing markets, like South Africa, may have limited exposure to new technologies, they are eager to learn and try new and innovative products that offer value and benefit over existing products. Thus, introducing new, innovative products to shape rather than respond to consumer preferences may enable the SME to become the dominant player in the market.

6.4.2.4. Conceptual model objective 3 mediation

For objective 3, therefore, the results have confirmed the hypotheses partly. The conceptual framework can, therefore, be translated into the TO and LO in relation to commitment to sustainability displayed in Figure 71 below.

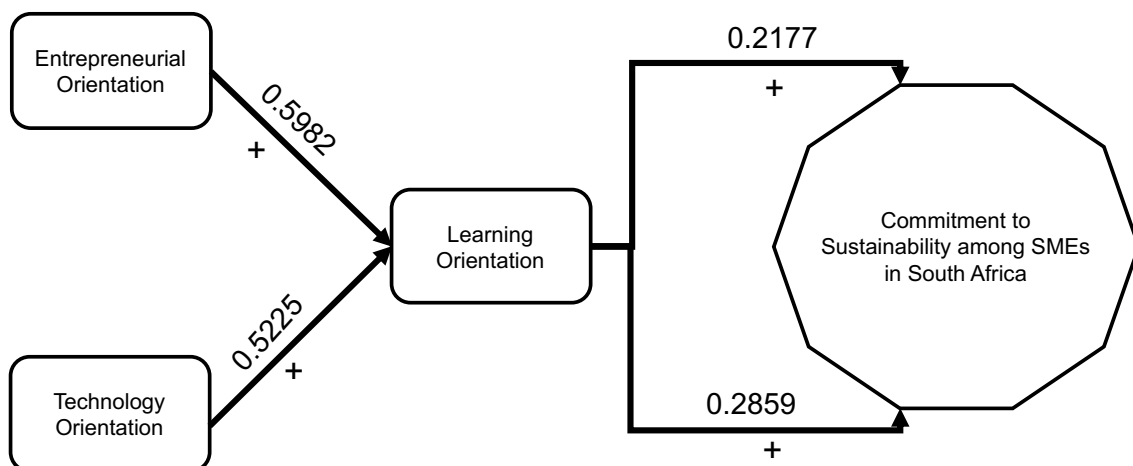


Figure 71 – Conceptual Model of objective 3

Source: Author's compilation

6.4.3. Conceptual model – Commitment to sustainability

In light of the results obtained for this research, the model for commitment to sustainability can be presented. The results and conclusion for the commitment to sustainability model are displayed in Figure 72 below. The research objectives of understanding the influence of strategic orientations (MO and EO), management values, and sustainability practices on commitment to sustainability (objective 1), the influence of strategic orientations (TO and LO) on commitment to sustainability (objective 2), as well as the mediator effect of LO on the relationship between other strategic orientations (EO, TO) and commitment to sustainability (objective 3) were met.

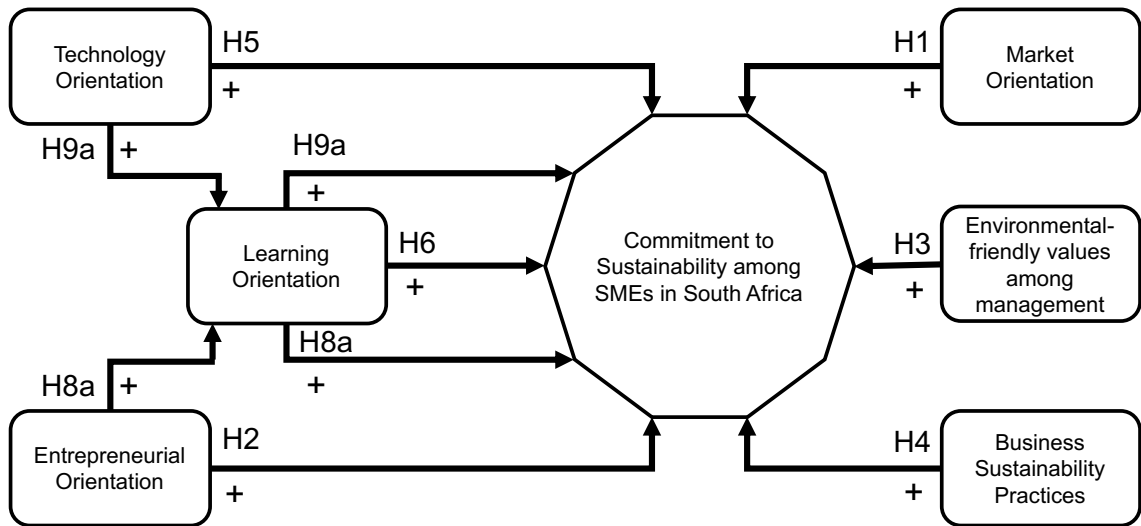


Figure 72 – Conceptual Model of commitment to sustainability

Source: Author's compilation

7. CHAPTER 7 – CONCLUSION

7.1. INTRODUCTION

This chapter summarises the conclusions of this research:

- The replication study – the relationship between MO, EO, environmental-friendly values among management, sustainability practices, and commitment to sustainability among South African SMEs,
- The extension study part 1 – the relationship between TO, LO, and commitment to sustainability among South African SMEs, and
- The extension study part 2 – the moderating and mediating effects of LO on the relationship between MO, EO, TO and commitment to sustainability among South African SMEs.

The conclusions from this research are presented in this chapter and include a summary of the principal conclusions, the contribution of the study, recommendations for managers, limitations of the study, and suggestions for future research.

7.2. PRINCIPAL CONCLUSIONS

The conclusions in this study explain the relationships between strategic orientations and commitment to sustainability. The summary presents the conclusions in three parts – the replication, the extension, and LO as a moderator or as a mediator.

7.2.1. Replication Study – The influence of MO, EO, MV and SP on CtS

The first part of the study was the replication study, which reviewed the influence of strategic orientations and management values on commitment to sustainability in small and medium-sized enterprises in South Africa. The study was based on the study done by Jansson et al. (2017) in Sweden and replicated in South Africa. The conclusions of the South African study support those of the Swedish study conducted by Jansson et al. (2017). However, it was also found that in the South African study of SMEs, certain aspects were different from the original study in Sweden, in that different individual components of MO (i.e. coordination and planning, and customer focus) and EO (i.e. risk taking) influence commitment to sustainability among SMEs when put together.

The study concluded that there is an influence of MO, EO, and sustainability practices on commitment to sustainability.

In contrast to the study by Jansson et al. (2017), which did not find any relationship between management values and commitment to sustainability, the South African study concluded that indeed management values do have an influence on commitment to sustainability. In addition, the relationships were identified to be positive in nature. The conclusions are represented in the conceptual framework displayed in Figure 73 below.

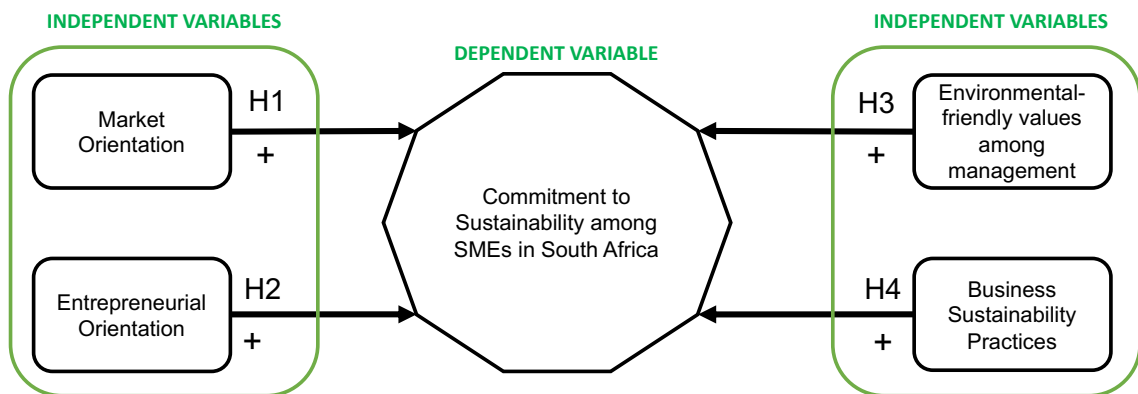


Figure 73 - Conceptual framework of strategic orientations and management values on commitment to sustainability in SMEs in South Africa

Source: Author's compilation

The conceptual framework, which was developed from the conclusions of the study, presents the positive, direct relationships between MO, EO, environmental-friendly values among management, and business sustainability practices on commitment to sustainability.

7.2.2. Extension Study: Part 1 – Additional strategic orientations

The second part of the study was the extension study, which reviewed the influence of additional strategic orientations on commitment to sustainability in SMEs in South Africa. This study has confirmed the influence of TO and LO on commitment to sustainability, which explains that company's commitment to sustainability is influenced by both technology and learning orientations. This study also concluded that certain individual components of TO (i.e. new product development) and LO (i.e. shared vision) influence commitment to sustainability among SMEs.

The study concluded that there is an influence of TO and LO on commitment to sustainability.

The study also concluded that management values and sustainability practices have an influence on commitment to sustainability. In addition, the relationships were identified to be positive in nature. The conclusions are represented in the conceptual framework displayed in Figure 74 below.

