The association between ambidexterity, strategic orientation and business performance in the financial services (banking) sector

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ABSTRACT

Globalisation has increased competition; hence organisations are required to look within, at their capabilities to create a competitive advantage.

The purpose of the study is to firstly investigate the association between ambidexterity and firm performance in the banking sector, and secondly, to investigate the association between ambidextrous capabilities in this sector and their strategic orientation in respect of Miles and Snow’s (1978) typology.

This research will take on the form of a quantitative study, which will proceed in the form of a sample survey questionnaire. The target population refers to the banking organisations that make up the financial services sector in South Africa.

Results of the study confirmed that the greater the ambidextrous capability (structural and contextual combined) present in the banking sector, the greater the performance. Further, the greater the structural ambidexterity is in this sector, the greater the performance. However the latter showed a weak correlation.

It was concluded that innovation is greater in prospectors than defenders. It was further shown that the prospector-combined ambidexterity combination yields the greatest performance when compared to any other combination of strategy and capability.
DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements of 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.

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CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM

1.1 INTRODUCTION

Chapter one provides an introduction to the research which includes *inter alia*, the title and the background to the research problem. The research problem will then be expanded upon, followed by the research objectives. This chapter will conclude with a layout of the study.

1.2 RESEARCH TITLE

The title of the research project is:

The Association between Ambidexterity, Strategic Orientation and Business Performance in the Financial Services (Banking) Sector
1.3 BACKGROUND TO THE RESEARCH PROBLEM

Globalisation has been described as a set of economic processes where limited resources are integrated across country borders and among multinational firms. It has been described as a development strategy to reduce poverty, to provide basic needs and to raise living standards. Globalisation is also a socio-political process through its impact on culture, governance and domestic policy-making (de Wet, 2002).

Globalisation is a complex process – one which presents both opportunities and threats. However South Africa has strengths and weaknesses in engaging with globalisation. Rapid expansion of world trade is creating opportunities for South Africa to boost its economic growth by increasing exports and achieving a diversification of exports that could reduce our dependence on primary products. Threats arise from the fact that globalisation has increased competitive pressures in both export and domestic markets (de Wet, 2002). There is one truth that is important about South Africa’s globalisation strength-weakness-opportunity-threat (SWOT) analysis and that is that globalisation has increased competitiveness.
The message emanating from the 2006 Price Waterhouse Coopers 9th Annual Global CEO survey is that companies throughout the world are vigorously pursuing strategies for globalisation. The survey shows that cutting costs is no longer a winning strategy; companies would have to vigorously pursue finding new customers and expanding markets as the primary goal for tackling globalisation (Price Waterhouse Coopers, 2006; Subramoney, 2006).

The world has become a global village and as the information age takes prominence consumer expectations of service and options has increased. This is the environment in which banks are competing. South African banks have to adapt to global competition or they will find it difficult to compete (IT-online, 2008).

Since the early 1980s, competition was rife at the basic and traditional functions of banks. Max Makhubalo, chief executive officer of the Banking Sector Education and Training Authority (BANKSETA), was quoted as saying that “Technology and globalisation are the biggest drivers of change. Globalisation, rapid growth and increasing sophistication of capital markets have increased the scope for new products” (IT-online, 2008).
BANKSETA was established by the Department of Labour in terms of the Skills Development Act, 97 of 1998 on 20 March 2000. They are actively involved in the development of skills in the banking sector to ensure enhanced competitiveness (BANKSETA, 2008).

The opposing view to technology and globalisation was captured in a report prepared for the Competition Commission (Akinboade, 2006, p34). The report looked at competition in banking in two paradigms, contestability and effective competition. “A market is contestable if entry and exit barriers are low, in which case incumbent firms are restrained from exercising monopoly power because of the credible threat of new entrants. Even where there are a number of competitors in a market place, competition will be effective only if the consumer is able to make rational choices and exercise these choices at low transaction costs.” The report found that the South African banking industry was not adequately contested in the retail and small business market segments and failed to show effective competition.

While there is a question as to whether there currently is or isn’t competition in the South African banking sector, the ability of these to compete in the global economy...
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depends on the effectiveness of its people at all levels and the strategies that the companies pursue.

1.3.1 Technology as a driver of change

Technology continues to be a major driver of change in the banking sector. While it has facilitated the rationalisation of physical banks and has provided vast opportunities for the sector, especially pertaining to service delivery, it also has created new threats and new competitors. The range of new competitors includes foreign banks to boutique shops, brokers and accounting firms. South African retailers such as Pick ‘n Pay, Pepkor and Game have gained much ground in their intention to use their store networks to market low-cost financial products, such as Go-banking in the case of Pick ‘n Pay.

Prahalad and Ramaswamy (2003) explain that the convergence of multiple discreet technologies and major changes in the competitive landscape were transforming the market place and the potential for innovation was greater than ever. By implication, failure to innovate is likely to result in reduced competitiveness
Globalisation and technology has considerably changed the face of banking. The question remains as to whether these innovations are sustainable. Perhaps the question should be not whether, but rather how can the banks sustain their edge ahead of their competitors. Parts of the answer to this question lie in the capabilities of a company.

Capabilities are those strengths of a firm or business that enable it to perform well in respect of processes and routines. Menguc and Auh (2007, p1) defined it as “the ability, competency or efficacy to deploy, implement, or execute resources for a firm’s advantage.” The resource view differentiates resources with capabilities, where the latter is responsible for the good performance of processes and routines. It is evident that capabilities assist the process of creating value and competitive advantage (Atuahene-Gima, 2005; Slotegraaf, Moorman and Inman, 2003; Srivastava, Fahey and Christensen, 2001).
1.4 RESEARCH PROBLEM DEFINITION

The basis of this research will focus primarily on the association between ambidexterity and business performance in the financial services (banking) sector. This will include, but not limited to, the strategic orientation of Miles and Snow’s (1978) typology identifying prospectors and defenders, and their association amongst ambidexterity and business performance.

Ambidexterity is seen as the simultaneous balance between contradicting innovative forces striving to achieve present and future success (Bolinao, 2008). Ambidexterity is a key capability to sustain competitive advantage as it assists in the creation of multifaceted companies. In order to be sustainable, the organisation must manage to adapt to the changing environment in which it operates. O’Reilly and Tushman (2007) reaffirms that a firm’s ability to exploit existing assets and positions to create value and simultaneously to explore new technologies and markets, to shape and reshape organisational resources to capture existing as well as new opportunities are core aspects linked to the adaptation process. These are the attributes of ambidexterity.
Auh and Menguc (2005) posited that there were two types of learnings that represent organisational resources and capabilities that firms can utilise to build and maintain their competitive advantage under changing environmental conditions. They are exploration and exploitation. Let us now define these two capabilities.

March (1991) explains exploitation as refinement, choice, selection, implementation and execution and for O’Reilly and Tushman (2007, p10) exploitation is about efficiency, increasing productivity, control, certainty, and variance reduction, while “exploration is about search, discovery, autonomy, innovation and embracing variation. Ambidexterity is about doing both”.

Exploration and exploitation are opposing constructs. However, despite the paradox, it has been suggested by various scholars (March, 1991; O’Reilly and Tushman, 2004, He and Wong, 2004; Auh and Menguc, 2005) that a combination of these two strategies be utilised. A focus entirely on exploration at the expense of exploitation tends to be a high-risk strategy, with high costs incurred related to the challenges in unexplored markets, or the creative destruction of existing products with uncertain tangible outcomes in the future. On the other hand a full
exploitation strategy at the expense of exploration would entail a very short term outlook of the business with little learning and development. Having this short term focus could set the business up to overlook any opportunities in the long-term that might prove valuable (Auh and Menguc, 2005).

Prospectors and defenders as described by Miles and Snow (1978) are two opposing strategic typologies used in the literature (Matsuno and Mentzer, 2000). Prospectors focus on the exploration as their central strategy. This entails experimentation, risk taking and creative destruction (Rust, Moorman and Dickinson, 2002). Defenders on the other hand default to their exploitation capabilities. These usually imply a cost management approach through automation and modernisation of facilities, cost reduction through economies of scale and improving on capacity utilisation (Rust et al, 2002). Miles and Snow’s (1978) strategy typology would be utilised to examine how prospectors and defenders benefit by balancing exploration and exploitation when competition intensifies. The expectation is that the same strategic initiatives (both exploration and exploitation) would yield different results between prospectors and defenders. This preconceived notion is based on the belief that prospectors have a strong affinity towards exploration and defenders have an orientation towards exploitation.
With technology as a driver for change and organisations having to adapt to this change, it would be insightful to determine how and with what combination of capabilities and strategic orientations do the organisations in the financial services (banking) sector in South Africa rely on for outperforming their rivals in the industry. Technology as an example has enabled banks to make use of the internet, thus changing the channels through which they deal with customers. Technology has also enabled customers to gain control over their own personal finances as they are now able to engage with the banks and gather more information through the internet. Globalisation, together with technology, has created a seamless banking environment that provides customers with a choice – the most important being the choice of how they want to manage their own finances (lt-online, 2008). With this level of innovation, in the current context of the industry, how do these organisations prepare for the future to attain success over their rivals?

1.5 RESEARCH OBJECTIVES

The purpose of the study is to firstly investigate the association between ambidexterity and firm performance in the banking sector, and secondly, to
investigate the association between ambidextrous capabilities in this sector and their strategic orientation in respect of Miles and Snow’s (1978) typology.

1.6 RESEARCH METHODOLOGY

This section briefly explains the research methodology that will be followed in order to have the survey pre-tested and then executed, followed by collation and analysis of the data.

1.6.1 Method

This research will take on the form of a quantitative study, which will proceed in the form of a sample survey questionnaire. The questionnaires will be emailed to the respondents representing the target population. The target population refers to the banking organisations that make up the financial services sector in South Africa. The services of a statistician will be used to validate the results and the pre-test will highlight any biases that may occur.
1.6.2 Pretest

A pretest would be administered in order to check for understanding of the questions, ambiguous or bias questions. The pre-test group will be made up of a selected group of first and second year Masters in Business Administration (MBA) students at the Gordon Institute of Business Science (GIBS) similar to the approach of Desarbo, Di Benedetto, Song and Sinha (2005).

1.6.3 Unit of analysis

The unit of analysis will be made up of companies in the financial services (banking) sector.

1.6.4 Population

The financial services (banking) sector in South Africa could be defined as competitive (Oelofse, 2006). However, with their high costs, can they remain competitive? What strategies are required to be followed or changed in order to survive going forward?
The population for this study will include all the banking organisations listed on the Johannesburg Stock Exchange under the financial services sector. The rest of the financial services sector will be excluded save for the banking sector.

This research will attempt to explain the association between the strategy that a bank adopts and its capabilities in executing the strategy. Further this research will attempt to highlight any association between these specific capabilities of exploitation and exploration and firm performance.

1.6.5 Sample

A random sample of the students in the 2007/2008 class of MBA students at GIBS will be used as the first tier of a snowball sampling technique.

Snowball sampling refers to a “procedure in which initial respondents are selected by probability methods and additional respondents are obtained from information provided by the initial respondents” (Zikmund, 2003, p741).
Due to the spread of students across all industries in all sectors it is encouraging to note according to the data provided by GIBS that the banking sector is well represented in the MBA class and the snowball technique would create greater access to more firms in this sector.

1.6.6 Data collection

The questionnaire, accompanied by the supporting documents, highlighting the ethical statement and informed consent will be sent via email to selected respondents. These respondents will be requested to send the questionnaires on to other respondents whom they choose and thus the snowball sampling technique will be effected.

1.6.7 Data analysis and limitations

The internal consistency reliability of survey instruments is a measure of reliability of different survey items intended to measure the same characteristic. The internal consistency of the measuring instrument will be verified from the results of the pre-test and with the use of the Cronbach’s coefficient alpha, which is a statistic
that shows the homogeneity of the scale. Explained differently, it is an indication of the degree to which the various survey questions complement each other in their measurement of the same characteristic.

There are limitations to the study in respect of the convenience sample as the representation of companies in the population and their mix of strategic orientation with ambidextrousness may not necessarily be represented by the MBA students at GIBS. A stratified sampling technique can not be used as the proportions of the banking sector may not have been assimilated to the convenience sample chosen.

1.7 CONCLUSION AND LAYOUT OF THE STUDY

In this chapter the topic was introduced along with the background and the research problem. An overview was presented of the ambidextrous nature of organisations. Key concepts of exploitation and exploration were discussed and their link with the Miles and Snow (1978) typology of prospector and defender. The research objectives were also stated.
Hence, this research will investigate the association between ambidextrous organisations in the banking sector and their synergy with prospector and defender strategic orientations in pursuance of higher business performance.

The research methodology was briefly discussed where a (non-probabilistic) snowball sampling technique will be utilised to extend the sample survey in the form of a questionnaire to the required population of middle and higher management personnel in the banking sector.

This chapter will be followed by Chapter Two which provides a theoretical background to the research in the form of a literature review that forms the basis for the study. The concepts of ambidexterity, exploration and exploitation will be explicitly explained. Opposing arguments to combined capabilities will also be introduced. The notions of prospector and defender orientations from Miles and Snow’s (1978) typology will be clarified. The chapter will conclude with a deep understanding of the financial services sector in South Africa and some of the challenges facing this sector.
Chapter Three concisely sets out the hypotheses. The four hypotheses to be tested will cover the association between ambidexterity and firm performance, the association between structural ambidexterity and firm performance, the degree of innovation utilised in prospectors and defenders and finally the association between a prospector with ambidextrous capabilities and the firm performance. Definitions of the above mentioned terms that are covered in the hypotheses will also be presented.

The research methodology will be captured in Chapter Four. Details of the unit of analysis, sample size and sampling method will be expressed. The data collection process along with the research instrument used will be specified. This will be followed by both the process of data analysis and the limitations of the study.

Chapter Five contains the results. This chapter includes the sample of the results, tables and figures. Some analysis of the findings can be expected in this chapter. These are then linked to the questions detailed in Chapter Three.
Chapter Six follows with a discussion of the results in terms of the research hypotheses. An in-depth insight into the findings in terms of the context of the study is presented.

In the final chapter, the conclusion highlights the findings of the research. Recommendations to stakeholders on the findings as well as highlights for future research studies will be presented.
CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The literature review offers the theoretical background to the research including definitions, frameworks and conceptual models. An explanation of the Miles and Snow typology, along with prospector and defender strategic orientations will be presented.

Based on the distinction between exploration and exploitation (March, 1991), this chapter discusses recent conceptual studies (Gibson and Birkinshaw, 2004; O’Reilly & Tushman, 2004) and defines exploratory and exploitative capabilities as two distinct types of innovative capabilities. Since researchers working in closely related streams have converged on the notion of exploration and exploitation, a brief overview is given on literatures surrounding these concepts.