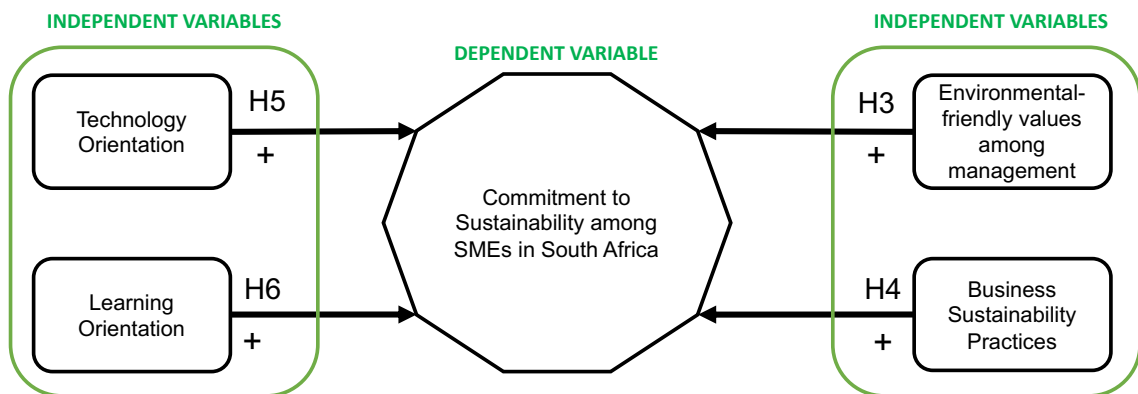


Figure 74 – Conceptual framework of alternate strategic orientations and management values on commitment to sustainability in SMEs in South Africa

Source: Author's compilation

The conceptual framework, which was developed from the conclusions of the study, presents the positive, direct relationships between TO, LO, environmental-friendly values among management, and business sustainability practices on commitment to sustainability.

Strategic orientations play an important role, not only in firm performance, but through the conclusion from the replication and extension studies, also in influencing commitment to sustainability. The studies concluded that there is an influence of MO, EO, TO, LO, environmental-friendly values among management, and business sustainability practices on commitment to sustainability. In addition, all the relationships were identified to be positive in nature. The conclusions are presented in the conceptual framework in figure 75 below.

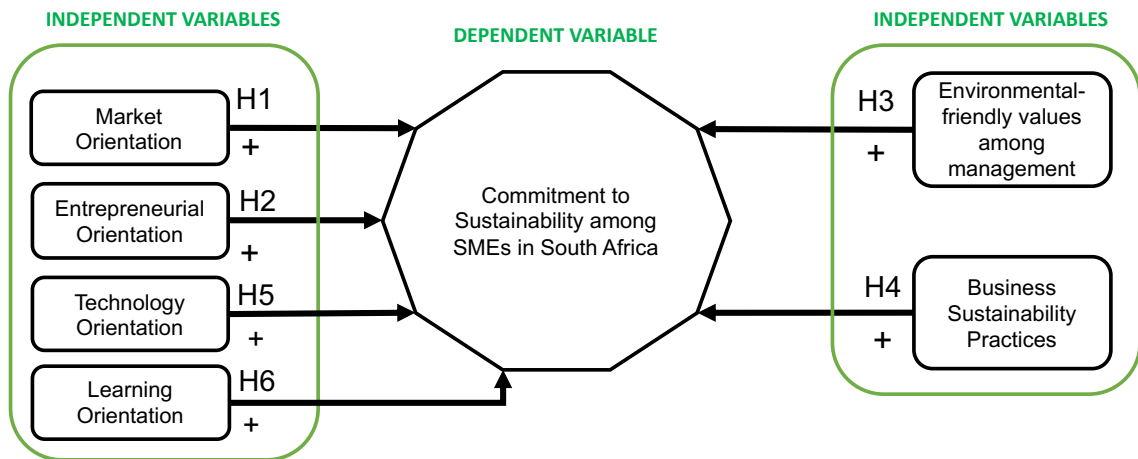


Figure 75 – Extended Conceptual framework of strategic orientations and management values on commitment to sustainability in SMEs in South Africa

Source: Author's compilation

The conceptual framework, which was developed from the conclusions of the study, presents the positive, direct relationships between MO, EO, TO, LO, environmental-friendly values among management, and business sustainability practices on commitment to sustainability. The inclusion of TO and LO, adds to the fact that strategic orientations influence commitment to sustainability among SMEs in South Africa.

7.2.3. Extension Study: Part 2 – LO as Moderator or as Mediator Study

The third part of the study was the LO as moderator or as mediator study, which tested LO as having a moderator effect on the relationship between the strategic orientations and commitment to sustainability in SMEs in South Africa. It also tested LO as having a mediator effect on the relationship between the strategic orientations and commitment to sustainability in small and medium-sized enterprises in South Africa. This study has confirmed that LO has a mediator effect on the relationship between EO, TO, and commitment to sustainability, and explains that company's commitment to sustainability are influenced by both technology and entrepreneurial orientations and that this influence is mediated by learning orientation.

The study concluded that LO has a mediator effect on the relationship between EO, TO and commitment to sustainability in SMEs in South Africa. The conclusions are represented in the conceptual framework displayed in Figure 76 below.

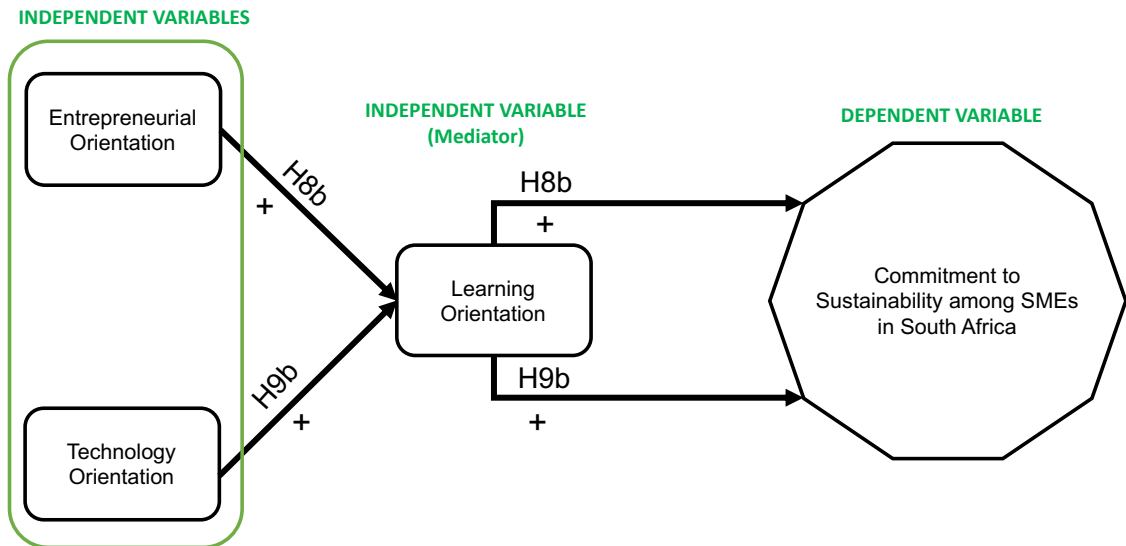


Figure 76 - Conceptual framework of the mediating effect of learning orientation
Source: Author's compilation

The conceptual framework, which was developed from the conclusions of the study, shows the mediating effects of LO on the relationship between EO, TO and commitment to sustainability. This means that through the interaction of LO, SMEs with EO and/or TO, can commit to sustainability through this process.

7.2.4. Final conceptual framework of Commitment to Sustainability

The various parts of the study allowed for an extended conceptual framework of commitment to sustainability to be developed as is displayed in Figure 77 below.

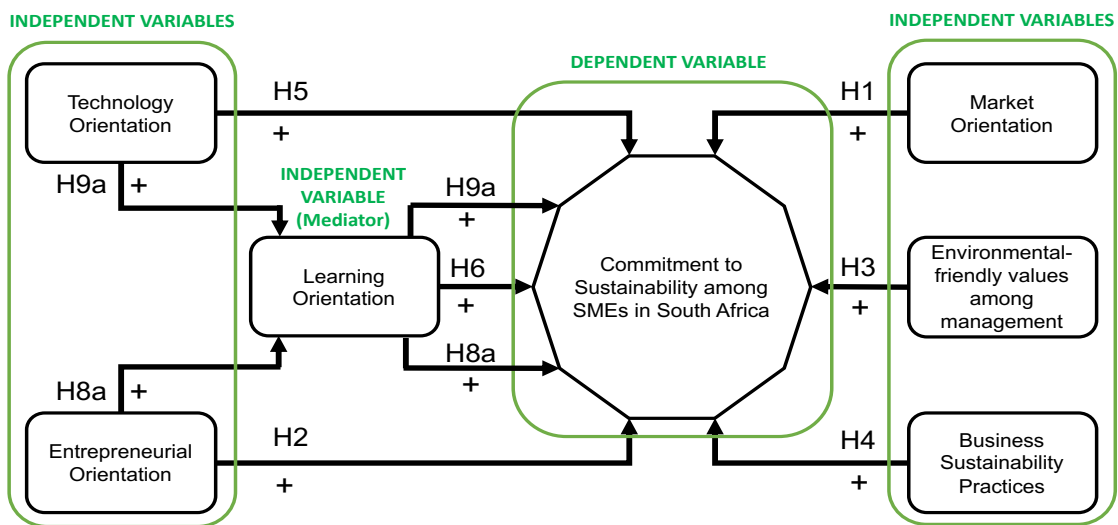


Figure 77 – Commitment framework of commitment to sustainability in SMEs in South Africa
Source: Author's compilation

7.3. RESEARCH CONTRIBUTION

This study confirms the conclusions made by Jansson et al. (2017), within a South African setting. The study also extended the conceptual framework by including two further strategic orientations and explaining the mediating role of LO.

The research contributions of the replication study are to confirm that:

- The relationships between MO, EO, sustainability practices and commitment to sustainability that were established in the original study in Sweden are also valid in South Africa;
- There is a strong relationship between management values and commitment to sustainability in the South African study, a conclusion that was not evident in the Swedish study; and
- In contrast to the original study, in the South African study, there is a strong relationship between sustainability practices and commitment to sustainability.

The research contributions of the extension studies are to confirm that:

- There is a relationship between additional strategic orientations, TO and LO, and commitment to sustainability;
- There is a strong relationship between management values and sustainability practices in the study; and
- LO has a mediating effect on the relationship between EO and commitment to sustainability, and between TO and commitment to sustainability.

The study therefore enhances the understanding of commitment to sustainability in the SME context by comparing the conceptual framework of commitment to sustainability in a developing market with the original study in a developed market. In addition, the extensions widen the scope of the conceptual framework to include two alternate strategic orientations and the mediating effect of LO.

7.4. RECOMMENDATIONS FOR MANAGERS

Recommendations indicate specific measures or directions that can be taken based on the conclusions of the research. The recommendations of this study are noted as follows:

- The replication and extension studies confirm the importance of working with sustainability issues from several perspectives i.e. from within through the strategic orientations, and outside through creating demand for sustainable and environmental-friendly products;
- The replication study confirms that both MO and EO would be a good business strategy, both strategically in terms of long-term survival of the company, and from a sustainable development view;
- The extension study confirms that both TO and LO would be a good business strategy, especially in light of the acceleration in technology and the introduction of innovations leading to competitive advantage;
- The conclusions that coordination and planning (part of MO) and risk taking (part of EO) are significantly related to commitment to sustainability in SMEs, suggest that sustainability performance is more internally oriented than externally.
- The studies have concluded that SMEs in South Africa have taken a proactive stance in sustainability issues through developing innovations and practices that continuously move forward.

7.5. LIMITATIONS OF THE RESEARCH

Limitations inherently exist in any research study and this study is no exception Creswell (2014). The limitations of this study are noted as follows:

- The replication study was conducted in one province of South Africa as a comparison to the original study in northern Sweden; and
- The extension studies have only been conducted in South Africa.

Therefore, further research is needed in other geographic areas to confirm the conclusions intentionally in both developed and developing countries.

In addition:

- This study did not compare SMEs in different sectors, which may yield some different outcomes;
- A low response rate was obtained from a large sample size and a large database, and while this yielded satisfactory results, a higher response rate would have improved the study.

7.6. FUTURE RESEARCH

Given the limited research in the area of strategic orientations, the following recommendations are made for future research:

- Expand the geographical area to include other provinces in South Africa for the replication study and extension study.
- Expand the extension in further Swedish study and in other developed and developing countries.
- Further research could also compare SMEs in different sectors.

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9. APPENDICES

9.1. APPENDIX 1: Database Research Diary

NO.	NAME OF CONTACT	COMPANY OF CONTACT	DATE	REQUEST	COMMENT	STATUS
1	Johan Janssen	Associate Professor at Lund University	04-Jan-19	Information on research article	No initial response	Follow up
2	John Messiahs	Senior Strategist at Industrial Development Corporation (IDC) of South Africa	18-Jan-19	Information on obtaining SME database	No official database. To look on website for info	SME database NOT available
3	Jodi Scholtz	Group COO at Department of Trade & Industry (DTI)	26-Jan-19	Information on obtaining SME database	No initial response	Follow up
4	Rd. Kerrin Myers	Senior Lecturer at Gordon Institute of Business Science (GIBS)	04-Feb-19	Availability of any SME database Access to SME database	Purchase of information Referred to Interactive Direct	Info obtained
5	Keith Heggie	Managing Director at Interactive Direct	04-Feb-19	Availability of any SME database Access to SME database	SME database available Interactive Direct Business database - consists of 400 000+ business contacts Classification of database according to criteria Database at a cost per contact	SME database available
6	Jodi Scholtz	Group COO at Department of Trade & Industry (DTI)	07-Feb-19	Information on obtaining SME database	No response	Follow up
7	Mr Shiya / Mduzuzi	Small Enterprise Development Agency (SEDA)	07-Feb-19	Information on obtaining SME database	No initial response	Follow up

8	Johan Janssen	Associate Professor at Lund University	11-Feb-19	Information on research article	Response 12-Feb-19 - initial response sent 04-Jan-19 but not received - proposal accepted and willing to help in translating the items - given and offered assistance with research project	Email sent Proposal accepted
9	Johan Janssen	Associate Professor at Lund University	12-Feb-19	Response to assistance proposal	Response 12-Feb-19 - acceptance of assistance	Help accepted
10	Prof Danie Petzer	Professor / Director of Research at Gordon Institute of Business Science (GIBS)	13-Feb-19	Information on quantitative analysis	Meeting set up	Meeting held and info received
11	Jodi Scholtz	Group COO at Department of Trade & Industry (DTI)	19-Feb-19	Information on obtaining SME database	No response	Second follow up
12	Mr Shiya / Mduduzi	Small Enterprise Development Agency (SEDA)	21-Feb-19	Information on obtaining SME database	Email sent through No response	Follow up
13	Johan Janssen	Associate Professor at Lund University	21-Feb-19	Clarification on sectors in study	Response 25-Feb-19 - sectors followed the Swedish classification - majority of responding firms were in industry and service (96%), rest were fishing, forest, agriculture - to translate questionnaire and scales	Info obtained
14	Helga Schabort	Quantec	25-Feb-19	Information on obtaining SME database	No initial response	Follow up
15	Helga Schabort	Quantec	28-Feb-19	Information on obtaining SME database	Response 28-Feb-19 - No SME database at company level. - Available quarterly financial statistics - available labour force survey complete set - available survey of employers and self-employed	SME database NOT available
16	Mr Shiya / Mduduzi	Small Enterprise Development Agency (SEDA)	28-Feb-19	Information on obtaining SME database	Email sent through No response	Second follow up

17	Leandre Swart	SBI General Manager at Small Business Institute (SBI)	28-Feb-19	Information on obtaining SME database	Response 05-Mar-19 - called SBI and spoke to Leandre Swart - Referred me to the Small Business Project (SBP)	Called SBP
18	Colleen Shaw	PA to Chris Darroll at Small Business Project (SBP) - Business Environment Specialist	05-Mar-19	Information on obtaining SME database	No initial response	Follow up
19	Mr Shiya / Mduduzi	Small Enterprise Development Agency (SEDA)	07-Mar-19	Information on obtaining SME database	Email sent through No response	Third follow up
20	Colleen Shaw	PA to Chris Darroll at Small Business Project (SBP) - Business Environment Specialist	07-Mar-19	Information on obtaining SME database	Response 07-Mar-19 - due to confidentiality agreement with participants database not able to be shared	SME database NOT available
21	Jodi Scholtz	Group COO at Department of Trade & Industry (DTI)	19-Mar-19	Information on obtaining SME database	Jodi sent an email request to Mandisa Tshikwatamba from SEDA	Follow up
22	Mr Shiya / Mduduzi	Small Enterprise Development Agency (SEDA)	19-Mar-19	Information on obtaining SME database	Phone call to SEDA No response	Fourth follow up
23	Rory Voller	Commissioner at Companies and Intellectual Property Commission (CIPC)	19-Mar-19	Jodi sent email requesting for SME database or access to it	Response 22-Mar-19 - email sent through to Sello Ndhlovu for assistance	Email sent
24	Sello Ndhlovu	Senior Manager: Enterprise Information Management at Companies and Intellectual Property Commission (CIPC)	22-Mar-19	Rory sent email requesting assistance for SME database	Response 25-Mar-19 - request for assistance granted - to call Sello for further explanation and clarification - request made for letter from GIBS to verify studying	SME database available

25	Mandisa Tshikwatamba	CEO at Small Enterprise Development Agency (SEDA)	25-Mar-19	Jodi sent email requesting for SME database or access to it	Response from SEDA 25-Mar-19 - they do not have a database of all SMMEs - an account of how many SMMEs in the country is done by extrapolation using different databases, adding up VAT paying (SARS records) Census, home businesses, Municipality licenses data set based on licenses issued as well as dept. of Labour data sets	SME database NOT available
26	Johan Janssen	Associate Professor at Lund University	25-Mar-19	Translation of questionnaire and scales	No initial response	Follow up email sent
27	Johan Janssen	Associate Professor at Lund University	25-Mar-19	Translation of questionnaire and scales	Response 25-Mar-19 - scales translated and sent - questionnaire to be sent	Scales translated and received
28	Jennifer Theodoridis	MBA Research Manager at Gordon Institute of Business Science (GIBS)	26-Mar-19	Request for confidentiality and proof of studying letter from GIBS	Response 26-Mar-19 - Request granted and letter drawn up	Letter from GIBS granted
29	Sello Ndhlovu	Senior Manager: Enterprise Information Management at Companies and Intellectual Property Commission (CIPC)	26-Mar-19	Request for confidentiality and proof of studying letter from GIBS	Response 26-Mar-19 - Letter sent through from GIBS - request for clarification via phone call	Letter sent through to CIPC
30	Johan Janssen	Associate Professor at Lund University	26-Mar-19	Translation of questionnaire and scales	Response 26-Mar-19 - questionnaire translated and sent	Questionnaire translated and received
31	Sello Ndhlovu	Senior Manager: Enterprise Information Management at Companies and Intellectual Property Commission (CIPC)	29-Mar-19	Request for clarification via phone	Response 29-Mar-19 - phone call made to clarify request and info needed - set up of Dropbox and Google drive for information to be placed into	Dropbox and Google drive established