The sections dealing with exploration and exploitation are concluded by a discussion on recent literature on balancing exploration and exploitation (Menguc
and Auh, 2007). Subsequently, research on organisational ambidexterity in general and on dealing with paradoxes in organisations such as pursuing exploratory and exploitative innovations will be discussed. This chapter examines whether ambidextrous organisations obtain higher levels of financial performance, and investigates how these organisations cope with potentially conflicting pressures from exploratory and exploitative capabilities and innovations. In short, do successful ambidextrous organisations separate or combine both types of capabilities in organisational units?

The chapter will conclude with an insightful assessment of the financial services sector in South Africa and some of the challenges facing this sector.

2.2 STRATEGIC ORIENTATION

Grover and Saeed (2004) contended that strategic orientation is the deployment of resources in achieving a competitive advantage. The broad orientation extends to the decisions resulting in scope of the business including characteristics of the market, products and the geographic reach of the business. Strategic orientation is
the means by which a business creates alignment with that which it is capable of doing to that which it wants to achieve. Strategic orientation reflects the “strategic directions implemented by a firm to create the proper behaviours for the continuous superior performance of the business” (Gatignon and Xuereb, 1997, 78).

2.2.1 Miles and Snow’s adaptation and typology

Miles and Snow (1978) described strategy as an ongoing process of evaluating purpose as well as questioning, verifying and redefining the manner of interaction with the competitive environment. Miles and Snow postulated a theoretical framework that can be used to analyse an organisation as an integrated and dynamic model. This framework accounts for the associations among strategy, structure and processes. The framework focuses on two main elements: the process of adaptation and the organisational typology.

Miles and Snow (1978) described the process of adaptation as the major decisions needed by the organisation to maintain an effective alignment with its environment. These decisions were grouped into three categories or problems of
organisational adaptation: the entrepreneurial problem; the engineering problem and the administrative problem.

The entrepreneurial problem, which is more defined in new or rapidly growing organisations, is the organisation’s ability to place itself in a certain domain and have goods or services meet the needs of a certain target market or market segment (Miles and Snow, 1978). Mercantile Bank of South Africa is such an example of a bank that operates in selected retail, commercial, corporate and alliance banking niches to which it offers banking, financial and investment services (Mercantile, 2008).

Miles and Snow (1978, p 549) state that the engineering problem “involves the creation of a system which operationalises management’s solution to the entrepreneurial problem”. Such a system would require related changes to existing technology and improved communication between linkages over technological changes. Standard Bank, Amalgamated Banks of South Africa (ABSA) and Nedcor are typical examples of how technology is being used to increase touch points to the customer (Standard Bank, 2008; ABSA, 2008; Nedcor, 2008). Touch points refer
to all the avenues available to customers to access the bank, be it via cellular phones, landlines or the internet.

The administrative problem is centred on the reduction of uncertainty within the organisational system. The typical solution would be to rationalise the activities that are used to solve the entrepreneurial and engineering problems (Miles and Snow, 1978).

Miles and Snow’s (1978) theoretical framework is comprised of two main elements: the process of adaptation as described earlier; and an organisational typology. The latter describes the various strategic orientations adopted by organisations to attain a competitive advantage in their environment (Zahra and Pearce II, 1990). These strategic orientations vary by the rate of change in the organisational domain.

Miles and Snow (1978) identify three strategic types of organisations: Defenders, Analysers and Prospectors. Each strategic orientation is unique in relating to the chosen market and each orientation has a particular consistency through technology, structure and process that is aligned with the market strategy. The
Reactor is the fourth type of strategic orientation albeit there are inconsistencies among its strategy, technology, structure and process. This research will focus on prospectors and defenders as these portray the two extremes of Miles and Snow’s strategic orientations.

2.2.2 Prospector

Miles and Snow (1978) and later O’Cass and Ngo (2007) described the prospector as a company with an innate ability to locate and take advantage of new product and market opportunities. Pinto and Curto (2007, p 61) had a similar view of the prospector as they argued that it continuously explores “the opportunities of the global market, frequently testing new solutions as alternatives to emergent trends”. Pharmaceutical companies are typical examples of companies following this type of strategy.

Various literature reviews over the years have described prospectors with the following qualities; explorative capabilities; creators of change; innovators; differentiators; high levels of research and development; risk takers and high levels of creative destruction (Miles and Snow, 1978; O’Regan and Ghobadian, 2005;
Conant, Mokwa and Varadarajan, 1990; Auh and Menguc, 2005; Menguc and Auh, 2007; Desarbo et al, 2005).

The prospector orientation focusing on innovation over high profitability could lead the business into high debt as the failure rate resulting from constant innovation on new product and market opportunities is much more certain than success. Pinto and Curto (2007) found that the pioneering behaviour of a prospector leads to efficiency problems in the business as the prospector is continuously testing new solutions as alternatives to emerging trends in the global market. However Aragon-Sanchez and Sanchez-Marin’s (2005) study found that prospectors outperform analysers and defenders, in that order. Table 2.1 shows the characteristics of the prospector as described by the entrepreneurial, engineering and administrative problem. Further, on the entrepreneurial side, there is mention of “continuously developing”, “changes in the industry” and “growth”. These concepts are central to the way a prospector should operate. Flexibility on the engineering side assists with research and development, failing fast and early and taking products to market speedily.
Table 2.1: Characteristics of the Prospector

<table>
<thead>
<tr>
<th>Entrepreneurial Problem</th>
<th>Engineering Problem</th>
<th>Administrative Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to locate and exploit new product and market opportunities</td>
<td>How to avoid long term commitments to a single technological process</td>
<td>How to facilitate and coordinate numerous and diverse operations</td>
</tr>
<tr>
<td>Solutions:</td>
<td>Solutions:</td>
<td>Solutions:</td>
</tr>
<tr>
<td>1. Broad and continuously developing domains</td>
<td>1. Flexible, prototypical technologies</td>
<td>1. Marketing and research and development exerts most powerful members of the dominant coalition</td>
</tr>
<tr>
<td>2. Monitors wide range of environmental conditions and events</td>
<td>2. Multiple technologies</td>
<td>2. Dominant coalition is large, diverse and transitory; may include an inner circle</td>
</tr>
<tr>
<td>3. Creates change in the industry</td>
<td>3. Low degree of routinisation and mechanisation, technology embedded in people</td>
<td>3. Tenure of dominant coalition not always lengthy; key managers may be hired from outside as well as promoted from within</td>
</tr>
<tr>
<td>4. Growth through product and market development</td>
<td></td>
<td>4. Planning is comprehensive, problem oriented, and cannot be finalised before action is taken</td>
</tr>
<tr>
<td>5. Growth may occur in spurts</td>
<td></td>
<td>5. Tendency toward product structure with low division of labour and low degree of formalisation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Decentralised control and short looped horizontal information systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Complex coordination mechanisms and conflict resolved through integrators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. Organisational performance measured against important competitors; reward system favours marketing and research and development</td>
</tr>
</tbody>
</table>
Cost and Benefits:  
Product and market innovation protect the organisation from a changing environment, but the organisation runs the risk of low profitability and over extension of its resources  
Technological flexibility permits a rapid response to a changing domain but the organisation cannot develop maximum efficiency in its production and distribution system because of multiple technologies  
Administrative system is ideally suited to maintain flexibility and effectiveness but may underutilise or misutilise resources


2.2.3 Defender

The defender is a strategic orientation used by firms that focus on a narrow and finite product market domain to guard and preserve their market share (Aragon-Sanchez and Sanchez-Marin, 2005). Desarbo et al (2005) explain further that defenders maintain a protected niche and do not utilise resources on new product or market developments, but rather opt for a limited range of products. Their main driver is the efficient utilisation of resources and process improvements to minimise manufacturing costs. Table 2 shows the characteristics of a defender across the entrepreneurial, engineering and administrative areas. How does a defender solve these problems? In short the table highlights the protection of the domain for the entrepreneurial problem and continuous improvement and efficiency for the engineering problem.
### Table 2.2: Characteristics of the Defender

<table>
<thead>
<tr>
<th>Entrepreneurial Problem</th>
<th>Engineering Problem</th>
<th>Administrative Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem: How to seal off a portion of the total market to create a stable set of products and customers.</td>
<td>Problem: How to produce and distribute goods or services as efficiently as possible</td>
<td>Problem: How to maintain strict control of the organisation to ensure efficiency.</td>
</tr>
<tr>
<td>Solutions:</td>
<td>Solutions:</td>
<td>Solutions:</td>
</tr>
<tr>
<td>1. Narrow and stable domains</td>
<td>1. Cost-efficiency technology</td>
<td>1. Financial and production experts most powerful members of the dominant coalition; limited environmental scanning</td>
</tr>
<tr>
<td>2. Aggressive maintenance of domain (e.g. competitive pricing and excellent customer service)</td>
<td>2. Single core technology</td>
<td>2. Tenure of dominant coalition is lengthy; promotions from within</td>
</tr>
<tr>
<td>3. Tendency to ignore developments outside of domain</td>
<td>3. Tendency toward vertical integration</td>
<td>3. Planning is intensive, cost oriented and completed before action is taken.</td>
</tr>
<tr>
<td>4. Cautious and incremental growth primarily through market penetration</td>
<td>4. Continuous improvements in technology to maintain efficiency</td>
<td>4. Tendency toward functional structure with extensive division of labour and high degree of formalisation</td>
</tr>
<tr>
<td>5. Some product development but closely related to current goods and services</td>
<td></td>
<td>5. Centralised control and long looped vertical information systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Simple coordination mechanisms and conflict resolved through hierarchical channels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Organisational performance measured over previous years; reward system favours production and finance</td>
</tr>
</tbody>
</table>

**Cost and Benefits:**
- It is difficult for competitors to dislodge the organisation from its small niche in the industry, but a major shift in the market could threaten survival
- Technological efficiency is central to organisational performance, but heavy investment in this area requires technological problems to remain familiar and predictable for lengthy periods of time
- Administrative system is ideally suited to maintain stability and efficiency but it is not well suited to locating and responding to new product or marketing opportunities

Miles and Snow’s (1978) defenders respond to the various environments in a manner that is in total contrast to the prospector. Defenders crave stability and focus on creating a niche market in which they aggressively prevent competitors from entering. Defenders are prone to resorting to price wars to increase entry barriers into the market wherein they operate.

Defenders strive to achieve a cost leadership in the market in which they operate by way of excellence in operational efficiency through automation and modernisation of their facilities and processes. Defenders are continuously streamlining their production and distribution functions in order to achieve optimal capacity utilisation. By gaining economies of scale, defenders are successful in raising barriers to entry, thus preventing others from penetrating the market (Miles and Snow, 1978; O’Regan and Ghobadian, 2005; Conant et al, 1990; Auh and Menguc, 2005, Menguc and Auh, 2007; Desarbo et al, 2005). Defenders are successful at improving their efficiency largely by refining their existing resources and capabilities.
2.3 CAPABILITIES

Capabilities of a firm, if nurtured and strengthened, can assist the organisation in achieving a competitive advantage over its rivals. Hafeez, Zhang and Malak (2001, p39) point out that capabilities are synonymous with core competence if the former is “strategically valuable” in assisting the organisation to meet its objectives.

There is a school of thought that believes that capabilities are a part of resources that include physical resources (such as raw materials and equipment), human resources (such as training, experience and skills), as well as organisational resources in the form of processes and routines (Barney, 1991; Marino, 1996). On the other hand, several authors argue that capabilities should be kept separate from resources as the former is more dynamic. Hafeez et al (2001) agree with the latter argument. They feel that capabilities are the result of a combination of activities and processes.

Routines that result from the organisation’s past, their experience, and their combined learnings could also form part of the organisation’s capabilities. Toyota’s
just-in-time manufacturing capability is such an example. While resources could exist on their own, capabilities are deeply intertwined in the organisational fabric (Hafeez et al, 2001).

Hafeez et al (2001) found that core competencies are the valuable capabilities that when fully exploited yield a competitive advantage for the organisation in the market place.

The capabilities of exploitation and alignment predominantly found in defenders to sustain their market domain could be viewed as their core competences; similarly with prospectors the capabilities of exploration and adaptability dominate (Menguc and Auh, 2007).

Dynamic capabilities are anchored in a firm’s ability to exploit through incremental innovation and explore through radical innovation. They are reflected in the sustained performance of a particular product (March, 1991; McGrath, 2000).

The concept of capabilities specific to exploitation will be further discussed in the next section.
2.3.1 Exploitation

Exploitation refers to the refining and extending of existing skills and capabilities; to the refinement of existing competencies and resources to improve operational efficiency by performing the same activities more efficiently. The emphasis for this capability is on control, efficiency, reliability and conformance to specification (Deming 1981). Exploitation can be extended to capture economies of scale, modernisation, automation, capacity utilisation, variance reduction and mean seeking. March (1991) describes exploitation as a capability that is embodied in refinement, choice, production, efficiency, selection, implementation and execution. He and Wong (2004, p481) agree with this when they state that “exploitation is associated with mechanistic structures, tightly coupled systems, path dependence, routinisation, control and bureaucracy, and stable markets and technologies”. Exploitation creates reliability in experience through refinement and routinisation of knowledge (Holmqvist, 2004).

Benner and Tushman (2003) describe the concept of exploitative innovation as incremental innovations designed to meet the needs of existing and defined set of customers or markets where there exists an opportunity to expand on existing
products or processes. This type of innovation can incrementally improve on established designs. According to Holmqvist (2003, p99) organisations that pursue exploitative innovations, “refine their capabilities; they exploit their existing knowledge”, and focus on current activities in existing domains. Exploitative innovations are continuously building on existing knowledge and reinforcing existing skills, processes and structures (Holmqvist, 2004). They are characterised by activities that focus on refinement, production, efficiency, and execution (March, 1991).

Incremental innovation initiates minor modifications to existing products and processes and supports established designs and structures. This type of innovation is designed to meet the needs of existing customers or markets. Organisational units pursuing exploitative innovations are supposed to be larger and more centralised with a more entwined culture (Benner & Tushman, 2003).

Levinthal and March (1993) argue that in order to counter such an excessive focus on exploitation that results in organisational myopia and competency traps, the need for going beyond local search has been very much emphasised in the
literature. This ability to go beyond the current domain is referred to as exploration, which will be discussed in the next section.

2.3.2 Exploration

March’s (1991) seminal article describes exploration as a capability used in the experimentation of new and innovative alternatives. Slater and Narver (1995) defines this capability as a symptom of organisational learning through questioning; pushing the knowledge barrier; engaging in proactivity and risk taking. Exploration comprises of activities such as discovery, concept testing, creative deconstruction and research and development. Creative deconstruction refers to the unlearning of various capabilities and the abolishment of current mental models or frames of reference (March, 1991).