9.2. APPENDIX 2: Consent Letter To CIPC

12/06/2019

Gordon Institute of Business Science Mail - Re: Info

**Gordon Institute
of Business Science**
University of Pretoria

Vanessa Green <97293441@mygibs.co.za>

Re: Info

Sello Ndhlovu <Sndhlovu@cipc.co.za>
To: Vanessa Green <97293441@mygibs.co.za>

12 June 2019 at 13:58

To whom it may concern:

1. CIPC has granted Vanessa Green free of charge with access to the CIPC database in order for Ms Green to view (verify) information for purposes of inter alia research / dissertation on companies, close corporations and co-operatives' ownership, directorship and shareholding information claimed / furnished by various companies against the details available on the CIPC database.
2. The information shall be used for the purposes as stipulated in Clause 1 and shall not inter alia sell any information it obtains from the CIPC.

If any queries relating to such confirmation can be directed Head of Data on the contacts below on the signature

Regards

Sello Ndhlovu

Senior Manager: Enterprise Information Management

Business Intelligence Systems Group

T +27 (0) 12 394 3120 | C +27 81 797 2819 | sndhlovu@cipc.co.za



The banner features the CIPC logo on the left, which includes a stylized 'G' and the text 'Companies and Intellectual Property Commission' and 'a member of the dti group'. The main text reads 'Your Business, Our Focus' with sub-points 'Register • Protect • Comply • Build Your Dream'. Below this, it says 'Let's Support Our Campaign' and 'Started May 2016'. On the right, 'Our Goals:' are listed: '1. Promote access of CIPC products and services' and '2. Elevate the CIPC brand to New Heights'. At the bottom, it says 'Find out more, go to www.cipc.co.za' and includes social media icons for Facebook and Twitter with the handle '@theCIPC'.

[Quoted text hidden]

<https://mail.google.com/mail/u/2?ik=8d35046d1e&view=pt&search=all&permmsgid=msg-f%3A1636135852398550266&simpl=msg-f%3A1636135852398550...> 1/1

9.3. APPENDIX 3: Questionnaire sent by Professor Jansson

QUESTIONNAIRE

Strategic orientation and sustainability

Below we ask a few background questions concerning your company.

1. Company Size: How many people are currently employed in the business?

- Owner
- Less than 10
- Between 10 and 49
- Between 50 and 249
- More than 250

2. Who are your main customers?

- Other companies
- Consumers/households
- Public organizations such as municipalities, etc.

3. To what sector does your company belong? Please tick the box closest to your business.

- Agriculture and fishery
- Production and exploration
- Energy and environment
- Building and construction
- Retail
- Transportation
- Hotel and/or restaurants
- Information and communication
- Credit and insurance
- Real estate
- Company services and consultancy
- Educational services
- Healthcare and related services
- Personal and cultural services and artistry

4. Where is your company located mainly?

- (drop down list with 18 regions in Sweden)

5. Concerning profitability – To what degree do you agree with the following statements?

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- Compared to our largest competitor our profitability is very good.
- We generally have higher profit margins on our goods/services compare to our main competitors.

The following questions concern your company's strategic focus.

6. Concerning coordination and planning of your operations, to what degree do you agree with the following statements?

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- We periodically review our product development efforts to ensure that they are in line with what customers want.
- In our organization, marketing personnel spend time discussing customers' future needs with different functional departments.
- Data on customer satisfaction are disseminated at all levels of the organization on a regular basis.
- Our business strategies are based on market research. (not used)
- When we discover that our customers want to change our product/service we make a joint effort to meet customer needs (not used). (not used)

7. Concerning efforts you make in relation to the external environment - To what degree do you agree with the following statements?

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- Our organization is quick to respond to significant changes made by our competitors. (not used)
- We continually review to what degree changes in our external environment has on our customers. (not used)
- We are slow to detect fundamental shifts in our market (competition, technology, etc.). (R)

- We are slow to detect changes in our customers' preferences. (R)

8. Concerning customer focus – To what degree do you agree with the following statements?
(Scale from 1, Strongly disagree, to 5, Strongly agree)

- The customers' interests always come first, ahead of the level of profitability.
- This organization exists primarily to serve customers.
- The business objectives of our organization are driven by customer satisfaction.
- When we notice that customers are dissatisfied with our goods/services, we take immediate corrective action. (not used)

9. Below we ask some questions about risk – To what degree do you agree with the following statements?

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- Generally, our firm views risk as something positive, we encourage projects although the outcome might be uncertain.
- In tough business situations our firm often chooses an aggressive stance to potential business opportunities.
- In tough business situations our firm often chooses to take a wait-and-see stance to minimize the probability of making costly mistakes. (not used)

10. Concerning product development - To what degree do you agree with the following statements?

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- The last three years our firm has launched several new products/services.
- In our organization, creativity and experimenting are encouraged.
- When we change and develop products and services, the changes are more often radical than incremental.
- In our firm we prioritize product development ahead of marketing existing products.

11. Concerning your company in relation to the market and competitors - To what degree do you agree with the following statements? (not used)

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- Our Company is often first/early to introduce new products/services on the market.
- We attach great importance to being ahead of the competition.
- Our Company constantly scans the outside world to identify trends and future customer needs
- Our company acts proactively by constantly seeking opportunities for new product or service offerings.

12. The following questions concern attitudes and perspectives on sustainability. Try to answer from your company's point of view. (not used)

With sustainability we mean taking environmental and social responsibility.

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- Companies should influence their customers to consuming more environmentally friendly and sustainable.
- Companies should use marketing to influence the customer to more sustainable/environmentally friendly consumption.
- To act responsibly and sustainably it is sufficient for companies to comply with laws and regulations.
- In relation to our biggest competitor, we are at the forefront in terms of sustainability.
- In decision-making situations, our company's profitability is heavier than social and environmental sustainability.
- The free market will take care of global environmental problems without the involvement of authorities.

13. Concerning marketing strategies and sustainability - To what degree do you agree with the following statements?

With sustainability we mean taking environmental and social responsibility.

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- In strategic product decisions, environmental friendliness of the product is an important factor.
- Environmental friendliness is important when planning the competitive emphasis for our most important products and markets.
- Environmental friendliness and social sustainability are important when planning and implementing purchases of products and services.

14. Concerning sustainability in relation to your company as a whole - To what degree do you agree with the following statements?

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- Sustainability are important part of the values and philosophy of management in our firm.
- Sustainability is a prioritized area for the management team in our firm.

- Sustainability considerations have an impact on the strategic planning in our firm.

15. The following questions concern how sustainability issues impact different business functions in your firm - To what degree do you agree with the following statements? (not used)

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- Environmental aspects are taken into consideration when strategic decisions are to be taken.
- Environmental/Sustainability certification means that higher prices can be charged (i.e. our margins are improved).
- The Degree of environmental friendliness in a product affects how we price.
- Environmental issues affect purchasing and sales. We invite our customers to share their opinions regarding environmental issues.
- Sustainability/environmental issues have a major impact on our advertising and communication campaigns.

The following questions concern your practical sustainability work

16. Concerning environmental and/or sustainability certification – How do the following statements correspond to what your company has done? (not used)

(Scale from 1, We have not discussed the issue, to 5, We are already certified)

- We are, or are in the process of becoming, hållbarhetscertifierade (e.g.: ISO 14001, CSR 26001, REQUIREMENTS, the Swan, and more...)

17. How long has your company been environmental and/or sustainability certified? (not used)

- We are not certified
- 1 year
- 2-5 years
- 6-10 years
- 11-15 years
- More than 15 years

18. Concerning electricity and water use – How do the following statements correspond to what your company has done? (not used)

(Scale from 1, We have not discussed the issue, to 5, We are already having a policy and are working actively for that)

- We have a company policy that allows the company's electricity and water usage to be kept to a minimal level.

19. To what degree does your company recycle?

(Scale from 1, To a very limited extent, to 5, To almost full extent)

- To what extent does your company recycle office supplies
- To what extent does your company recycle food/lunchroom waste
- To what extent does your company recycle other waste (packaging etc.)

20. To what extent would the following factors contribute in making your firm act more sustainable? (not used)

(Scale: 1, Not at all... to 5, Very large extent.)

- Increased knowledge/education in sustainability.
- Increased demand for sustainable goods and/or services.
- Employee engagement with sustainability.
- Subsidies or tax exemptions to move in a more sustainable direction for the firm.
- More competitors that move in a sustainable direction

The following questions concern your personal attitude to sustainability.

21. Below are a few general statements about the environment - To what degree do you agree with the following statements?

(Scale from 1, Strongly disagree, to 5, Strongly agree)

- Humans have the right to modify the natural environment to suit their needs
- The balance of nature is strong enough to cope with the impacts of modern industrial nations
- The earth has plenty of natural resources if we just learn how to develop them
- Human ingenuity will ensure that we do not make the earth unlivable
- If things continue on their present course, we will soon experience a major ecological catastrophe (R) (not used)

Finally, a few questions about you.

22. What is your sex?

- Female
- Male

23. What is your age?

- Younger than 30
- 30 – 39
- 40 – 49
- 50 – 59
- 60 – 69
- 70 or older

24. What is your position in the company?

- Owner
- CEO
- Other – please specify:

25. How long have you been in your current position?

- 1 – 3 years
- 4 – 6 years
- 7 – 9 years
- 10 years or more

26. Education

- Less than 9 years
- 9 – 12 years
- More than 12 years

27. Do you have any other comments?

(open field)

9.4. APPENDIX 4: Consent Letter to Professor Jansson

From: **Johan Jansson** johan.jansson@fek.lu.se
Subject: RE: Use of questionnaire
Date: 06 June 2019 at 10:40
To: **Vanessa Green** VanessaG107@outlook.com



Dear Vanessa,

You are free to use the questionnaire as communicated previously for your MBA. Should there be any other publications planned (other than the MBA thesis) on the data gathered using the questionnaire you need to let me know beforehand so that we can discuss possible co-authorship to mutual benefit.

Good luck and let me know how it goes.

best!
Johan

From: Vanessa Green [<mailto:VanessaG107@outlook.com>]
Sent: den 6 juni 2019 10:13
To: Johan Jansson <johan.jansson@fek.lu.se>
Subject: Re: Use of questionnaire

Dear Prof Jansson

I hope that you are keeping well.

Following our previous correspondence in which we discussed the use of the questionnaire from the previous study for the purposes of my MBA research project, please could you confirm this approval by return email.

It is necessary that I have a written record of your confirmation to ensure that the research fully complies with the research standards for the Gordon Institute of Business Science at the University of Pretoria.

Best regards,
Vanessa

9.5. APPENDIX 5: Introductory Note to Survey Questionnaire

Dear Respondent

I am currently a student at the University of Pretoria's Gordon Institute of Business Science (GIBS) and completing my research in partial fulfilment of an MBA.

I am conducting research to understand the commitment to the sustainability of small and medium-sized enterprises. The study will also explore how strategic orientations and management values impact this commitment. This will better help academia and the business fraternity to understand the nature of the relationships and the factors which influence the commitment to sustainability.

You are therefore asked to complete a survey on a set number of questions. The questionnaire should take no longer than 30 minutes of your time to complete.

Your participation is voluntary and you can withdraw at any time without penalty. All the information collected is anonymous and the responses provided cannot be used to identify any participant as data will be reported without identifiers. Data collection will be kept confidential. By completing the questionnaire, you indicate that you voluntarily participate in this research. Should you have any concerns, please contact me or my supervisor.

Our details are as follows:

Researcher: Vanessa Green
97293441@mygibs.co.za or +27 71 227 7967

Supervisor: Dr. Jill Bogie
bogiej@gibs.co.za or +27 11 771 4000

Best regards,
Vanessa

9.6. APPENDIX 6: Survey Questionnaire

QUESTIONNAIRE - STRATEGIC ORIENTATION AND SUSTAINABILITY

Section A: *Below we ask a few background questions concerning your company.
(Tick the appropriate box)*

1. Company Size: How many people are currently employed in the business?

<i>Owner</i>	<input type="checkbox"/>
<i>Less than 10</i>	<input type="checkbox"/>
<i>Between 10 and 49</i>	<input type="checkbox"/>
<i>Between 50 and 249</i>	<input type="checkbox"/>
<i>More than 250</i>	<input type="checkbox"/>

2. Who are your main customers?

<i>Other companies</i>	<input type="checkbox"/>
<i>Consumers/households</i>	<input type="checkbox"/>
<i>Public organizations such as municipalities, etc.</i>	<input type="checkbox"/>

3. To what sector does your company belong? Please tick the box closest to your business.

<i>Agriculture and fishery</i>	<input type="checkbox"/>
<i>Mining and Quarrying</i>	<input type="checkbox"/>
<i>Manufacturing</i>	<input type="checkbox"/>
<i>Electricity, Gas and Water</i>	<input type="checkbox"/>
<i>Construction</i>	<input type="checkbox"/>
<i>Retail and Motor Trade and Repair Services</i>	<input type="checkbox"/>
<i>Wholesale Trade, Commercial Agents and Allied Services</i>	<input type="checkbox"/>
<i>Catering, Accommodation and other Trade</i>	<input type="checkbox"/>
<i>Transportation, Storage, and Communications</i>	<input type="checkbox"/>
<i>Finance and Business Solutions</i>	<input type="checkbox"/>
<i>Community, Social and Personal Services</i>	<input type="checkbox"/>
<i>Real estate</i>	<input type="checkbox"/>
<i>Insurance, Company services and consultancy</i>	<input type="checkbox"/>
<i>Educational services</i>	<input type="checkbox"/>
<i>Hotel and/or restaurants</i>	<input type="checkbox"/>
<i>Healthcare and related services</i>	<input type="checkbox"/>
<i>Personal and cultural services and artistry</i>	<input type="checkbox"/>

4. Where is your company located mainly?

<i>Johannesburg (incl. Soweto, Lenasia)</i>	<input type="checkbox"/>
<i>Tshwane (greater Pretoria)</i>	<input type="checkbox"/>
<i>Ekurhuleni (the East Rand)</i>	<input type="checkbox"/>
<i>West Rand</i>	<input type="checkbox"/>
<i>Sedibeng (incl. Vanderbijlpark, Vereeniging & Heidelberg)</i>	<input type="checkbox"/>

Scale

1	Strongly disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

5. Concerning profitability – To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>Compared to our largest competitor our profitability is very good.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>We generally have higher profit margins on our goods/services compare to our main competitors.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section B: *The following questions concern your company's strategic focus specifically around the market environment. (Tick the appropriate box)*

6. Concerning coordination and planning of your operations, to what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>We periodically review our product development efforts to ensure that they are in line with what customers want.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>In our organization, marketing personnel spend time discussing customers' future needs with different functional departments.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Data on customer satisfaction are disseminated at all levels of the organization on a regular basis.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Our business strategies are based on market research.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>When we discover that our customers want to change our product/service we make a joint effort to meet customer needs.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Concerning efforts you make in relation to the external environment - To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree)

	1	2	3	4	5
<i>Our organization is quick to respond to significant changes made by our competitors.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>We continually review to what degree changes in our external environment has on our customers.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>We are slow to detect fundamental shifts in our market (competition, technology, etc.).</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>We are slow to detect changes in our customers' preferences.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Concerning customer focus – To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>The customers' interests always come first, ahead of the level of profitability.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>This organization exists primarily to serve customers.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The business objectives of our organization are driven by customer satisfaction.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>When we notice that customers are dissatisfied with our goods/services, we take immediate corrective action.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Below we ask some questions about risk – To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>Generally, our firm views risk as something positive, we encourage projects although the outcome might be uncertain.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>In tough business situations our firm often chooses an aggressive stance to potential business opportunities.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>In tough business situations our firm often chooses to take a wait-and-see stance to minimize the probability of making costly mistakes.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Concerning product development - To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>The last three years our firm has launched several new products/services.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>In our organization, creativity and experimenting are encouraged.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>When we change and develop products and services, the changes are more often radical than incremental.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>In our firm we prioritize product development ahead of marketing existing products.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Concerning your company in relation to the market and competitors - To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>Our Company is often first/early to introduce new products/services on the market.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>We attach great importance to being ahead of the competition.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Our Company constantly scans the outside world to identify trends and future customer needs.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Our company acts proactively by constantly seeking opportunities for new product or service offerings.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section C: *The following questions concern your company's strategic focus specifically within your organisation. (Tick the appropriate box)*

Scale

1	Much lower
2	Slightly lower
3	Neutral
4	Slightly higher
5	Much higher

12. Below are some questions related to your approach to technological stance - To what extent does your company focus on the following in comparison to your major competitors? (Scale from 1, much lower, to 5, much higher).

	1	2	3	4	5
<i>Building a reputation for being first in the industry to try new methods and technologies.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>How would you classify your company's innovation efforts?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Concerning your company in relation to automation and process innovation - Classifying your company's innovative efforts, to what extent does your company focus on the following in comparison to your major competitors? (Scale from 1, much lower, to 5, much higher).

	1	2	3	4	5
<i>Level of automation of plants and facilities.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Using the latest technology in production.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Capital investment in new equipment and machinery.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Concerning your company in relation to new product development - To what extent does your company focus on the following in comparison to your major competitors? (Scale from 1, much lower, to 5, much higher).

	1	2	3	4	5
<i>Emphasis on new product development.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Rate of new product introduction to market.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Number of new products offered.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Scale

1	Strongly disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

15. Below are some questions related to commitment to learning - To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>Managers basically agree that our business unit's ability to learn is the key to our competitive advantage</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The basic values of this business unit include learning as key to improvement.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The sense around here is that employee learning is an investment, not an expense.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Learning in my organisation is seen as a key commodity necessary to guarantee organisational survival.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Our culture is one that does not make employee learning a top priority</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The collective wisdom in this enterprise is that once we quit learning, we endanger our future.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Concerning your company in relation to shared vision - To what degree do you agree with the following statements? (Scale from 1, Not at all, to 5, To a very great extent).