Exploration creates variety in experience through search, discovery, novelty, innovation, and thrives on experimentation. Where organisations have a tendency to master what they do repeatedly and successfully, they could be subjected to a competency trap. However with a variety of experiences that exploration allows, organisations could extend their competencies so that they are not focused too
heavily on only those capabilities which they are good at (Holmqvist, 2004). More recently Auh and Menguc (2005) explained that exploration is primarily concerned with revolutionary change; change that requires the operation of any organisation to be carried out under new assumptions and paradigms.

March (1991) argues that the short term returns from exploration are difficult to quantify. These returns can be uncertain and distant. March (1991, p85) further states that “the distance in time and space between the locus of learning and the locus for the realisation of returns is generally greater in the case of exploration than in the case of exploitation, as is the uncertainty.” Auh and Menguc (2005, p1653) agree with March’s argument by stating that “exploration might be effective but due to its long term nature it might lack a high degree of efficiency”.

Benner and Tushman (2003) describe the concept of exploratory innovation as radical innovations designed to meet the needs of emerging markets where there exists an opportunity to create new products or processes. This type of innovation can create new designs or markets and with sufficient variety it could redefine these markets. The explorative innovations result from “the search for new organisational routines, and the discovery of new approaches to technologies,
businesses, processes or products” (McGrath, 2000, p3). Exploratory innovations are continuously pursuing new knowledge and moving away from existing knowledge and paradigms (Jansen, 2005). They are characterised by search, variation, experimentation, flexibility, and risk-taking (March, 1991).

Radical innovation is based on a different set of principles as opposed to incremental innovation and would usually create access to entire markets and meet the needs of emerging markets. Organisations pursuing exploratory innovations are generally smaller and decentralised with weak cultures (Benner & Tushman, 2003). The introduction of cellular phone banking by Standard Bank would be an example of a radical innovation in the banking sector.

2.3.3 Exploration and exploitation as capabilities

March (1991, p71) defined the two concepts as follows: “Exploration includes things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation. Exploitation includes such things as refinement, choice, production, efficiency, selection, implementation, execution”. Companies utilising more of an exploration capability at the absence of exploitation
would tend to incur major costs due to experimentation without gaining any benefits, while firms utilising exploitation capabilities at the expense of exploration are left trapped in a static dimension and could struggle to see beyond their false sense of security and competence. A balance or trade-off between exploitation and exploration could be struck (March, 1991).

Levinthal and March (1993, p105) later explain why a trade–off is required. They described how a company focusing on the long term exploratory initiatives in the absence of exploitation would drain resources and create a “failure trap”. This is an indication that prospectors could include exploitation as part of their approach in synergy with exploration. Defenders on the other hand spend more energy on refining and extending existing skills and capabilities, refining existing competencies and resources to improve operational efficiency; this myopic view would lead to a “success trap”, hence defenders should rethink their capabilities and opt for a balance between exploitation and exploration.

A focus entirely on exploration with no exploitation could be highly risky with high costs. An organisation following this approach will definitely fit the profile of a
learning organisation as there would be many challenges in achieving long term successes. According to Senge (1990, p3) learning organisations are

“…organisations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together”

The development of new markets, the creative destruction of existing products on an ongoing basis can be tedious, energy consuming for both the company and its people. The returns from radical innovation are not forthcoming and are usually incurred over longer periods of operation. On the other hand, a full exploitation strategy would entail a very short term outlook on operation. Continuously protecting the existing market with efficiency drives and cost cutting exercises could leave very little energy to be utilised on future products, process developments, and changes in market activity and manoeuvring between shifts in product life cycles.

2.3.4 Pro - Exploration

Highly innovative firms are characterised by their proactiveness and their research and development (R&D) orientation. The customer of tomorrow demands products with high levels of performance or attribute sets. These are possible due to the
technology embedded in the product. The products which are conceptualised, piloted and built by the innovative firms are those firms focusing on exploration (Danneels, 2002).

Corso and Pellegrini (2007, p337-9) in their analysis of exploration divided this capability in two: incremental and radical exploration. Incremental exploration refers to that capability that leads on to incremental innovation in both product and process. They use the example of a business process redesign or re-engineering that attempts to enhance the performance of an existing process.

However, this argument contradicts the explanation given by Auh and Menguc (2005) where exploration was equated to a revolutionary change. In his argument for this notion, March (1991) mentions terms such as search, variation and risk-taking to describe exploration. Incremental exploration is seen as small variances to existing knowledge that is made to optimise the process or product. Hence Corso and Pellegrini’s (2007) argument of a concept as incremental exploration contradicts the understanding of the explorative capability.
2.3.4.1 Radical innovation

O’Connor and DeMartino (2006, p 475) support the argument that radical innovation is what is required for business to grow beyond the competition. Large organisations are looking “beyond conventional product development that leads to incremental changes in current product line.” Radical innovation is what is required and it is this radical innovation that is synonymous to exploration.

In an opposing view, Hill and Rothaermal (2003) argued that there are forces in an organisation which prevents radical innovation from being effective. Organisations that grow with the assistance of gaining efficiencies in the process or products and build competencies over time, are companies that inherit core rigidities (Leonard-Barton, 1992) and core incompetencies (Dougherty, 1995). This prevails due to the resources that are consumed in trying to achieve the break through innovation and realising their returns.

Boer, Kuhn and Gertsen’s (2006) notion of today’s and tomorrow’s customers has created somewhat of a paradox. Organisations can pursue customers today with their incremental innovation and refinement of current process coupled with cost-
cutting initiatives to remain competitive today. However what of the grasping of
the customer of tomorrow or better still, what of redefining the customer of
tomorrow by way of radical innovation, by way of utilising the explorative
capabilities of the organisation and aligning its strategy to the market?

The solution according to March (1991) and more recently Boer et al (2006) is to
create a balance between exploitation and exploration. A balance between the
satisfaction of needs of today’s customers and the anticipation or creation of the
needs of tomorrow’s customers is required to be created. This will be done by
balancing the exploitation of today’s certainties with the exploration of tomorrow’s
opportunities.

This would require a continuous flow of incremental innovation building upon the
capabilities of existing resources, processes and products to satisfy the current
needs of the market, to sustain an even cash flow for the continuous operation of
the business, while at the same time rejuvenating products for different markets
(e.g. lower end disruption) or new products with new product attributes for the
more sophisticated markets and to pursue future growth.
Literatures on innovation have created a distinction between radical and incremental innovations and exploration and exploitation as opposing capabilities. However, despite this antagonism, it has been suggested, by certain scholars (O’Reilly and Tushman, 2004 and Gibson and Birkinshaw, 2004), that both types of innovations and capabilities and its organisational structure and practices be utilised in concert with each other.

2.3.5 Balancing exploitation and exploration

Various articles and related research have highlighted that firms are required to balance their exploitative and exploratory capabilities (van Looy, Martens and Debackere, 2005; Auh and Menguc, 2005; Corso and Pellegrini, 2007; Menguc and Auh, 2007; Li, Vanhaverbeke and Schoenmakers, 2008). However few have empirically tested financial performances of the combined effect of exploitation and exploration or ambidexterity (Jansen, 2005).

Danneels (2002, p 1115) devised a congruent typology that explained how new product developments, ranging from pure exploitation to pure exploration, encouraged organisational renewal. Danneels argues that product innovation
develops firm competencies which lead to firm renewal over time. Danneels’s typology explained that firm competencies could be leveraged by “de-linking competences from current products, and re-linking of current competences to new products”.

Holmqvist (2004) developed an integrated framework that showed how exploitation is intertwined with exploration throughout and amongst different organisations. The data from the case study performed showed how shifts between exploitative and exploratory behaviour within organisations generated inter-organisational exploration and exploitation and how exploration and exploitation between organisations generated intra-organisational exploration and exploitation.

Auh and Menguc (2005) found that the effects of exploration or exploitation alone on prospector and defender type firms resulted in different firm performance. For prospectors exploration was more positively related to firm performance than was exploitation. For defenders exploitation was more positively related to firm performance than was exploration. This study further found that regardless of the strategic orientation of the firm, exploration is more positively associated with effective firm performance than was exploitation, while in prospectors only,
exploitation was more positively related to efficient firm performance than was exploration. The results from this study implied that firms do need to strike a balance between exploration and exploitation when faced with increased competitive intensity, and the “costs associated with neglecting one [capability] over the other can negatively influence firm performance” (Auh and Menguc, 2005, p 1660).

Corso and Pellegrini (2007) agree with the combination of capabilities as they argue that in order to serve both today’s and tomorrow’s customers the firm is required to manage two related balancing acts. On one hand, striving for excellence in both exploitation and exploration, and on the other, striving for excellence in managing both incremental and radical innovation.

The combination of capabilities better referred to as ambidexterity, will be discussed in the following pages.
2.3.5 Ambidexterity

Previous literature emphasised the critical role of organisational learning and knowledge in achieving a competitive advantage. Although organisations have to learn through experience and refinement of existing capabilities, they are also required to create variety in experience through experimenting, innovating, and risk taking. Organisations face a dilemma in allocating resources between the exploration of new alternatives and the exploitation of existing practices. This trade-off between exploitation and exploration has been elucidated in detail in the form of ambidexterity (Jansen 2005, Levinthal & March, 1993; March, 1991).

Ambidexterity refers to the combination of opposing capabilities such as exploration with exploitation or radical with incremental innovation (O’Reilly and Tushman, 2004; He and Wong, 2004; Auh and Menguc, 2005). Ambidexterity can be a key capability to sustain competitive advantage as it can assist in the creation of multifaceted companies.

Kyriakopoulos and Moorman (2004) cited three reasons why theorists like March (1991) felt that exploitation and exploration are competing capabilities. The first is
that exploration reduces the amount of exploitation and firm exploitation reduces the amount of exploration. Secondly, both exploration and exploitation are competing for limited resources and whose allegiance lies in opposing organic structures and cultures. Hence the coexistence of both capabilities was construed as a lack of focus and internal fit. Thirdly, these authors have argued that only one capability should be used to create fit with the external environment.

Despite the opposing view, Kyriakopoulos and Moorman (2004) argue that if the organisation focuses only on exploration, the returns, which are far and inconsistent (March, 1991), would not be realised for the gain in knowledge. The organisation that focuses on exploitation alone will suffer from obsolescence. Kyriakopoulos and Moorman (2004, p220) agree with this notion by stating that “survival requires a balance”, a balance between exploration and exploitation. This ambidextrous approach would ensure that sufficient energy is utilised for current and future viability engaging in both exploratory and exploitive capabilities simultaneously.

Gibson and Birkinshaw (2004) argue that ambidextrous business units that are simultaneously adaptive and aligned obtain superior performance. The study was
based on multiple respondents per business unit of large multinational firms. The results indicate that achieving ambidexterity relates positively to firm performance.

2.3.5.1 Technology

He and Wong (2004, p483) studied the technological innovation in 206 manufacturing firms in Singapore and Malaysia. The study defined a new typology to include exploitation and exploration with the technological innovation strategy. The two dimensions of exploration and exploitation were explained as “an explorative innovation dimension to denote technological innovation activities aimed at entering new product-market domains and an exploitative innovation dimension to denote technological innovation activities aimed at improving existing product-market positions”. He and Wong found a positive interaction between explorative and exploitative innovation strategies on firm performance which was reflected in sales growth rate. A relative imbalance between explorative and exploitative innovation strategies was negatively related to firm performance. The study provided empirical evidence to show that there exists a positive effect of ambidexterity in the technological innovation context.
2.3.5.2 Conditions to outperform focused firms

Van Looy et al (2005) looked at conditions which ambidextrous organisations used to outperform focused firms. By their definition, focused firms referred to those organisations that focused on the most profitable part of their portfolio. The notion in the study reflected ambidextrous firms as diversified firms containing different and opposing activities with differences in technology and market maturation. Van Looy et al (2005) argued that with the diversified resource allocation and increased complexity, ambidextrous organisations would be exposed to higher costs, and hence these types of organisations would be inferior to focused firms in terms of financial returns. Their study found that ambidextrous organisations can adopt sustainable forms “whereby sustainability is defined as resulting in overall value creation equal or superior to focused mature firms”.

2.3.5.3 Balance between exploration and exploitation

Other literatures also find it difficult to perceive organisations performing exceptionally by balancing between exploration and exploitation. These capabilities were considered and analysed separately (Andreassen and Gertsen, 2006; Boer et
al, 2006) with some certainty that organisations can only focus on one of the two capabilities and be exceptional at it, but failure would result if an effective balance is maintained between exploration and exploitation (Porter 1985; March 1991). March in Corso and Pellegrini (2007, p72) explain that

“in studies of organisational learning, the problem of balancing exploitation and exploration is exhibited in distinctions made between refinement of an existing technology and invention of a new one ... it is clear that exploration of new alternatives reduces the speed with which skills at existing ones [firms] are improved. It is also clear that improvements in competence at existing procedures make experimentation with others less attractive ... finding an appropriate balance is made particularly difficult by the fact that the same issues occur at levels of a nested system – at the individual level, the organisational level, and the social system level”.

Balancing two opposing capabilities does not come without any tension. This is discussed further in the following section.

2.3.6 Tensions of ambidexterity

Maintaining a balance between exploitation and exploration can be complex due to the difficulty of determining what the appropriate balance should be and by several ways in which learning itself contributes to imbalances. Jansen (2005) argues that learning accelerates the dynamics of exploitation or exploration in organisations; and learning makes both positive and negative contributions to competitiveness.
2.3.6.1 The competency trap

The competency trap is one of the reasons that organisations struggle to achieve strategic change, especially when organisations are required to pursue exploration if their primary focus had been exploitation or vice versa. The trap of distinctive competence refers to when organisations engage in activities in which they are more competent at a higher frequency than they would for activities in which they have a minimum amount of competence (Levinthal and March, 1993). The different frequency rate at which these activities are performed implies a varied amount of experience captured with these activities. Learning competence means that organisations become better at things they do repeatedly and enjoy success and that they become less competent at things they do infrequently and less successfully. This self-reinforcing character of learning makes an organisation prone to sustain its current focus, creating loops whereby a stable behaviour is reproduced (Holmqvist, 2004). As such the organisation would struggle since competency lies with exploitation and it was required to pursue exploratory capabilities or vice versa. This could mean that if the employees had a choice to decide when to focus on exploitation and when on exploration, as in contextual ambidexterity (Gibson and Birkinshaw, 2004), the effects of the competency trap
would result in the pursuance of the capability which is strongest in the employee. This would translate to the ineffectiveness of the ambidextrous capability in achieving greater firm performance.