	1	2	3	4	5
<i>There is a well-expressed concept of who we are and where we are going as a company.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>There is a total agreement on our company vision across all levels, functions, and divisions.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>All employees are committed to the goals of this organisation.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Employees view themselves as partners in charting the direction of the organisation.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Top leadership believes in sharing its vision for the organisation with the lower levels.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>We do not have a well-defined vision for the entire organisation.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. Concerning your company in relation to open-mindedness - To what degree do you agree with the following statements? (Scale from 1, Not at all, to 5, To a very great extent).

	1	2	3	4	5
<i>We are not afraid to reflect critically on the shared assumptions we have about the way we do business.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Managers in this organisation do not want their "view of the world" to be questioned.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Our organisation places a high value on open-mindedness.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Managers encourage employees to "think outside of the box".</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>We do not have a well-defined vision for the entire organisation.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section D: *The following questions concern attitudes and perspectives on sustainability. (Tick the appropriate box).*

18. Try to answer from your company's point of view. *With sustainability we mean taking environmental and social responsibility. (Scale from 1, Strongly disagree, to 5, Strongly agree).*

	1	2	3	4	5
<i>Companies should influence their customers to consuming more environmentally friendly and sustainable.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Companies should use marketing to influence the customer to more sustainable/environmentally friendly consumption.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>To act responsibly and sustainably it is sufficient for companies to comply with laws and regulations.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>In relation to our biggest competitor, we are at the forefront in terms of sustainability.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>In decision-making situations, our company's profitability is heavier than social and environmental sustainability.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The free market will take care of global environmental problems without the involvement of authorities.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. Concerning marketing strategies and sustainability - To what degree do you agree with the following statements? *With sustainability we mean taking environmental and social responsibility. (Scale from 1, Strongly disagree, to 5, Strongly agree).*

	1	2	3	4	5
<i>In strategic product decisions, environmental friendliness of the product is an important factor.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Environmental friendliness is important when planning the competitive emphasis for our most important products and markets.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Environmental friendliness and social sustainability are important when planning and implementing purchases of products and services.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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20. Concerning sustainability in relation to your company as a whole - To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>Sustainability is an important part of the values and philosophy of management in our company.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Sustainability is a prioritized area for the management team in our company.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Sustainability considerations have an impact on the strategic planning in our company.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. The following questions concern how sustainability issues impact different business functions in your firm - To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>Environmental aspects are taken into consideration when strategic decisions are to be taken.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Environmental/Sustainability certification means that higher prices can be charged (i.e. our margins are improved).</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The Degree of environmental friendliness in a product affects how we price.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Environmental issues affect purchasing and sales. We invite our customers to share their opinions regarding environmental issues.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Sustainability/environmental issues have a major impact on our advertising and communication campaigns.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section E: *The following questions concern the practical sustainability at your organisation. (Tick the appropriate box)*

Scale

1	We have not discussed the issue
2	We have started discussing the issue
3	We have discussed the issue and looking to be certified
4	We are in the process of being certified
5	We are already certified

22. Concerning environmental and/or sustainability certification – How do the following statements correspond to what your company has done? (Scale from 1, We have not discussed the issue, to 5, We are already certified).

	1	2	3	4	5
<i>We are, or are in the process of becoming, certified (e.g.: ISO 14001, CSR 26001, ISO 45001, Green tag, Biodiversity & Organic Certification, etc.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. How long has your company been environmental and/or sustainability certified?

<i>We are not certified</i>	<input type="checkbox"/>
<i>1 year</i>	<input type="checkbox"/>

2-5 years	<input type="checkbox"/>
6-10 years	<input type="checkbox"/>
11-15 years	<input type="checkbox"/>
More than 15 years	<input type="checkbox"/>

Scale

1	We have not discussed the issue
2	We have started discussing the issue
3	We have discussed the issue and looking for solutions
4	We are in the process of implementing the policy and installing the necessary monitoring equipment
5	We already have a policy and are working actively for that

24. Concerning electricity and water use – How do the following statements correspond to what your company has done? (Scale from 1, We have not discussed the issue, to 5, We already have a policy and are working actively for that).

	1	2	3	4	5
<i>We have a company policy that allows the company's electricity and water usage to be kept to a minimal level.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Scale

1	To a very limited extent
2	To a limited extent
3	Neither here nor there
4	To a fair extent
5	To almost full extent

25. To what degree does your company recycle? (Scale from 1, To a very limited extent, to 5, To almost full extent).

	1	2	3	4	5
<i>To what extent does your company recycle office supplies</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>To what extent does your company recycle food/lunchroom waste</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>To what extent does your company recycle other waste (packaging etc.)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Scale

1	Not at all
2	Very little
3	Neither here nor there
4	Fair extent
5	Very large extent

26. To what extent would the following factors contribute in making your firm act more sustainable? (Scale: 1, Not at all... to 5, Very large extent.).

	1	2	3	4	5
<i>Increased knowledge/education in sustainability.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Increased demand for sustainable goods and/or services.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Employee engagement with sustainability.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Subsidies or tax exemptions to move in a more</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>sustainable direction for the company.</i>					
<i>More competitors that move in a sustainable direction</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section F: *The following questions concern your personal attitude to sustainability. (Tick the appropriate box)*

Scale

1	Strongly disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

27. Below are a few general statements about the environment - To what degree do you agree with the following statements? (Scale from 1, Strongly disagree, to 5, Strongly agree).

	1	2	3	4	5
<i>Humans have the right to modify the natural environment to suit their needs</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The balance of nature is strong enough to cope with the impacts of modern industrial nations</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The earth has plenty of natural resources if we just learn how to develop them</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Human ingenuity will ensure that we do not make the earth unliveable</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>If things continue on their present course, we will soon experience a major ecological catastrophe.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section G: *Finally, the following questions concern you. (Tick the appropriate box)*

28. What is your gender

Female	<input type="checkbox"/>
Male	<input type="checkbox"/>

29. What is your age?

Younger than 30	<input type="checkbox"/>
30 – 39	<input type="checkbox"/>
40 – 49	<input type="checkbox"/>
50 – 59	<input type="checkbox"/>
60 – 69	<input type="checkbox"/>
70 or older	<input type="checkbox"/>

30. What is your position in the company?

Owner	<input type="checkbox"/>
CEO	<input type="checkbox"/>
Other – please specify:	<input type="checkbox"/>

31. How long have you been in your current position?

1 – 3 years	<input type="checkbox"/>
4 – 6 years	<input type="checkbox"/>
7 – 9 years	<input type="checkbox"/>
10 years or more	<input type="checkbox"/>

32. Education

<i>Less than Grade 10)</i>	<input type="checkbox"/>
<i>Grade 10 - 11</i>	<input type="checkbox"/>
<i>Grade 12 (Matric)</i>	<input type="checkbox"/>
<i>Graduate (Degree / Diploma)</i>	<input type="checkbox"/>
<i>Postgraduate (Honours / Masters / PhD)</i>	<input type="checkbox"/>

33. Do you have any other comments? (open field)

9.7. APPENDIX 7: Code Book

REPLICATION STUDY CODE BOOK

Timestamp	Coding
6. Concerning coordination and planning of your operations - to what degree do you agree with the following statements? [We periodically review our product development efforts to ensure that they are in line with what customers want.]	MO_CP_6a
6. Concerning coordination and planning of your operations - to what degree do you agree with the following statements? [In our organisation, marketing personnel spend time discussing customers' future needs with different functional departments.]	MO_CP_6b
6. Concerning coordination and planning of your operations - to what degree do you agree with the following statements? [Data on customer satisfaction are disseminated at all levels of the organisation on a regular basis.]	MO_CP_6c
6. Concerning coordination and planning of your operations - to what degree do you agree with the following statements? [Our business strategies are based on market research.]	MO_CP_6d
6. Concerning coordination and planning of your operations - to what degree do you agree with the following statements? [When we discover that our customers want to change our product/service, we make a joint effort to meet customer needs.]	MO_CP_6e
7. Concerning efforts you make in relation to the external environment - to what degree do you agree with the following statements? [Our organisation is quick to respond to significant changes made by our competitors.]	MO_EF_7a
7. Concerning efforts you make in relation to the external environment - to what degree do you agree with the following statements? [We continually review to what degree changes in our external environment has on our customers.]	MO_EF_7b
7. Concerning efforts you make in relation to the external environment - to what degree do you agree with the following statements? [We are slow to detect fundamental shifts in our market (competition, technology, etc.) R	MO_EF_7c
7. Concerning efforts you make in relation to the external environment - to what degree do you agree with the following statements? [We are slow to detect changes in our customers' preferences.] R	MO_EF_7d
8. Concerning customer focus - to what degree do you agree with the following statements? [The customers' interest always come first, ahead of the level of profitability.]	MO_CF_8a
8. Concerning customer focus - to what degree do you agree with the following statements? [This organisation exists primarily to serve customers.]	MO_CF_8b
8. Concerning customer focus - to what degree do you agree with the following statements? [The business objectives of our organisation are driven by customer satisfaction.]	MO_CF_8c
8. Concerning customer focus - to what degree do you agree with the following statements? [When we notice that customers are dissatisfied with our goods/services, we take immediate corrective action.]	MO_CF_8d
9. Below we ask some questions about risk - to what degree do you agree with the following statements? [Generally, our firm views risk as something positive, we encourage projects although the outcome might be uncertain.]	EO_RT_9a
9. Below we ask some questions about risk - to what degree do you agree with the following statements? [In tough business situations, our firm often chooses an aggressive stance to potential business opportunities.]	EO_RT_9b
9. Below we ask some questions about risk - to what degree do you agree with the following statements? [In tough business situations, our firm often chooses to take a wait-and-see stance to minimise the probability of making costly mistakes.] R	EO_RT_9c
10. Concerning product development - to what degree do you agree with the following statements? [The last 3 years, our firm has launched several new products/services.]	EO_PA_10a
10. Concerning product development - to what degree do you agree with the following statements? [In our organisation, creativity and experimenting are encouraged.]	EO_PA_10b
10. Concerning product development - to what degree do you agree with the following statements? [When we change and develop products and services, the changes are more often radical than incremental.]	EO_PA_10c
10. Concerning product development - to what degree do you agree with the following statements? [In our firm, we prioritise product development ahead of marketing existing products.]	EO_PA_10d