2.3.6.2 The power trap

Organisational power allows organisations with strong market positions to manipulate the environment in the short run rather than adapt to them. Firms become competent at this activity, which assists in sustaining a competitive advantage if the organisation manages to refine the skills of this power. However, in the long run, the use of power to manipulate environments could result in a diminishing of capabilities to respond to changes. Devan, Millan & Shirke, 2005) examined 266 firms during the period 1984-2004 and found only a small number were financially successful over that period. The lesson to be gleaned from this is that being large and successful at one point in time is no guarantee of continued successes. The organisation could find itself in a power trap (Levinthal and March, 1993, p102) where it becomes skilled at influencing its environment, but not at responding to the environment. In terms of ambidexterity should the market conditions change drastically, the diminished adaptive skills of such an organisation
will be exposed with the threat of losing its competitive advantage in the market space.

2.3.6.3 The failure trap

Sometimes exploration overwhels exploitation as Kyriakopoulos and Moorman (2004) argue. Firms utilise more resources when involved in experimenting and inventing of new approaches which impacts on efficiency. The short run costs of exploration could be great in the absence of any prior experience. Levinthal and March (1993) explains in support that firms with purely an exploratory focus could experience a failure trap in which they spend large amounts of time and resources in investigating a new approach or strategy that they neglect the exploitation of their competencies.

Sometimes exploitation could overwhelm exploration. Kyriakopoulos and Moorman (2004) explain that a firm’s ongoing success at exploitation due to the competencies that have been built up reinforces the skills of the organisation. The returns that are received from exploitation are “less certain, more remote, and
organisationally more distant from the locus of action and adaptation” March (1991, p 73).

2.3.6.4 Meta-routines and job enhancement

Gibson and Birkinshaw (2004) discuss two specific mechanisms dealing with tensions between exploitation and exploration that rely on individual employees to make their own choices. The first mechanism is meta-routines which refer to the standardising of creative processes. This mechanism is dependent on economies of scope in order to be effective. The second mechanism is job enhancement which encourages employees to be more creative or innovative in their routine tasks. This could be more effective as it requires employees to begin with a task in which they have built some competency. Other mechanisms are discussed in the following section.

2.3.6.5 Other remedies to assist the ambidextrous balance

There are other potential remedies to ease the tension of balancing exploration and exploitation. Switching proposes that employees attempt to keep their original
culture intact by switching between routine (standard tasks in which the employee has built up competencies) and non-routine tasks. However this approach could have severe drawbacks owing to ambiguous job roles whereby defender type firms have their employees work on exploitation initiatives then have them switch over to exploration, then back on exploitation and vice versa for prospectors.

Adler, Goldoftas and Levine (1999) propose task partitioning as a solution to perceived tensions between exploration and exploitation. Task partitioning refers to the physical separation of an organisation so that one part concentrates on exploitation while the other part concentrates on exploration. The advantage of this approach is that each part builds its expertise over the years, which becomes deeply embedded in the organisational halves. The drawback is that owing to contrasting structures or contexts, horizontal information flow would be limited. Organisation structures for exploration differ from that of exploitation. One tends to find a mechanistic structure for exploitation (Miles and Snow, 1978) while exploration flourishes in an organic structure. Robbins and Judge (2007, p554) explain that the mechanistic model is

“generally synonymous with the bureaucracy in that it has extensive departmentalisation, high formalisation a limited information network and little participations by lower level members in decision making. At the other extreme is the organic model. This model looks a lot like a boundary-less organisation. It’s flat, uses cross-hierarchical and cross-functional teams, has
low formalisation, poses a comprehensive information network and involves high participation in decision making”.

Over time both halves develop different cultures which require different kinds of leadership to attain results. One would assume that transactional or a compliance styled leader would prosper in an exploitative culture while transformational leaders would achieve results in a explorative culture (O’Reilly and Tushman, 2004). Robbins and Judge (2007, p437) defined transactional leaders as those leaders who:

“guide or motivate their employees in the direction of established goals by clarifying role and task requirements. Transformational leaders inspire followers to transcend their own self-interest for the good of the organisation and are capable of having a profound and extraordinary effect on their followers”.

Eventually firms will strike a balance between long term and short term successes (Levinthal and March, 1991). To remain competitive in the long term, the focus would be naturally on exploration. However, to build a base and attain financial resources in order to realise or sustain long term initiatives, the focus should be on exploitation.

Firms in periods of market instability and increased competition are required to be deft, agile and flexible. Ambidexterity encapsulates these attributes because
ambidextrous organisations can balance their short and long run gains. Menguc and Auh (2007) had hypothesised that firm performance is driven more by exploration than by exploitation in prospectors. In defenders, firm performance is driven more by exploitation than exploration. Menguc and Auh reasoned that if exploration is a dominant capability in a prospector, and ambidexterity implied balancing exploitive capabilities with this dominant capability to create an ambidextrous culture and structure, then poor firm performance would result. Menguc and Auh’s findings showed that ambidexterity does not have a negative effect on firm performance for both prospectors and defenders.

2.3.7 Contextual vs structural ambidexterity in ambidextrous organisations

Gibson and Birkinshaw (2004) describe two types of ambidexterity. These are structural and contextual and are explained further in the following sections.

2.3.7.1 Structural ambidexterity

O’Reilly and Tushman (2004) describe the notion of ambidexterity in their article titled “The Ambidextrous Organisation”. They likened the Roman God Janus with
his two sets of eyes – one set at the front and the other at the back of the head - to the senior management team, leading an ambidextrous organisation. The senior team must constantly look backward and focus on the products and processes of the past while at the same time looking to the future for innovation and redefinition.

Ambidextrous organisations (O’Reilly and Tushman, 2004, pg 75-76) “separate their new explorative units from their traditional exploitative ones, allowing for different processes, structures and cultures. At the same time they maintain tight links across units at the senior executive level”. Another way of interpreting this would be that the explorative part of the organisation is split from the exploitative part at the operational and tactical level, but remains strongly integrated at the strategic level where the senior team functions. This is referred to as structural ambidexterity, whereby organisations are able to manage trade-offs between opposing demands by instituting dual structures (Duncan, 1976), so that parts of the business or business units can focus on adaptation while other parts focus on alignment (Gibson and Birkinshaw, 2004).
2.3.7.2 Contextual ambidexterity

Gibson and Birkinshaw (2004, p 209) on the other hand support the view that ambidexterity is contextual “because it arises from features of its organisational context”. Contextual ambidexterity is the behavioural capacity centred on the process and systems in a given context focused on achieving a balance between the adaptation and alignment across units. “Alignment refers to the coherence among all the patterns of activities in the business unit; they are working together towards the same goals. Adaptability refers to the capacity to reconfigure activities in the business unit quickly to meet changing demands in the task environment” (Gibson and Birkinshaw, 2004, p 209).

2.3.7.3 Contextual or structural?

Gibson and Birkinshaw’s (2004) explanation of ambidexterity is in total contrast to O’Reilly and Tushman’s (2004) argument, where the former states that a superior business unit’s performance is achieved neither by charismatic leadership nor through a formal organisational structure or through a strong culture. Gibson and Birkinshaw argue that superior business unit performance is achieved by building a
selected set of systems and processes that create a context for all capabilities to be utilised to create a balance between alignment and adaptability. Furthermore, ambidexterity is not achieved by structural, task or temporal separation but through creating the context where employees can take accountability for their decisions on time allocation for alignment and adaptability demands. Contextual ambidexterity is superior to structural separation as it encompasses change in the entire business and not just separate units of functions responsible for new business (Gibson and Birkinshaw, 2004).

Van Looy et al (2005) argue that firms concentrating on a specific part of the product life cycle will produce higher returns as compared to ambidextrous firms. Further to this argument, O’Reilly and Tushman’s (2004) ambidextrous organisations experience higher managerial and organisational costs. However, Looy et al found that under certain conditions, ambidextrous firms can be sustainable and result in value creation equal or superior to focused mature firms. The conditions for this to occur are quite specific. The study showed that longer time frames, shifting of resources across units and leveraging of synergies was required. The shifting of resources is also mentioned by O’Reilly and Tushman
(2004) in proposing how a structural ambidexterity approach is utilised for ambidextrous organisations to be effective.

How do these capabilities link to the financial services sector? The following section takes this point further.

2.4 FINANCIAL SERVICES AND CREATION OF COMPETITIVE ADVANTAGES

The financial industry encompasses a broad range of organisations that deal with the management of money for present and future value creation. Among these organisations are banks, credit card companies, insurance companies, consumer finance companies, brokerages, investment funds and some government sponsored enterprises.
2.5 BANKING SECTOR

As in other countries, the banking industry in South Africa is the largest component of the financial system, and its functions affect all aspects of the economy.

It is true that bank failure may impose high direct and indirect costs and banks need protection against systemic failure. However, there is no economic justification to exclude banks from the effects of competition policy. The banking sector in South Africa is considered as a fairly concentrated market and hence reduced competition exists (Akinboade, 2006).

The National Payment System and Competition in the Banking Sector report (Akinboade, 2006, p35) provides an overview of competition concerns in the industry. The report examines competition in the traditional way, that is, in terms of the number of players and market share and also in terms of contestability and effective competition. The report finds that

“a market is contestable if entry and exit barriers are low, in which case incumbent firms are restrained from exercising monopoly power because of the credible threat of new entrants. Even where there are a number of competitors in a market place, competition will be effective only if the consumer is able to make rational choices and exercise these choices at low transaction costs”.
Another study (Falkena, Davel, Hawkins, Llewellyn, Luus, Masilela, Parr, Pienaar and Shaw, 2004) concludes that the concentrated South African banking industry is not adequately contested in the retail and small business market segments and that certain features of these markets undermine effective competition.

The concentration levels of the South African banking industry are high, but still in line with other emerging markets (Akinboade, 2006). This report argued that concentration is greater in the market segments than at firm level. Four major banks referred to as the “Big Four” (which are ABSA, First Rand, Nedcor and Standard) accounted for 83% of the total deposits of the public in June 2003, 92% of mortgage loans and 89% of bank financed instalment sales. Each of the Big Four has a scale monopoly of 25% or more market share in one or more of the retail market segments. These market segments are credit cards, current accounts, mortgages and leasing and instalment sales (Akinboade, 2006).

As strong and powerful as this industry may sound, the South African banking sector has, in the last two years, experienced many challenges caused by various international and national factors. Internationally, the United States of America entered into a recession, oil prices increased rapidly and a regulatory framework
designed to ensure adequacy for banks was introduced. Nationally, the introduction of the National Credit Regulations, increasing interest rates and inflation, power shortages and load shedding have created a sense of uncertainty (Alaardt, 2008).

These changing conditions both nationally and abroad have introduced two critical challenges for the South African banking sector: increased competition and the impact of the external environment and economies. To counter this, most institutions have turned to their capabilities relating to the customer as part of the strategy to attain and maintain competitive advantage. The management of resources and capabilities is critical to the success of the banks. Banking organisations could adopt exploitation-like capabilities to protect their turf and ensure that the business remains sustainable, whilst at the same time positioning themselves for growth by adopting exploration-like capabilities. The exploitation of current market share and securing of current interests, whilst simultaneously pursuing the exploration of untapped resources, information, innovative solutions, could translate to competitive advantage and superior business performance.
2.6 CONCLUSION

The literature review offered the theoretical background to the research including definitions, frameworks and concepts. An explanation of the Miles and Snow typology, along with prospector and defender strategic orientations were presented. There was evidence given from other studies that prospectors are more risk-takers while defenders are more risk averse. This could imply that prospectors could be stronger in exploratory capabilities to enhance business performance, while defenders could be stronger in exploitative capabilities to enhance business performance.

Arguments by Gibson and Birkinshaw (2004) and O’Reilly and Tushman (2004) highlighted the different views of ambidextrous capabilities. The former argued that by creating a context for the autonomous pursuit of alignment and adaptability (or exploitation and exploration), better known as ambidexterity, organisations were in a position to potentially achieve superior business performance. The latter argued that structural changes with an innovative senior leadership were necessary to integrate the capabilities of exploitation and exploration for superior business performance.
The chapter concluded with an insightful assessment of the financial services sector in South Africa and some of the challenges facing this sector.

In Chapter 3 the hypotheses will be examined and explained further.
CHAPTER 3: HYPOTHESIS DEVELOPMENT

3.1 INTRODUCTION

The purpose of the research, as highlighted in Chapter One, is to understand the association between ambidexterity, strategic orientation and business performance in the financial services (banking) sector.

This research aims to add to the literature on organisational and strategic orientation according to Miles and Snow’s (1978) typology that would best correlate with an ambidextrous organisation. A study by Aragon-Sanchez and Sanchez-Martin (2005, p303) showed that competitiveness is reliant upon “internal elements supported by resources and capabilities [that are] difficult to imitate, such as technological innovation, flexibility and organisational design”. Using our derived definition of ambidexterity, this implies that organisations could gain competitiveness by balancing the capabilities of exploration (radical, innovation and flexibility) with exploitation (incremental innovation and rigid structures), which amounts to the capabilities of an ambidextrous organisation. This stands to
reason that banks could look to expand on operations through breakthrough innovations or redefining their market while at the same time having to sustain the cash flow and cross subsidise on the non-financial return producing long term projects of exploration.

The Miles and Snow (1978) typology defines the prospectors as those organisations that are risk taking, flexible and focused on growth, while defenders are those companies that are risk averse, and focusing on sustainability and efficiency. This research will attempt show that there exists an association in the financial services (banking) sector between their ambidextrous capabilities, their strategic orientation (according to Miles and Snow’s typology) and their performance.

Chapter 3 explicitly states the precise purpose of the research, which is defined using four hypotheses. Zikmund (2003, p737) describes a hypothesis as “an unproven proposition or supposition that tentatively explains certain facts or phenomena; a proposition that is empirically testable”.

Sections 3.2 to 3.5 will explicitly state the hypotheses to be tested.
3.2 HYPOTHESIS 1

The higher the level of ambidexterity (both structural and contextual combined) in the financial services (banking) sector, the greater the level of performance.

3.3 HYPOTHESIS 2

The more the financial services (banking) sector is characterised by *structural* ambidexterity the greater the level of performance.

3.4 HYPOTHESIS 3

The degree of the innovative culture in the financial services (banking) sector is greatest in prospectors than in defenders.
3.5 HYPOTHESIS 4

The combination of the prospector strategic orientation and the ambidextrous capability matched in the financial services (banking) sector performs greater than any other combination of prospector and defender strategic orientation with exploitation, exploration, alignment, adaptability and structural or contextual ambidextrous capabilities.

3.6 CONCLUSION

It is envisaged that there exists a strong association between ambidexterity and prospectors in the financial services (banking) sector in South Africa. Further it is expected that organisations that follow an ambidextrous approach by combining their exploratory and exploitative capabilities would result in greater performance.

This research will evaluate via hypotheses whether these correlations and relations do in fact exist.
Hypotheses were utilised due to the presence of two or more variables which are required to test for relationships, variances in means / medians or causal effects. There are dependent and independent variables which enable the research to be conducted and hypotheses to be tested (Zikmund, 2003).

The above hypotheses have been further developed into a research questionnaire which will be discussed in Chapter Four. Moreover, the research design will be examined.
CHAPTER 4: RESEARCH METHODOLOGY

4.1 INTRODUCTION

The research design is the grand plan in framing the methods and procedures for the collection and analysis of the required data. It creates a structural approach for the requirements of the research project.

The rationale of survey research is the collection of primary data that is “gathered and assembled specifically for the research project at hand” (Zikmund, 2003, p175). This chapter defines the research methodology that was followed in order to have the survey pre-tested, then executed followed by collation and analysis of the data.

The goal of this study was to investigate the associations between ambidexterity, strategic orientation and business performance.

In order to achieve the research objectives, a quantitative research methodology was followed. Quantitative methods are research techniques dealing with numerical and measurable data. The data is often tabulated, presented graphically
or in other forms of statistics (Wikipedia, 2008). This study was concluded using the aforesaid quantitative method.

Quantitative research is an organised scientific investigation of the relationships between properties and phenomena. Neill (2006) defines quantitative research as the collection of numerical and statistical data. The objective of quantitative research is to expand and utilise mathematical methods and theories relevant to natural phenomena (Neill, 2006).

Statistics is a mathematical science that is best described by the collection, analysis, interpretation, explanation and presentation of data within quantitative research. Quantitative research using statistical methods typically begins with the collection of data based on a theory or hypothesis, followed by the application of descriptive or inferential statistical methods (Wikipedia, 2008). The approach followed for this research was in the form of an opinion survey, where respondents were asked a set of questions for each category (such as innovation orientation and strategic orientation) and their responses were tabulated.
A qualitative approach was not followed owing to the difficulty of aggregating the qualitative results for systematic comparisons. Research replication can also be difficult due to a lack of structured design or standardised procedures (Neill, 2006). Neill (2006, p1) describes qualitative research as “inquiries of knowledge that are outside the framework prescribed by the scientific method, as well as assumptions or inferential statistics”.

In qualitative studies the level of analysis is performed in great depth and detail. However, fewer population elements participate in the research resulting in the outcome of the research being more difficult to generalise (Neill, 2006). Quantitative research allows for a broader study involving a greater number of participants thus enhancing the generalisation of results (Neill, 2006).

A basic research style was adopted over an applied research approach. Basic or pure research attempts to expand the limits of knowledge. It is pursued to uncover more information about a specific theory or concept and to this end, increased knowledge. The primary aim of the research is a greater understanding of the subject under study (Zikmund, 2003).
Literature (or secondary data) by different theorists and researchers, that was designed and collated for purposes of a differing nature was drawn together and reviewed. The literature provided a starting point in terms of drawing on linkages with past theoretical research and frameworks (Zikmund, 2003).

Primary data was then collected using a common exploratory research technique that is, via a survey in the form of a sample survey questionnaire. The term “sample survey” emphasises that the questionnaires would be completed by individuals representing companies that are a representative sample of the target population (Zikmund, 2003). The questionnaires were e-mailed to the respondents representing the target population.

The services of a statistician will be used to validate the results and the pre-test will highlight any biases that may occur.
4.2 UNIT OF ANALYSIS

The units of analysis are components or members of a population (Welman and Kruger, 2004). In this research project the unit of analysis is made up of companies in the financial services (banking) sector in South Africa.

For the purposes of this study as defined in the literature review, the financial industry was defined as a broad range of organisations that deal with the management of money for present and future value creation.

The banking industry would be focused upon as it is the largest component of the financial system in South Africa, and its functions integrate with all aspects of the economy. The rest of the financial services sector listed on the Johannesburg Stock Exchange will not be included in this study.
4.3 POPULATION

Population is a complete group of entities sharing some common sets of characteristics (Zikmund, 2003). The population in this study is the banking industry, which was defined in Chapter Two.

The financial services (banking) sector in South Africa could be perceived to be competitive (Oelofse, 2006). However, with their high costs can they remain competitive? What strategies are required to be followed or changed in order to survive going forward?

The purpose of the study is to firstly investigate the association between ambidexterity and firm performance in the banking sector, and secondly, to investigate the association between ambidextrous capabilities in this sector and their strategic orientation in respect of Miles and Snow’s (1978) typology.

Population element refers to an individual member of the population. In this research it refers to respondents of the questionnaire, who are the employees in middle and senior management of the banking industry.
4.4 SAMPLING METHOD

Zikmund (2003) describes sampling as a procedure that uses a small number of elements or a portion of a population to formulate a conclusion regarding the entire population.

A non-probability, convenient and purposive sampling method will be utilised. Non-probability sampling refers to a sample where the probability that any particular member of the population being chosen is unknown. Zikmund (2003, p381) define convenience sampling as sampling wherein population elements are chosen by those that are conveniently available. Judgement or purposive-sampling was also used despite concerns that the sample would be less representative of the population. Judgment or purposive sampling refers to a non-probability sampling technique in which an experienced researcher selects the sample based upon some appropriate characteristic of the sample members (Zikmund, 2003, p738).

The snowball sampling technique was employed owing to its inexpensive nature and the reduced sample size. The sample of students in the 2007/2008 class of Masters in Business Administration (MBA) students at the Gordon Institute of
Business Science (GIBS) was used as the first level of a snowball sampling method, as there was a fair representation of the various banks in the sector and they proved most convenient and cost effective to obtain. Using this group as the first level of the snowball technique would ensure a wide representation of the various banks in the sector and access to senior management. Snowball sampling refers to a “procedure in which initial respondents are selected by probability methods and additional respondents are obtained from information provided by the initial respondents” (Zikmund, 2003, pg 741).

Although the snowball sampling technique was employed, there exists the possibility of bias in the research owing to the nature of how the next level of respondents was chosen. There exists a high probability of the next level of respondents being similar to the previous respondents by whom they were recommended.
4.5 SAMPLE SIZE

The sample is a subset or a relatively small portion of the total number of elements or members in the population (Zikmund, 2003).

Zikmund (2003) showed that three factors were required to determine the sample size:

- Variance of the population
- Magnitude of acceptable error
- Confidence level

The above computation was performed. The inputs for the upper and lower limits of the range of respondents in middle and senior management were given as one thousand and two thousand respectively. This information was obtained from employees in the banking industry.

The range was used in the calculation of the standard deviation as Zikmund (2003, p425) states that “a rule of thumb for estimating the value of the standard deviation is to expect it to be one-sixth of the range”. Thus using the equation
given in Zikmund (p426) a sample size of 67 respondents was calculated with a 95% confidence level and a range of error amounting to 40 respondents. However, a sample size of 109 respondents was received. A larger sample size is preferred given the fact that as sample size increases, the magnitude of error decreases (Zikmund, 2003).

The response rate proved difficult to determine given the nature of the snowball technique. The number of recipients targeted was not possible to estimate as soon as the survey passed the first tier of recipients.

4.6 DATA COLLECTION

When a survey method is adopted some form of direct participation by the respondent is necessary during the process (Zikmund, 2003).

In this study the respondents participated by completing a survey questionnaire. In this way primary data was obtained. The questionnaire would have taken the
respondent approximately ten minutes to complete. The time was determined during the pre-testing phase.

A pre-test was administered in order to check for understanding of the questions and highlighting any ambiguous or bias questions. Zikmund (2003, p359) suggests that a group resembling the population should be chosen on a convenience basis, “but it is not necessary to get a statistical sample for pre-testing”.

The pretest group was made up of a selected group of first and second year MBA students at GIBS similar to the approach of Desarbo et al (2005). Zikmund (2003, p740) defines a pretest as a “trial run with a group of respondents used to screen out problems in the instructions or design of the questionnaire”.

The questionnaire accompanied by the supporting documents, highlighting the ethical statement and informed consent, was sent electronically to all selected respondents. These respondents were requested to send the questionnaires on to other respondents whom they chose and thus the snowball sampling technique was effected.
It was anticipated that owing to the nature of the snowball technique that more than one respondent per company would participate in the survey to prevent same source bias similar to that of Gibson and Birkinshaw (2004). In their study, different levels of the organisation were requested to respond to different variable questions. Questions based on independent variables like exploration and exploitation were answered by non-management and lower management. Middle and senior management were requested to respond to questions based on the dependent variables like business performance.

The questionnaire incorporated an extensive collection of fixed-alternative questions, some of which were in the form of Likert scales. Determinant-choice questions and dichotomous-alternative questions were used predominantly. Determinant-choice questions refer to those that require the respondent to choose one response from amongst several possible alternatives, while a dichotomous-alternative question refers to those that require the respondent to choose one of two alternatives (Zikmund, 2003). The latter is represented by “yes/no” questions. No requests for any demographic detail were required as the focus was more on how the respondents perceived the various attributes or capabilities of the organisation. The questionnaire opened with a brief explanation of the research,
and the acknowledgement of the respondent’s informed consent to proceed with the data. Each question had a help menu provided, in the event that the respondent required an explanation of that question.

The questionnaire was separated into five sections: strategic orientation, firm performance, innovation orientation; exploration and exploitation orientation; and alignment and adaptability orientation. There were forty-five questions in total.

4.6.1 Strategic orientation

A similar approach to Menguc and Auh (2007) will be used to determine the strategic orientation of the firm. Respondents will be requested to choose a single cluster that most accurately defines their firm’s business strategy according to the typology developed by Miles and Snow (1978) and the cluster definitions used by Slater and Olson (2000) and O’Regan and Ghobadian (2005). This approach according to O’Regan and Ghobadian (2005) would elicit an objective response without any unnecessary bias, as the respondents would attempt to choose a preferable response category. O’Regan and Ghobadian (2005) cite other studies
(Conant et al, 1990; Shortell and Zajac, 1990; Rajagopalan, 1996) where this technique was used specifically on the Miles and Snow typology.

4.6.2 Ambidexterity

Although there is consensus that ambidexterity is a result of the integration of two non-related capabilities, exploitation and exploration (O’Reilly and Tushman 2004; Gibson and Birkinshaw, 2004; Hughes, Hughes and Morgan 2007; Menguc and Auh 2007, He and Wong 2004), there still lies two opposing arguments on the way the ambidextrous nature or capabilities of the organisations are implemented through the organisation for superior performance. On one side O’Reilly and Tushman (2004) believe it is through structural ambidexterity that organisations achieve superior performance while Gibson and Birkinshaw (2004) believe it is contextual ambidexterity that yields this result.

The questionnaire was designed to include arguments from both O’Reilly and Tushman (2004) and Gibson and Birkinshaw (2004). A multiplicative term of exploration and exploitation was used for the structural ambidexterity, that is, the interaction between exploration and exploitation. More simply, it refers to the
product of the result for exploration and exploitation. In Menguc and Auh (2007) a similar approach was utilised based on Dess and Davis (1984), Millers (1988) and Spanos and Lioukos (2001) as well as a recent study by He and Wong (2004).

The opposing argument by Gibson and Birkinshaw (2004) also treats ambidexterity in their study as a multiplicative interaction between alignment and adaptability. They used separate scales for alignment and adaptability in their study. A similar approach will be used in this part of the research.

4.6.3 Firm performance

Firm performance represents the financial outcomes of the organisation in terms of return on equity, return on assets, sales and a few other metrics discussed in detail in Chapter Five.

A similar questionnaire by Moore (2005) was used in the survey to determine firm performance. It took the form of a subjective data instrument on a Likert scale (very poor to excellent) across four different dimensions: general profitability; return on investment; return on assets; and overall company performance.
A more recent study by Menguc and Auh (2007) used a formative five-point scale taken from Li and Atuahene-Gima (2001) to measure the firm’s performance. A combination of the aforementioned methods was utilised with careful consideration of the dependency of related questions.

Ambidextrous organisations that are performing above their competitors, according to O’Reilly and Tushman (2004), should be innovating (both incremental and radical), while Matsuno and Mentzer (2000) argue that growth in market share and sales over a year is a good indicator of business performance.

A combination of these studies will be used in the questionnaire to establish relative firm performance over a three to five year period. The questionnaire aims to obtain factual information on companies' practices of innovation in three areas: new product development, process innovation and continuous improvement. The innovation orientation section consists of nineteen questions relating to the level of engagement in new product development (in terms of new product ideas introduced, new products launched and improvements in the last five years), continuous improvement and organisation for new product development, company culture and ways of working, as well as the employee's perception of
their operating environment (such as an environment that has a short product life cycle or rapid technological change, or amateur market or stable environment).

4.6.4 Innovation

A five-point Likert scale will be used for a group of descriptive statements in respect of innovation orientation based on Hurley and Hult (1988) which also appeared in Olson, Slater and Hult (2005). The Likert scale is extremely popular for measuring attitudes because it is easy to administer. With this scale, respondents “indicate their attitudes by checking how strongly they agree or disagree with carefully constructed statements that range from very positive to very negative toward the attitudinal object”. The disadvantage of the Likert-type method “is that it is difficult to know what a single summated score means. Many patterns of response to the various statements can produce the same total score. Thus identical total scores may reflect different “attitudes” because respondents endorsed different combinations of statements” (Zikmund, 2003, p312-314).

A series of questions with various options detailing new product development, copyrights, innovations prizes, continuous improvement systems and innovative
culture would be included in the questionnaire. Laforet (2007, p5) supported the use of these measures stating that “this kind of hard facts can be readily obtained from companies”.

The survey instrument was regarded as an acceptable data collection tool because it met the following criteria (Martin, 2006):

- The instrument was familiar to most people.
- The questionnaire could be uniformly presented to the same group of respondents.
- The instrument was developed at minimal cost and not difficult to administer.
- There was no bias or coaxing from the researcher as to what the responses should be.
4.7 DATA ANALYSIS

Descriptive statistics (such as mean, variance, standard deviation, skewness and kurtosis) for the entire data set were compiled using STATtools and NCSS statistical software and then tabulated into Excel format.

The data collection method and research instrument used resulted in both descriptive and inferential statistical analysis.

“There are no appropriate statistical techniques for measuring random sampling error from a non-probability sample” (Zikmund, 2003, p380). This research employed a non-probability sampling technique; hence the sampling error percentage could not be determined.