11. Concerning your company in relation to the market and competitors - to what degree do you agree with the following statements? [Our Company is often first/early to introduce new products/services on the market.]	EO_MAC_11a
11. Concerning your company in relation to the market and competitors - to what degree do you agree with the following statements? [We attach great importance to being ahead of the competition.]	EO_MAC_11b
11. Concerning your company in relation to the market and competitors - to what degree do you agree with the following statements? [Our Company constantly scans the outside world to identify trends and future customer needs.]	EO_MAC_11c
11. Concerning your company in relation to the market and competitors - to what degree do you agree with the following statements? [Our Company acts proactively by constantly seeking opportunities for new product or service offerings.]	EO_MAC_11d
18. Concerning sustainability - to what degree do you agree with the following statements? [Companies should influence their customers to consuming more environmentally friendly and sustainable products/services.]	CtS_AP_18a
18. Concerning sustainability - to what degree do you agree with the following statements? [Companies should use marketing to influence the customer to more sustainable/environmentally friendly consumption.]	CtS_AP_18b
18. Concerning sustainability - to what degree do you agree with the following statements? [To act responsibly and sustainably, it is sufficient for companies to comply with laws and regulations.]	CtS_AP_18c
18. Concerning sustainability - to what degree do you agree with the following statements? [In relation to our biggest competitor, we are at the forefront in terms of sustainability.]	CtS_AP_18d
18. Concerning sustainability - to what degree do you agree with the following statements? [In decision-making situations, our company's profitability is heavier than social and environmental sustainability.]	CtS_AP_18e
18. Concerning sustainability - to what degree do you agree with the following statements? [The free market will take care of global environmental problems without the involvement of authorities.]	CtS_AP_18f
19. Concerning marketing strategies and sustainability - to what degree do you agree with the following statements? [In strategic product decisions, environmental friendliness of the product is an important factor.]	CtS_MS_19a
19. Concerning marketing strategies and sustainability - to what degree do you agree with the following statements? [Environmental friendliness is important when planning the competitive emphasis for our most important products and markets.]	CtS_MS_19b
19. Concerning marketing strategies and sustainability - to what degree do you agree with the following statements? [Environmental friendliness and social sustainability are important when planning and implementing purchases of products and services.]	CtS_MS_19c
20. Concerning sustainability in relation to your company as a whole - to what degree do you agree with the following statements? [Sustainability is an important part of the values and philosophy of management in our company.]	CtS_S_20a
20. Concerning sustainability in relation to your company as a whole - to what degree do you agree with the following statements? [Sustainability is a prioritised area for the management team in our company.]	CtS_S_20b
20. Concerning sustainability in relation to your company as a whole - to what degree do you agree with the following statements? [Sustainability considerations have an impact on the strategic planning in our company.]	CtS_S_20c
21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [Environmental aspects are taken into consideration when strategic decisions are to be taken.]	CtS_ICS_21a
21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [Environmental / Sustainability certification means that higher prices can be charged (i.e. our margins are improved).]	CtS_ICS_21b
21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [The degree of environmental friendliness in a product affects how we price it.]	CtS_ICS_21c
21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [Environmental issues affect purchasing and sales. We invite our customers to share their opinions regarding environmental issues.]	CtS_ICS_21d

21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [Sustainability / environmental issues have a major impact on our advertising and communications campaigns.]	CtS_ICS_21e
22. Concerning the environmental and/or sustainability certification - how do the following statements correspond to what your company has done? [We are or are in the process of becoming certified (e.g. ISO 14001, CSR 26001, Green tag, ISO 45001, Biodiversity & Organic Certification, etc.)]	SP_C_22
23. How long has your company been environmentally and/or sustainability certified?	SP_C_23
24. Concerning electricity and water use - how do the following statements correspond to what your company has done? [We have a company policy that allows the company's electricity and water usage to be kept to a minimal level.]	SP_R_24
25. Concerning recycling - to what degree does your company recycle? [To what extent does your company recycle office supplies.]	SP_R_25a
25. Concerning recycling - to what degree does your company recycle? [To what extent does your company recycle food / lunchroom waste]	SP_R_25b
25. Concerning recycling - to what degree does your company recycle? [To what extent does your company recycle other waste (packaging, etc.)]	SP_R_25c
26. To what extent would the following factors contribute in making your firm act more sustainable? [Increased knowledge / education in sustainability.]	SP_P_26a
26. To what extent would the following factors contribute in making your firm act more sustainable? [Increased demand for sustainable goods and/or services]	SP_P_26b
26. To what extent would the following factors contribute in making your firm act more sustainable? [Employee engagement with sustainability.]	SP_P_26c
26. To what extent would the following factors contribute in making your firm act more sustainable? [Subsidies or tax exemptions to move in a more sustainable direction for the company.]	SP_P_26d
26. To what extent would the following factors contribute in making your firm act more sustainable? [More competitors that move in a sustainable direction.]	SP_P_26e
27. Below are a few general statements about the environment - to what degree do you agree with the following statements? [Humans have the right to modify the natural environment to suit their needs.]	MV_27a
27. Below are a few general statements about the environment - to what degree do you agree with the following statements? [The balance of nature is strong enough to cope with the impacts of modern industrial nations.]	MV_27b
27. Below are a few general statements about the environment - to what degree do you agree with the following statements? [The earth has plenty of natural resources if we just learn how to develop them.]	MV_27c
27. Below are a few general statements about the environment - to what degree do you agree with the following statements? [Human ingenuity will ensure that we do not make the earth unliveable.]	MV_27d
27. Below are a few general statements about the environment - to what degree do you agree with the following statements? [If things continue on their present course, we will soon experience a major ecological catastrophe.] R	MV_27e

EXTENTION STUDY CODE BOOK

Timestamp	Coding
12. Below are some questions related to your approach to technological stance - to what extent does your company focus on the following in comparison to your major competitors? [Building a reputation for being first in the industry to try new methods and technologies.]	TO_A_12a
12. Below are some questions related to your approach to technological stance - to what extent does your company focus on the following in comparison to your major competitors? [How would you classify your company's innovation efforts?]	TO_A_12b
13. Concerning your company in relation to automation and process innovation - classifying your company's innovation efforts, to what extent does your company focus on the following in comparison to our major competitors? [Level of automation of plants and facilities.]	TO_AP_13a
13. Concerning your company in relation to automation and process innovation - classifying your company's innovation efforts, to what extent does your company focus on the following in comparison to our major competitors? [Using the latest technology in production.]	TO_AP_13b

13. Concerning your company in relation to automation and process innovation - classifying your company's innovation efforts, to what extent does your company focus on the following in comparison to our major competitors? [Capital investment in new equipment and machinery.]	TO_AP_13c
14. Concerning your company in relation to new product development - to what extent does your company focus on the following in comparison with your major competitors? [Emphasis on new product development.]	TO_NPD_14a
14. Concerning your company in relation to new product development - to what extent does your company focus on the following in comparison with your major competitors? [Rate of new product introduction to market.]	TO_NPD_14b
14. Concerning your company in relation to new product development - to what extent does your company focus on the following in comparison with your major competitors? [Number of new products offered.]	TO_NPD_14c
15. Below are some questions related to commitment to learning - to what degree do you agree with the following statements? [Managers basically agree that our business' ability to learn is the key to our competitive advantage.]	LO_CL_15a
15. Below are some questions related to commitment to learning - to what degree do you agree with the following statements? [The basic values of this business include learning as key to improvement]	LO_CL_15b
15. Below are some questions related to commitment to learning - to what degree do you agree with the following statements? [The sense around here is that employee learning is an investment, not an expense.]	LO_CL_15c
15. Below are some questions related to commitment to learning - to what degree do you agree with the following statements? [Learning in my organisation is seen as a key commodity necessary to guarantee organisational survival.]	LO_CL_15d
15. Below are some questions related to commitment to learning - to what degree do you agree with the following statements? [Our culture is one that does not make employee learning a top priority.] R	LO_CL_15e
15. Below are some questions related to commitment to learning - to what degree do you agree with the following statements? [The collective wisdom in this enterprise is that once we quit learning, we endanger our future.]	LO_CL_15f
16. Concerning your company in relation to shared vision - to what degree do you agree with the following statements? [There is a well-expressed concept of who we are and where we are going as a company.]	LO_SV_16a
16. Concerning your company in relation to shared vision - to what degree do you agree with the following statements? [There is a total agreement on our company vision across all levels, functions, and divisions.]	LO_SV_16b
16. Concerning your company in relation to shared vision - to what degree do you agree with the following statements? [All employees are committed to the goals of this organisation.]	LO_SV_16c
16. Concerning your company in relation to shared vision - to what degree do you agree with the following statements? [Employees view themselves as partners in charting the direction of the organisation.]	LO_SV_16d
16. Concerning your company in relation to shared vision - to what degree do you agree with the following statements? [Top leadership believes in sharing its vision for the organisation with the lower levels.]	LO_SV_16e
16. Concerning your company in relation to shared vision - to what degree do you agree with the following statements? [We do not have a well-defined vision for the entire organisation.] R	LO_SV_16f
17. Concerning your company in relation to open-mindedness - to what degree do you agree with the following statements? [We are not afraid to reflect critically on the shared assumptions we have about the way we do business.]	LO_OM_17a
17. Concerning your company in relation to open-mindedness - to what degree do you agree with the following statements? [Managers in this organisation do not want their "view of the world" to be questioned.] R	LO_OM_17b
17. Concerning your company in relation to open-mindedness - to what degree do you agree with the following statements? [Our organisation places a high value on open-mindedness.]	LO_OM_17c
17. Concerning your company in relation to open-mindedness - to what degree do you agree with the following statements? [Managers encourage employees to "think outside of the box".]	LO_OM_17d
17. Concerning your company in relation to open-mindedness - to what degree do you agree with the following statements? [We do not have a well-defined vision for the entire organisation.] R	LO_OM_17e