Two critical parameters for evaluating measurements as expressed by Zikmund (2003) and Litwin (1995) are reliability and validity.
4.7.1 Reliability

Reliability is the degree to which measures are free from error and therefore provide consistent results. The internal consistency reliability of survey instruments is a measure of reliability of different survey items intended to measure the same characteristic. The internal consistency of the measuring instrument could not be verified from the results of the pre-test and the use of the Cronbach’s coefficient alpha, which is a statistic that shows the homogeneity of the scale. Explained differently, it is an indication of the degree to which the various survey questions complement each other in their measurement of the same characteristic (Zikmund, 2003). However, the responses gave new insight to the internal reliability, which will be explained in detail in Chapter Six. The degree of reliability was not verified given that no assessment of repeatability to gauge reliability was conducted.

4.7.2 Validity

Validity is the ability of a test to measure what it is supposed to measure (Zikmund, 2003). The survey questionnaire was designed and administered in a way so as to provide little information as to the themes highlighted in the questions. The
questions were mixed with larger themes so that no bias for a particular topic could be realised.

The data was analysed and presented in the form of charts and graphs. The findings were then applied to each of the hypotheses.

4.8 LIMITATIONS OF THE STUDY

One of the limitations of this study is attributed to sample size. One hundred respondents were obtained through various tiers of the snowball sampling technique. A greater sample size would have increased the reliability of the data.

A stratified sampling technique could not be used as the proportions of the banking sector could not be assimilated with the convenience sample chosen.

The snowball sample method in Zikmund (2003) was considered as a non-probability purposive sampling technique which could have resulted in the target population not being a true representation of the financial services (banking) sector.
in South Africa. However, this was highlighted in the pretest and a suitable response was added to the questionnaire highlighting the sector that the respondent was from.

The use of only a quantitative research methodology could limit the level of depth and detail that may have been derived if qualitative techniques were used. A more suitable alternative could have been a complementary mixed method approach. A few open ended questions could be added to the questionnaire, in any future research, to gather more information on any specific constructs.

4.9 CONCLUSION

The quantitative methodology adopted was the appropriate choice for the research problem identified. The findings can be summarised statistically into meaningful results to allow for generalisations to be endorsed about the banking industry. The presentation of the data collected and the analyses thereof will be illustrated in Chapter Five followed by a discussion of the results in Chapter Six.
CHAPTER 5: RESULTS

5.1 INTRODUCTION

Quantitative methods were utilised to present the research results. This is demonstrated in the form of tables and graphs arranged in the order of the hypotheses listed in Chapter 3.

5.2 SURVEY RESULTS

The survey results are presented in accordance to the format of the questionnaire. The results of each question are presented in the form tables, where applicable. The hypotheses as outlined in Chapter 3 are included. The results of the hypotheses and survey questionnaire for the relationships between ambidexterity, strategic orientation and business performance in the financial (banking) sector in the form of tables and figures are presented as follows:
• Demographic Information
• Question 1 – Strategic Orientation
• Question 2 – Firm Performance
• Question 3 – Innovation Orientation
• Question 4 – Exploration and Exploitation Orientation
• Question 5 – Alignment and Adaptability Orientation
• Hypothesis 1
• Hypothesis 2
• Hypothesis 3
• Hypothesis 4

5.2.1 Demographic Information

To maintain confidential and a limited degree of anonymity, the demographic information on the survey was limited to management level and type of financial sector. The information presented in Figure 5.1 is the proportion of the total number of respondents in their respective management level. The results indicate an even spread across the three management levels. This will ensure greater strength when comparing constructs across management levels.
In order to avoid same source bias or single respondent bias, the survey was completed by various management levels. Same source bias or single respondent bias could occur when information is obtained from a single source or individual in each firm which may cause incorrect estimates of the hypothesised relationships and hence misleading interpretations of the findings.

Figure 5.2 indicates the split up between the financial (banking) sector and other sectors that were presented in the survey. Moreover, the percentage of non-financial sector respondents is an indication of the response error for this research.
The financial services sector was specifically targeted in the survey. The 8% of respondents reflect the non-banking sector surveys received.

The descriptive statistics in table 5.1 shows the mean, standard deviation and standard error for each construct. Each construct was made up of a combination of questions. Question 2 required 8 responses which were tallied to give the perceived financial performance. Perceived, owing to the subjective view of the respondents were taken.

Question 3 comprised 19 questions for the innovation orientation construct. Exploitation and Exploration was made up of 5 questions each, and the collective result for both these capabilities was tallied to yield structural ambidexterity.
Alignment and adaptability had comprised 3 questions each, with the collective result giving contextual ambidexterity. Combined Ambidexterity was tallied using the results of structural and contextual ambidexterity.

Table 5.3: Descriptive Statistics of Results

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Performance</td>
<td>56.36</td>
<td>18.876</td>
<td>1.888</td>
<td>13</td>
<td>93</td>
<td>80</td>
</tr>
<tr>
<td>Innovation Orientation</td>
<td>67.03</td>
<td>18.366</td>
<td>1.837</td>
<td>16</td>
<td>98</td>
<td>82</td>
</tr>
<tr>
<td>Exploitation</td>
<td>20.69</td>
<td>6.192</td>
<td>0.619</td>
<td>8</td>
<td>49</td>
<td>41</td>
</tr>
<tr>
<td>Exploration</td>
<td>15.63</td>
<td>5.921</td>
<td>0.592</td>
<td>5</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>Structural Ambidexterity</td>
<td>325.85</td>
<td>168.254</td>
<td>16.825</td>
<td>40</td>
<td>625</td>
<td>585</td>
</tr>
<tr>
<td>Alignment</td>
<td>11.63</td>
<td>3.074</td>
<td>0.307</td>
<td>6</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>Adaptability</td>
<td>9.66</td>
<td>3.508</td>
<td>0.351</td>
<td>3</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Context Ambidexterity</td>
<td>114.83</td>
<td>60.655</td>
<td>6.066</td>
<td>30</td>
<td>330</td>
<td>300</td>
</tr>
<tr>
<td>Combine Ambidexterity</td>
<td>670.34</td>
<td>326.083</td>
<td>32.608</td>
<td>162</td>
<td>1536</td>
<td>1374</td>
</tr>
</tbody>
</table>

5.2.4 Strategic Orientation

Question 1 of the survey encompassed one response. This question requested the respondents to choose a cluster of information that best described their organisation. A description was given for a prospector and defender type strategy displayed as figures 5.3 and 5.4 respectively. Figure 5.5 shows the spread between prospectors and defenders with the majority of the survey being made up of
prospectors (59%). This part of the survey was adapted from a questionnaire by Slater and Olson (2000) and O’Regan and Ghobadian (2005).

**Figure 5.3: Defender-type strategy**

**Figure 5.4: Prospector-type strategy**

**Figure 5.5 Question 1 – Strategic Orientation Pie Chart**
5.2.3 Firm Performance

Question 2 of the survey required 8 responses. These questions were subjective questions, where the respondent was required to give their perception of how the business was performing relative to their competitors. This part of the survey was adapted from the questionnaires of Matsuno and Mentzer (2000), Gibson and Birkinshaw (2004), Desarbo et al (2005), Moore (2005) and Menguc and Auh (2007).

5.2.3.1 Overall level of firm performance

The first question tested the degree of satisfaction of the business’s level of performance on a five-point Likert scale, ranging from strongly disagree to strongly agree. Table 5.2 shows the results for the level of satisfaction of business performance. The responses elicited, indicated that 23% of the sample were not satisfied with the level of performance of their firms, while 68% collectively agreed.
Table 5.4: People at my level are satisfied with the level of business performance

<table>
<thead>
<tr>
<th>Level of Satisfaction</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Strongly Disagree</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2 - Disagree</td>
<td>18</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>9</td>
<td>9</td>
<td>32</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>41</td>
<td>41</td>
<td>73</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>27</td>
<td>27</td>
<td>100</td>
</tr>
</tbody>
</table>

The following seven responses elicited, indicated the comparison of the performance of the organisation over its competitors for the seven categories. These categories included return on investment (ROI); relative market share (RMS); overall efficiency of operation (OEO); company’s overall reputation (COR); return on assets (ROA); overall customer retention (OCR) and sales growth.

5.2.3.2 Return on investment

Hartley, Firer and Ford (2006, p70) defined return on investment (ROI) as the “operating profit for the year expressed as a percentage of the value, at the year end, of the resources employed to earn that operating profit”. The first cumulative half of the sample felt that their firms were greater than only 40% or less of the total competitors in respect of return on investment. Table 5.3 shows how the sample fared in each of the bands against their competitors. It is interesting to
note that only 1% felt that they were not greater than any of their competitors in respect of ROI, while 1% felt that they were greater than all their competitors in respect of ROI. Collectively 10% felt that their organisations were greater than 70 to 100% of their competitors.

Table 5.5: Return on investment (ROI)

<table>
<thead>
<tr>
<th>Competitiveness Band</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1 – 10%</td>
<td>14</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>11 – 20%</td>
<td>12</td>
<td>12</td>
<td>27</td>
</tr>
<tr>
<td>21 – 30%</td>
<td>11</td>
<td>11</td>
<td>38</td>
</tr>
<tr>
<td>31 – 40%</td>
<td>12</td>
<td>12</td>
<td>50</td>
</tr>
<tr>
<td>41 – 50%</td>
<td>17</td>
<td>17</td>
<td>67</td>
</tr>
<tr>
<td>51 – 60%</td>
<td>10</td>
<td>10</td>
<td>77</td>
</tr>
<tr>
<td>61 – 70%</td>
<td>13</td>
<td>13</td>
<td>90</td>
</tr>
<tr>
<td>71 – 80%</td>
<td>5</td>
<td>5</td>
<td>95</td>
</tr>
<tr>
<td>81 – 90%</td>
<td>4</td>
<td>4</td>
<td>99</td>
</tr>
<tr>
<td>91 – 100%</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.3.3 Relative market share

Relative market share (RMS) refers to the proportion of the market that uses a specific banking institution. The market is made up of the customers of the banking institutions. The market share was compared to other competitors. The results suggest that the first cumulative half of the sample felt that their banking institutions held a greater market share than 30% or less of the banking sector.
Table 5.4 shows the frequency of the sample for each percentage band of competitiveness. Collectively 14% felt that their organisations were greater than 70 to 100% of their competitors.

Table 5.6: Relative market share (RMS)

<table>
<thead>
<tr>
<th>Competitiveness Band</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1 – 10%</td>
<td>15</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>11 – 20%</td>
<td>17</td>
<td>17</td>
<td>35</td>
</tr>
<tr>
<td>21 – 30%</td>
<td>14</td>
<td>14</td>
<td>49</td>
</tr>
<tr>
<td>31 – 40%</td>
<td>16</td>
<td>16</td>
<td>65</td>
</tr>
<tr>
<td>41 – 50%</td>
<td>7</td>
<td>7</td>
<td>72</td>
</tr>
<tr>
<td>51 – 60%</td>
<td>8</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>61 – 70%</td>
<td>6</td>
<td>6</td>
<td>86</td>
</tr>
<tr>
<td>71 – 80%</td>
<td>7</td>
<td>7</td>
<td>93</td>
</tr>
<tr>
<td>81 – 90%</td>
<td>2</td>
<td>2</td>
<td>95</td>
</tr>
<tr>
<td>91 – 100%</td>
<td>5</td>
<td>5</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.3.4 Overall efficiency of operations

Overall efficiency of operations (OEO) in this context refers to the smooth flow of information, the integration between departments and the reduction in bureaucracy (Matsuno and Mentzer, 2000). A little less than the first cumulative half of the sample felt that their organisations were greater, in the overall efficiency, than 40% or less of their competitors. The frequency of the sample for
each percentage band of competitiveness is presented in table 5.5. Collectively 28% felt that their organisations were greater than 70 to 100% of their competitors.

Table 5.7: Overall efficiency of operations (OEO)

<table>
<thead>
<tr>
<th>Competitiveness Band</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1 – 10%</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>11 – 20%</td>
<td>11</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td>21 – 30%</td>
<td>12</td>
<td>12</td>
<td>33</td>
</tr>
<tr>
<td>31 – 40%</td>
<td>14</td>
<td>14</td>
<td>47</td>
</tr>
<tr>
<td>41 – 50%</td>
<td>15</td>
<td>15</td>
<td>62</td>
</tr>
<tr>
<td>51 – 60%</td>
<td>4</td>
<td>4</td>
<td>66</td>
</tr>
<tr>
<td>61 – 70%</td>
<td>6</td>
<td>6</td>
<td>72</td>
</tr>
<tr>
<td>71 – 80%</td>
<td>14</td>
<td>14</td>
<td>86</td>
</tr>
<tr>
<td>81 – 90%</td>
<td>9</td>
<td>9</td>
<td>95</td>
</tr>
<tr>
<td>91 – 100%</td>
<td>5</td>
<td>5</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.3.5 Company’s overall reputation

The company’s overall reputation (COR) refers to the perception of the company in the market. In hindsight, a question such as “is this a good company to work for” should have been asked explicitly. However, this question did appear in the help text of the electronic survey. A cumulative 60% of the sample felt that their firm had a greater reputation than 60% and less than 60% of their competitors. Table 5.6 shows the frequency of COR for each competitiveness band.
Table 5.8: Company’s overall reputation (COR)

<table>
<thead>
<tr>
<th>Competitiveness Band</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1 – 10%</td>
<td>8</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>11 – 20%</td>
<td>8</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>21 – 30%</td>
<td>7</td>
<td>7</td>
<td>24</td>
</tr>
<tr>
<td>31 – 40%</td>
<td>10</td>
<td>10</td>
<td>34</td>
</tr>
<tr>
<td>41 – 50%</td>
<td>11</td>
<td>11</td>
<td>45</td>
</tr>
<tr>
<td>51 – 60%</td>
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<td>60</td>
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<td>61 – 70%</td>
<td>4</td>
<td>4</td>
<td>64</td>
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<tr>
<td>71 – 80%</td>
<td>10</td>
<td>10</td>
<td>74</td>
</tr>
<tr>
<td>81 – 90%</td>
<td>13</td>
<td>13</td>
<td>87</td>
</tr>
<tr>
<td>91 – 100%</td>
<td>13</td>
<td>13</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.3.6 Return on assets

Return on assets (ROA) refers to the measure of the operating performance of a business. It is indicated by the returns generated by the funds (equity and loans) utilised in the business. ROA is a firm link between profitability and activity (Ward and Price, 2006). A cumulative 50% of the sample felt that their banking institutions had a greater ROA than 40% or less than 40% of the banking sector. Collectively 21% felt that their organisations were greater than 70 to 100% of their competitors. The spread of the perceived competitiveness in respect of ROA in the banking sector is shown table 5.7.
Table 5.9: Returns on assets (ROA)

<table>
<thead>
<tr>
<th>Competitiveness Band</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1 – 10%</td>
<td>8</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>11 – 20%</td>
<td>12</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>21 – 30%</td>
<td>12</td>
<td>12</td>
<td>35</td>
</tr>
<tr>
<td>31 – 40%</td>
<td>15</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>41 – 50%</td>
<td>17</td>
<td>17</td>
<td>67</td>
</tr>
<tr>
<td>51 – 60%</td>
<td>7</td>
<td>7</td>
<td>74</td>
</tr>
<tr>
<td>61 – 70%</td>
<td>5</td>
<td>5</td>
<td>79</td>
</tr>
<tr>
<td>71 – 80%</td>
<td>14</td>
<td>14</td>
<td>93</td>
</tr>
<tr>
<td>81 – 90%</td>
<td>4</td>
<td>4</td>
<td>97</td>
</tr>
<tr>
<td>91 – 100%</td>
<td>3</td>
<td>3</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.3.7 Overall customer retention

Overall customer retention (OCR) looks at the relationships built around the customers and the length of time that the banks hold on to those customers (Moorman, 1995). A cumulative 60% of the respondents felt that their banks were stronger at holding onto customers than 50% or less than 50% of their competitors. Collectively 21% felt that their organisations were greater than 70 to 100% of their competitors. Table 5.8 shows the frequency of OCR for each competitiveness band.
Table 5.10: Overall customer retention (OCR)

<table>
<thead>
<tr>
<th>Competitiveness Band</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1 – 10%</td>
<td>12</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>11 – 20%</td>
<td>10</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>21 – 30%</td>
<td>8</td>
<td>8</td>
<td>33</td>
</tr>
<tr>
<td>31 – 40%</td>
<td>14</td>
<td>14</td>
<td>47</td>
</tr>
<tr>
<td>41 – 50%</td>
<td>13</td>
<td>13</td>
<td>60</td>
</tr>
<tr>
<td>51 – 60%</td>
<td>9</td>
<td>9</td>
<td>69</td>
</tr>
<tr>
<td>61 – 70%</td>
<td>10</td>
<td>10</td>
<td>79</td>
</tr>
<tr>
<td>71 – 80%</td>
<td>4</td>
<td>4</td>
<td>83</td>
</tr>
<tr>
<td>81 – 90%</td>
<td>11</td>
<td>11</td>
<td>94</td>
</tr>
<tr>
<td>91 – 100%</td>
<td>6</td>
<td>6</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.3.8 Sales growth

In the context of this research sales growth refers to the increase of the customer base and the increase in output to meet demand if demand is increasing. The response was requested in terms of the last three years. A cumulative of 60% of the sample perceived their sales growth greater than 40% or less than 40% of their competitors.
Table 5.11: Sales growth

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1 - 10%</td>
<td>21</td>
<td>21 21</td>
</tr>
<tr>
<td>11 - 20%</td>
<td>14</td>
<td>14 35</td>
</tr>
<tr>
<td>21 - 30%</td>
<td>13</td>
<td>13 48</td>
</tr>
<tr>
<td>31 - 40%</td>
<td>12</td>
<td>12 60</td>
</tr>
<tr>
<td>41 - 50%</td>
<td>9</td>
<td>9 69</td>
</tr>
<tr>
<td>51 - 60%</td>
<td>5</td>
<td>5 74</td>
</tr>
<tr>
<td>61 - 70%</td>
<td>7</td>
<td>7 81</td>
</tr>
<tr>
<td>71 - 80%</td>
<td>10</td>
<td>10 91</td>
</tr>
<tr>
<td>81 - 90%</td>
<td>5</td>
<td>5 96</td>
</tr>
<tr>
<td>91 - 100%</td>
<td>4</td>
<td>4 100</td>
</tr>
</tbody>
</table>

5.2.3.9 The business performance construct

Business Performance was calculated using all the elements of the questionnaire under this section. The sum of all the elements (except overall performance) was then added to the product of six and overall performance. The latter was done to give a greater weighting to overall performance.

Cronbach alpha is a good measure for internal consistency. Carmines (1990) specify that as a rule, a Cronbach alpha value of at least 0.8 should be achieved for widely used instruments. An instrument’s alpha value may be improved by either adding more items or by increasing the average correlation among the items.
There was good consistency between each element, as the Cronbach alphas were greater (0.9) than 0.8. A check was performed by removing each item and calculating the alpha of the instrument without the item. Each item removed gave high enough alphas to include the item. Table 5.10 shows these results.

The surprising result was that of overall performance. The Cronbach alpha recorded, after the overall performance term was omitted, was 0.911. This was slightly greater than the total Cronbach alpha. This would suggest that the overall performance term slightly weakens the internal consistency of the construct. However, as this difference was negligible, it was decided that the overall performance term be kept within the business performance construct.

Table 5.12: Internal Consistency – Business Performance Construct

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Total Mean</th>
<th>Total Std.Dev.</th>
<th>Coef Alpha</th>
<th>Corr Total</th>
<th>Other Items</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall_Perf</td>
<td>3.72</td>
<td>1.16</td>
<td>34.04</td>
<td>15.298</td>
<td>0.911</td>
<td>0.350</td>
<td>0.178</td>
<td></td>
</tr>
<tr>
<td>ROI</td>
<td>4.50</td>
<td>2.38</td>
<td>33.26</td>
<td>13.976</td>
<td>0.886</td>
<td>0.703</td>
<td>0.628</td>
<td></td>
</tr>
<tr>
<td>RMS</td>
<td>4.21</td>
<td>2.76</td>
<td>33.55</td>
<td>13.594</td>
<td>0.882</td>
<td>0.737</td>
<td>0.590</td>
<td></td>
</tr>
<tr>
<td>OEO</td>
<td>5.15</td>
<td>2.69</td>
<td>32.61</td>
<td>13.744</td>
<td>0.886</td>
<td>0.698</td>
<td>0.642</td>
<td></td>
</tr>
<tr>
<td>COR</td>
<td>5.98</td>
<td>2.87</td>
<td>31.78</td>
<td>13.578</td>
<td>0.885</td>
<td>0.708</td>
<td>0.730</td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>4.77</td>
<td>2.54</td>
<td>32.99</td>
<td>13.736</td>
<td>0.881</td>
<td>0.755</td>
<td>0.626</td>
<td></td>
</tr>
<tr>
<td>OCR</td>
<td>5.09</td>
<td>2.91</td>
<td>32.67</td>
<td>13.363</td>
<td>0.878</td>
<td>0.781</td>
<td>0.691</td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td>4.34</td>
<td>2.78</td>
<td>33.42</td>
<td>13.582</td>
<td>0.882</td>
<td>0.737</td>
<td>0.599</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37.76</td>
<td>15.740</td>
<td>0.900</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cronbach's Alpha</td>
<td>0.900</td>
<td>Std. Cronbachs Alpha</td>
<td>0.895</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.2.4 Innovation Orientation

This section comprises of 19 fixed alternative questions. A fixed alternative question refers to a question in which a respondent is given specific limited-alternative responses and asked to choose the one closest to his or her own viewpoint. The first five questions measure the perception of innovation in the company. These questions use a 5-point Likert scale from “strongly disagree” to “strongly agree”. The Likert scale is “a measure of attitudes designed to allow respondents to indicate how strongly they agree or disagree with carefully constructed statements that range from very positive to very negative toward an attitudinal object” (Zikmund, 2003, p312).

The following three questions use a five-point scale measuring the number of new product ideas, new products launched and new product improvements. The final set of questions is made up of simple-dichotomy questions. A simple dichotomy refers to a fixed alternative question that requires the respondent to choose one of two alternatives, in this case between “yes” and “no” (Zikmund, 2003). This part of the survey was adapted from the questionnaires of Olson et al (2005) and Laforet (2008).
5.2.4.1 Technical innovation based on research results is readily accepted

This question was asked in order to indicate to what degree the respondent felt that innovation had to be proven first before being widely accepted by the organisation. Seventy-six percent of the respondents agreed and strongly agreed with the perception that their organisations would accept proven innovations. However there exists a downside to this, which is speed to market. If some organisations have a complicated and timely procedure for the introduction of innovations and having to prove its success, then that opportunity of the first move advantage could be lost. Table 5.11

Table 5.13: Technical innovation based on research results is readily accepted

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Strongly Disagree</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2 – Disagree</td>
<td>9</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>13</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>44</td>
<td>44</td>
<td>68</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>32</td>
<td>32</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.4.2 Management actively seeks innovative ideas

It is important to establish if management are reactive or proactive in finding innovative ideas. In an innovative company, the latter could be more relevant. This
question was asked in order to indicate to what degree the respondent felt that in his organisation management were being proactive and seeking out innovative ideas (this could include those even before they have been successfully proven). Sixty percent of the respondents agreed and strongly agreed with the perception that their management is actively seeking innovative ideas.

Table 5.14: Management actively seeks innovative ideas

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Strongly Disagree</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>2 - Disagree</td>
<td>16</td>
<td>16</td>
<td>27</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>13</td>
<td>13</td>
<td>40</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>19</td>
<td>19</td>
<td>59</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>41</td>
<td>41</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.4.3 Innovation is readily accepted in program/project management

The focus on innovation should not be kept in isolation to other activities in the organisation. Integration of innovation throughout the organisation, in all policies and processes could be vital to enhance performance. This question was posed to ensure that the organisations are working smarter and integrating innovation in the completion of projects. A collective 57% of the respondents felt that innovation was readily accepted in program/project management in their organisations.
Table 5.15: Innovation is readily accepted in program/project management

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Strongly Disagree</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>2 – Disagree</td>
<td>18</td>
<td>18</td>
<td>29</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>14</td>
<td>14</td>
<td>43</td>
</tr>
<tr>
<td>4 – Agree</td>
<td>25</td>
<td>25</td>
<td>68</td>
</tr>
<tr>
<td>5 – Strongly Agree</td>
<td>32</td>
<td>32</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.4.4 Individuals are penalised for new ideas that don’t work

This question was asked to investigate whether failure in these organisations were acceptable. If one is penalised for trying out something new and failing, then one could be hesitant in future to innovate. A little over half of the respondents felt that in their organisations individuals are penalised for new ideas that do not work.

Table 5.16: Individuals are penalised for new ideas that do not work

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Strongly Disagree</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>2 – Disagree</td>
<td>11</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>19</td>
<td>19</td>
<td>49</td>
</tr>
<tr>
<td>4 – Agree</td>
<td>32</td>
<td>32</td>
<td>81</td>
</tr>
<tr>
<td>5 – Strongly Agree</td>
<td>19</td>
<td>19</td>
<td>100</td>
</tr>
</tbody>
</table>
5.2.4.5 Innovation in the organisation is perceived as too risky and is resisted

This statement is an indicator of an un-innovative organisation. It was used to establish to what degree is the banking sector anti-innovation. Half of the number of respondents felt that innovation in the organisation is perceived as too risky and is resisted. However, 34% collectively disagreed with this statement. These results are indicated in table 5.14.

Table 5.17: Innovation in the organisation is perceived as too risky and is resisted.

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Strongly Disagree</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>2 - Disagree</td>
<td>14</td>
<td>14</td>
<td>34</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>16</td>
<td>16</td>
<td>50</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>36</td>
<td>36</td>
<td>86</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>14</td>
<td>14</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.4.6 New product ideas, new products launched and new product improvements in the last five years

This part of the section in the questionnaire aimed to obtain, factual information on companies' practices of innovation in new product development. There are three questions measuring the level of engagement in new product development
The Association between Ambidexterity, Strategic Orientation & Business Performance in the Financial Services (Banking) Sector

(in terms of new product ideas introduced, new products launched and improvements in the last 5 years).

Sixty-two percent of the respondents felt that their organisations had less than 10 new product ideas while 16% felt that there were none.

Table 5.18: New Product Ideas

<table>
<thead>
<tr>
<th>New Product Ideas</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - None</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>2 – 1 to 4</td>
<td>26</td>
<td>26</td>
<td>42</td>
</tr>
<tr>
<td>3 – 5 to 9</td>
<td>20</td>
<td>20</td>
<td>62</td>
</tr>
<tr>
<td>4 – 10 to 14</td>
<td>16</td>
<td>16</td>
<td>78</td>
</tr>
<tr>
<td>5 - &gt;&gt; 14</td>
<td>22</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Collectively, 50% felt that their organisations launched less than 3 new products in the last five years, while 19% felt that there were none.

Table 5.19: New Products Launched

<table>
<thead>
<tr>
<th>New Products Launched</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – None</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>2 - One</td>
<td>15</td>
<td>15</td>
<td>34</td>
</tr>
<tr>
<td>3 - Two</td>
<td>16</td>
<td>16</td>
<td>50</td>
</tr>
<tr>
<td>4 – 3 to 4</td>
<td>16</td>
<td>16</td>
<td>66</td>
</tr>
<tr>
<td>5 - &gt;&gt; 4</td>
<td>34</td>
<td>34</td>
<td>100</td>
</tr>
</tbody>
</table>
Collectively, 54% felt that there were less than 10 improvements in the last five years, while 12% felt that there were none.

Table 5.20: New Product Improvements

<table>
<thead>
<tr>
<th>New Product Improvements</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - None</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>2 – 1 to 4</td>
<td>22</td>
<td>22</td>
<td>34</td>
</tr>
<tr>
<td>3 – 5 to 9</td>
<td>20</td>
<td>20</td>
<td>54</td>
</tr>
<tr>
<td>4 – 10 to 14</td>
<td>14</td>
<td>14</td>
<td>68</td>
</tr>
</tbody>
</table>

5.2.4.7 Continuous improvement, company culture and operating environment

This part of the section in the questionnaire aimed to obtain, factual information on companies' practices of innovation in process innovation and continuous improvement. There are nine questions measuring the continuous improvement and organisation for new product development, company culture and ways of working, as well as the company's perception of their operating environment (such as an environment that has a short product life cycle/rapid technological change, or amateur market/ stable environment).

A little over half of the respondents felt that their banking institutions did have patented products, or their own designs or copyrights registered.
Table 5.21: Patented Products or its own designs or any copyrights?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>NO</td>
<td>47</td>
<td>100</td>
</tr>
</tbody>
</table>

A little under half of the respondents felt that their organisations have won innovations prizes.

Table 5.22: Has this business won any Innovation Prizes?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>47</td>
<td>47</td>
</tr>
<tr>
<td>NO</td>
<td>53</td>
<td>100</td>
</tr>
</tbody>
</table>

Seventy-eight percent felt that the business has innovation featuring in the company-objectives or –policies or –vision.

Table 5.23: Innovation featuring in company-objectives or –policy or –vision?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>78</td>
<td>78</td>
</tr>
<tr>
<td>NO</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>
Ninety-one percent of the respondents felt that they were rewarded for new ideas.

Table 5.24: Rewards employees/groups of employees for their new ideas?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>91</td>
<td>91</td>
<td>91</td>
</tr>
<tr>
<td>NO</td>
<td>9</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

It was found that 70% of the respondents felt that employees have the freedom to act without supervision when they notice something wrong or can think of a new way of performing activities.

Table 5.25: Do employees have freedom to act without supervision

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>NO</td>
<td>30</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

Seventy-one percent felt that employees are free to disagree with their superiors on ways of working.

Table 5.26: Are employees free to disagree with superiors on ways of working?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>71</td>
<td>71</td>
<td>71</td>
</tr>
<tr>
<td>NO</td>
<td>29</td>
<td>29</td>
<td>100</td>
</tr>
</tbody>
</table>
Seventy-two percent of the respondents are familiar with their organisations’ suggestion scheme.

Table 5.27: Does the company have an employee suggestion scheme?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>NO</td>
<td>28</td>
<td>100</td>
</tr>
</tbody>
</table>

Seventy percent agree that a cross-functional team is created in their organisation when developing a new product.

Table 5.28: Company have cross-functional team when developing a New Product?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>NO</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

A little under half of the respondents felt that everyone knows the criteria for evaluating new product proposals.

Table 5.29: Does everyone know the criteria for evaluating New Product proposals?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>49</td>
<td>49</td>
</tr>
<tr>
<td>NO</td>
<td>51</td>
<td>100</td>
</tr>
</tbody>
</table>
5.2.4.8 The innovation orientation construct

Innovation Orientation was calculated using all the elements of the questionnaire under this section. The sum of all the Likert scaled elements was added to the factored fixed alternative dichotomous questions. The latter was done to give a weighting of 60% of the innovation construct to the fixed alternative questions. There was an acceptable internal consistency between each element, as the Cronbach alpha for the total construct is 0.78. Table 5.27 shows these results. The scales of the elements “Failed ideas” and “Risk” were reversed in the calculation of the innovation construct.
Table 5.30: Internal Consistency – Innovation Orientation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Total Mean</th>
<th>Total Std.Dev.</th>
<th>Coef Alpha</th>
<th>Corr Total</th>
<th>Other Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>3.95</td>
<td>0.999</td>
<td>29.09</td>
<td>7.675</td>
<td>0.78</td>
<td>0.320</td>
<td>0.400</td>
</tr>
<tr>
<td>Ideas</td>
<td>3.63</td>
<td>1.433</td>
<td>29.41</td>
<td>7.302</td>
<td>0.77</td>
<td>0.451</td>
<td>0.397</td>
</tr>
<tr>
<td>Project</td>
<td>3.49</td>
<td>1.389</td>
<td>29.55</td>
<td>7.178</td>
<td>0.76</td>
<td>0.569</td>
<td>0.589</td>
</tr>
<tr>
<td>Reverse_Failed_Ideas</td>
<td>3.21</td>
<td>1.387</td>
<td>29.83</td>
<td>7.439</td>
<td>0.78</td>
<td>0.366</td>
<td>0.537</td>
</tr>
<tr>
<td>Reverse_Risk</td>
<td>3.10</td>
<td>1.367</td>
<td>29.94</td>
<td>7.275</td>
<td>0.76</td>
<td>0.503</td>
<td>0.580</td>
</tr>
<tr>
<td>New_Product_Ideas</td>
<td>3.02</td>
<td>1.400</td>
<td>30.02</td>
<td>7.087</td>
<td>0.75</td>
<td>0.636</td>
<td>0.582</td>
</tr>
<tr>
<td>New_Product_Launched</td>
<td>3.31</td>
<td>1.535</td>
<td>29.73</td>
<td>6.880</td>
<td>0.74</td>
<td>0.716</td>
<td>0.630</td>
</tr>
<tr>
<td>New_Product_Improve</td>
<td>3.32</td>
<td>1.428</td>
<td>29.72</td>
<td>7.540</td>
<td>0.79</td>
<td>0.275</td>
<td>0.440</td>
</tr>
<tr>
<td>Patented_Products</td>
<td>0.53</td>
<td>0.502</td>
<td>32.51</td>
<td>7.958</td>
<td>0.78</td>
<td>0.154</td>
<td>0.270</td>
</tr>
<tr>
<td>Innovation_Prizes</td>
<td>0.47</td>
<td>0.502</td>
<td>32.57</td>
<td>7.906</td>
<td>0.78</td>
<td>0.258</td>
<td>0.258</td>
</tr>
<tr>
<td>Policy</td>
<td>0.78</td>
<td>0.416</td>
<td>32.26</td>
<td>7.993</td>
<td>0.79</td>
<td>0.112</td>
<td>0.301</td>
</tr>
<tr>
<td>Reward</td>
<td>0.91</td>
<td>0.288</td>
<td>32.13</td>
<td>7.965</td>
<td>0.78</td>
<td>0.279</td>
<td>0.271</td>
</tr>
<tr>
<td>Independent</td>
<td>0.70</td>
<td>0.461</td>
<td>32.34</td>
<td>7.864</td>
<td>0.78</td>
<td>0.380</td>
<td>0.315</td>
</tr>
<tr>
<td>Disagree</td>
<td>0.71</td>
<td>0.456</td>
<td>32.33</td>
<td>7.781</td>
<td>0.77</td>
<td>0.571</td>
<td>0.400</td>
</tr>
<tr>
<td>Suggestion_Scheme</td>
<td>0.72</td>
<td>0.451</td>
<td>32.32</td>
<td>8.002</td>
<td>0.79</td>
<td>0.078</td>
<td>0.239</td>
</tr>
<tr>
<td>Cross_Function</td>
<td>0.70</td>
<td>0.461</td>
<td>32.34</td>
<td>7.820</td>
<td>0.77</td>
<td>0.477</td>
<td>0.425</td>
</tr>
<tr>
<td>New_Product_Proposals</td>
<td>0.49</td>
<td>0.502</td>
<td>32.55</td>
<td>7.868</td>
<td>0.78</td>
<td>0.335</td>
<td>0.371</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>33.04</td>
<td>8.050</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cronbach’s Alpha 0.78
Std. Cronbachs Alpha 0.80

5.2.5 Exploitation, Exploration and Structural Ambidexterity

March (1991, p71) defined the two concepts as follows: “Exploration includes things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation. Exploitation includes such things as refinement, choice, production, efficiency, selection, implementation, execution”.
Ambidexterity refers to the combination of opposing capabilities such as exploration with exploitation or radical with incremental innovation. Ambidexterity can be a key capability to sustain competitive advantage as it can assist in the creation of multifaceted companies.

This is referred to as structural ambidexterity, whereby organisations are able to manage trade-offs between opposing demands by instituting dual structures (Duncan, 1976).

This section of the survey consists of 10 questions, each with a five-point Likert scale. The scales were used to understand the degree to which the respondents felt that the organisations had tried to enhance capabilities (such as exploitation or exploration). Structural ambidexterity was evaluated as the multiplicative term of exploration and exploitation similarly to the approach of Menguc and Auh (2005/2007). This part of the questionnaire was adapted from the surveys of Atuahene-Gima (2005) and Zahra, Ireland and Hitt (2000).
5.2.5.1 Upgraded current knowledge and skills

In this measure, 63% of the sample felt that in the past five years, their organisations have upgraded current knowledge and skills for familiar products and technologies to a significant (large and great) extent, while 5% felt that no upgrades were experienced. Table 5.29 shows to what extent the rest of the sample had taken place.

Table 5.31: Upgraded current knowledge & skills for products and technologies

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

5.2.5.2 Invested in enhancing skills

In respect of investment in enhancing skills for the exploitation of mature technologies that improve productivity of current innovation operations, shown in table 5.30, 70% of the sample felt that in the past five years, this was done to a to a significant (large and great) extent. Four percent felt that no investment was made.
Table 5.32: Enhancing skills in exploiting mature technologies

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>37</td>
<td>37</td>
</tr>
</tbody>
</table>

5.2.5.3 Enhanced competencies

In the following measure, depicted in table 5.31, 74% of the sample felt that in the past five years, their organisations have enhanced competencies in searching for solutions to customer problems that are near to existing solutions rather than completely new solutions, to a significant (large and great) extent. Three percent felt that no competencies were enhanced.

Table 5.33: Enhanced competencies in searching for solutions to existing problems

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>44</td>
<td>44</td>
</tr>
</tbody>
</table>
5.2.5.4 Upgraded skills in product development processes

In respect of upgraded skills in product development processes in which the firm already possesses significant experience, 70% of the sample, depicted in table 5.32, felt that in the past five years, this was done to a to a significant (large and great) extent, while 4% felt that no upgrading of skills took place.

Table 5.34: Upgraded skills in development processes with existing experience

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>48</td>
<td>48</td>
</tr>
</tbody>
</table>

5.2.5.5 Strengthened knowledge and skills

In the following measure, 76% of the sample felt that in the past five years, their organisations have strengthened the knowledge and skills for projects that improve efficiency of existing innovation activities, to a significant (large and great) extent. These results are shown in table 5.33. Eight percent of the sample felt that no strengthening of knowledge and skills took place.
Table 5.35: Strengthened knowledge & skills to improve existing activities

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>56</td>
<td>56</td>
</tr>
</tbody>
</table>

5.2.5.6 The exploitative construct

The previous five elements represent the exploitive capability with an acceptable internal consistency within the exploitative construct. Table 5.34 shows the Cronbach alpha of 0.77 for the total sample of the exploitive construct. As expected, with the omission of each element in this construct, we obtained alphas lower than the total alpha.
Table 5.36: Internal Consistency – Exploitive Capability

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Total Mean</th>
<th>Total Std.Dev.</th>
<th>Coef Alpha</th>
<th>Corr Total</th>
<th>Other Items</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade_Know</td>
<td>3.75</td>
<td>1.175</td>
<td>16.06</td>
<td>3.472</td>
<td>0.73</td>
<td>0.536</td>
<td>0.296</td>
<td></td>
</tr>
<tr>
<td>Enhance_Skill</td>
<td>3.88</td>
<td>1.148</td>
<td>15.93</td>
<td>3.468</td>
<td>0.73</td>
<td>0.561</td>
<td>0.340</td>
<td></td>
</tr>
<tr>
<td>Enhanced_Competent</td>
<td>4.06</td>
<td>1.062</td>
<td>15.75</td>
<td>3.611</td>
<td>0.75</td>
<td>0.476</td>
<td>0.242</td>
<td></td>
</tr>
<tr>
<td>Upgrade_Skills</td>
<td>4.01</td>
<td>1.176</td>
<td>15.80</td>
<td>3.441</td>
<td>0.72</td>
<td>0.567</td>
<td>0.340</td>
<td></td>
</tr>
<tr>
<td>Strength</td>
<td>4.11</td>
<td>1.262</td>
<td>15.70</td>
<td>3.359</td>
<td>0.72</td>
<td>0.582</td>
<td>0.343</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19.81</td>
<td>4.220</td>
<td>19.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.77</td>
</tr>
</tbody>
</table>

Cronbach’s Alpha 0.77  Std. Cronbachs Alpha 0.77

5.2.5.7. Acquired skills and technologies

In respect of acquired manufacturing technologies and skills entirely new to the firm, 31% of the sample felt that in the past five years, this was performed to a lesser or insignificant (some and small) extent. It is interesting to note that a quarter of the sample felt that no new skills and technologies were acquired by the organisation. It was surprising and entirely unexpected that 25% of the sample felt that no acquisition took place.
Table 5.37: Acquired manufacturing technologies and skills entirely new to the firm

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>28</td>
<td>28</td>
</tr>
</tbody>
</table>

5.2.5.8 Learning new skills

In the following measure depicted in table 5.36, 54% of the sample felt that in the past five years, their organisations have learned product development skills and processes (such as product design, prototyping new products, timing of new product introductions, and customising products for local markets) entirely new to the industry, to an insignificant (some and small) or to no extent. Twenty-three percent felt that no learning took place.

Table 5.38: Learned entirely new product development skills & processes

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>28</td>
<td>28</td>
</tr>
</tbody>
</table>
5.2.5.9 Acquiring entirely new skills

In respect of acquired entirely new managerial and organisational skills that are important for innovation (such as forecasting technological & customer trends; identifying emerging markets & technologies; coordinating-integrating all functions; managing the product development process) depicted in table 5.37, 31% of the sample felt that in the past five years, this was performed to a lesser or insignificant (some and small) extent. It is interesting to note that 23% of the sample felt that no new managerial and organisational skills were acquired by the organisation.

Table 5.39: Acquired entirely new managerial and organisational skills

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>17</td>
<td>17</td>
<td>40</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>14</td>
<td>14</td>
<td>54</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>16</td>
<td>16</td>
<td>70</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>30</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.5.10 Learning new skills in specialised fields

In the following measure, just about half of the sample, shown in table 5.38, felt that in the past five years, their organisations have learned new skills in areas such
as funding new technology, staffing R&D function, training of R&D and engineering personnel for the first time, to a significant (large and great) extent. It was unexpected that 28% felt that there was no new learning in these specialised fields.

Table 5.40: Learned new skills in areas for the first time?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>11</td>
<td>39</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>12</td>
<td>51</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>22</td>
<td>73</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>27</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.5.11 Strengthened innovation skills

In respect of strengthened innovation skills in areas where the organisations had no prior experience, 49% of the sample, depicted in table 5.39, felt that in the past five years, their organisations had tried to a significant (large and great) extent, to achieve this. It is interesting to note that 23% of the sample felt that none of this had taken place in their organisations.
Table 5.41: Strengthened innovation skills in areas where it had no prior experience

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Extent</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>2 – To some extent</td>
<td>10</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>3 – To a small extent</td>
<td>18</td>
<td>18</td>
<td>51</td>
</tr>
<tr>
<td>4 – To a large extent</td>
<td>19</td>
<td>19</td>
<td>70</td>
</tr>
<tr>
<td>5 – To a great extent</td>
<td>30</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.5.12 The Explorative Construct reviewed

The previous five elements represent the explorative capability with a good internal consistency within the explorative construct. Table 5.40 shows that a Cronbach alpha of 0.81 for the total sample was calculated. It is interesting to note that no change to the internal consistency was incurred when the new skills element was omitted. However, it was decided that this element be kept as part of the explorative construct.
Table 5.42: Internal Consistency – Explorative Capability

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Total Mean</th>
<th>Total Std.Dev.</th>
<th>Coef</th>
<th>Corr</th>
<th>Alpha</th>
<th>Std. Total</th>
<th>Std. Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>New_Skills</td>
<td>3.01</td>
<td>1.586</td>
<td>12.62</td>
<td>4.976</td>
<td>0.81</td>
<td>0.493</td>
<td>0.247</td>
<td