18. Concerning sustainability - to what degree do you agree with the following statements? [Companies should influence their customers to consuming more environmentally friendly and sustainable products/services.]	CtS_S_18a
18. Concerning sustainability - to what degree do you agree with the following statements? [Companies should use marketing to influence the customer to more sustainable/environmentally friendly consumption.]	CtS_S_18b
18. Concerning sustainability - to what degree do you agree with the following statements? [To act responsibly and sustainably, it is sufficient for companies to comply with laws and regulations.]	CtS_S_18c
18. Concerning sustainability - to what degree do you agree with the following statements? [In relation to our biggest competitor, we are at the forefront in terms of sustainability.]	CtS_S_18d
18. Concerning sustainability - to what degree do you agree with the following statements? [In decision-making situations, our company's profitability is heavier than social and environmental sustainability.]	CtS_S_18e
18. Concerning sustainability - to what degree do you agree with the following statements? [The free market will take care of global environmental problems without the involvement of authorities.]	CtS_S_18f
19. Concerning marketing strategies and sustainability - to what degree do you agree with the following statements? [In strategic product decisions, environmental friendliness of the product is an important factor.]	CtS_MS_19a
19. Concerning marketing strategies and sustainability - to what degree do you agree with the following statements? [Environmental friendliness is important when planning the competitive emphasis for our most important products and markets.]	CtS_MS_19b
19. Concerning marketing strategies and sustainability - to what degree do you agree with the following statements? [Environmental friendliness and social sustainability are important when planning and implementing purchases of products and services.]	CtS_MS_19c
20. Concerning sustainability in relation to your company as a whole - to what degree do you agree with the following statements? [Sustainability is an important part of the values and philosophy of management in our company.]	CtS-CS_20a
20. Concerning sustainability in relation to your company as a whole - to what degree do you agree with the following statements? [Sustainability is a prioritised area for the management team in our company.]	CtS_CS_20b
20. Concerning sustainability in relation to your company as a whole - to what degree do you agree with the following statements? [Sustainability considerations have an impact on the strategic planning in our company.]	CtS_CS_20c
21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [Environmental aspects are taken into consideration when strategic decisions are to be taken.]	CtS_ICS_21a
21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [Environmental / Sustainability certification means that higher prices can be charged (i.e. our margins are improved).]	CtS_ICS_21b
21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [The degree of environmental friendliness in a product affects how we price it.]	CtS_ICS_21c
21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [Environmental issues affect purchasing and sales. We invite our customers to share their opinions regarding environmental issues.]	CtS_ICS_21d
21. The following questions concern how sustainability issues impact different business functions in your firm - to what degree do you agree with the following statements? [Sustainability / environmental issues have a major impact on our advertising and communications campaigns.]	CtS_ICS_21e

9.8. APPENDIX 8: Questions omitted and used in study

Question No.	Component	Questions omitted	
		By Jansson et al. (2017)	By This Study (2019)
Market orientation - Summated			
Market orientation - Coordination and planning			
6a	We periodically review our product development efforts to ensure that they are in line with what customers want.		
6b	In our organization, marketing personnel spend time discussing customers' future needs with different functional departments.		
6c	Data on customer satisfaction are disseminated at all levels of the organization on a regular basis.		
6d	Our business strategies are based on market research.	x	
6e	When we discover that our customers want to change our product/service, we make a joint effort to meet customer needs.	x	
Market orientation - External focus			
7a	Our organisation is quick to respond to significant changes made by our competitors.	x	x
7b	We continually review to what degree changes in our external environment has on our customers.	x	x
7c	We are slow to detect fundamental shifts in our market (competition, technology, etc.). (R)		
7d	We are slow to detect changes in our customers' preferences. (R)		
Market orientation - Customer focus			
8a	The customers' interests always come first, ahead of the level of profitability.		
8b	This organization exists primarily to serve customers.		
8c	The business objectives of our organization are driven by customer satisfaction.		
8d	When we notice that customers are dissatisfied with our goods/services, we take immediate corrective action.	x	
Entrepreneurial orientation - Summated			
Entrepreneurial orientation - Risk-taking			
9a	Generally our firm views risk as something positive, we encourage projects although the outcome might be uncertain.		
9b	In tough business situations our firm often chooses an aggressive stance to potential business opportunities.		
9c	In tough business situations our firm often chooses to take a wait-and-see stance to minimize the probability of making costly mistakes.	x	x
Entrepreneurial orientation - Proactiveness			
10a	The last three years our firm has launched several new products/services.		
10b	In our organization, creativity and experimenting are encouraged.		
10c	When we change and develop products and services, the changes are more often radical than incremental.		
10d	In our firm we prioritize product development ahead of marketing existing products.		
Entrepreneurial orientation - Market and competitors			
11a	Our company is often first/early to introduce new products/services on the market.	x	x
11b	We attach great importance to being ahead of the competition.	x	x
11c	Our company constantly scans the outside world to identify trends and future customer needs.	x	x
11d	Our company acts proactively by constantly seeking opportunities for new product or service offerings.	x	x
Commitment to Sustainability - Summated			
Commitment to Sustainability - Attitudes and Perspectives			
18a	Companies should influence their customers to consume more environmentally friendly and sustainable.	x	
18b	Companies should use marketing to influence the customer to more sustainable/environmentally friendly consumption.	x	
18c	To act responsibly and sustainably it is sufficient for companies to comply with laws and regulations.	x	
18d	In relation to our biggest competitor, we are at the forefront in terms of sustainability.	x	

18e	In decision-making situations, our company's profitability is heavier than social and environmental sustainability.	x	
18f	The free market will take care of global environmental problems without the involvement of authorities.	x	
Commitment to Sustainability - Marketing strategies and sustainability			
19a	In strategic product decisions, environmental friendliness of the product is an important factor.		
19b	Environmental friendliness is important when planning the competitive emphasis for our most important products and markets.		
19c	Environmental friendliness and social sustainability are important when planning and implementing purchases of products and services.		
Commitment to Sustainability - As a whole			
20a	Sustainability is an important part of the values and philosophy of management in our company.		
20b	Sustainability is a prioritised area for the management team in our company.		
20c	Sustainability considerations have an impact on the strategic planning in our company.		
Commitment to Sustainability - Impact on different business functions			
21a	Environmental aspects are taken into consideration when strategic decisions are to be taken.	x	
21b	Environmental/Sustainability certification means that higher prices can be charged (i.e. our margins are improved).	x	
21c	The degree of environmental friendliness in a product affects how we price.	x	
21d	Environmental issues affect purchasing and sales. We invite our customers to share their opinions regarding environmental issues.	x	
21e	Sustainability/environmental issues have a major impact on our advertising and communication campaigns.	x	
Practical sustainability - Summated			
Practical sustainability - Environmental and/or sustainability certification			
22	We are, or are in the process of becoming certified (e.g. ISO 14001, CSR 26001, ISO 45001, Green tag, Biodiversity & Organic Certification, etc.).	x	
23	How long has your company been environmental and/or sustainability certified?	x	
Practical sustainability - Recycling			
24	We have a company policy that allows the company's electricity and water usage to be kept to a minimal level.	x	
25a	To what extent does your company recycle office supplies.		
25b	To what extent does your company recycle food/lunchroom waste.		
25c	To what extent does your company recycle other waste (packaging, etc.)		
Practical sustainability - Action taken			
26a	Increased knowledge/education in sustainability.	x	
26b	Increased demand for sustainable goods and/or services.	x	
26c	Employee engagement with sustainability.	x	
26d	Subsidies or tax exemptions to move in a more sustainable direction for the company.	x	
26e	More competitors that move in a sustainable direction.	x	
Management values - Summated			
27a	Humans have the right to modify the natural environment to suit their needs.		
27b	The balance of nature is strong enough to cope with the impacts of modern industrial nations.		
27c	The earth has plenty of natural resources if we just learn how to develop them.		
27d	Human ingenuity will ensure that we do not make the earth unliveable.		
27e	If things continue on their present course, we will soon experience a major ecological catastrophe. (R)	x	x

**Gordon
Institute
of Business
Science**
University
of Pretoria

04 July 2019

Green Vanessa

Dear Vanessa

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee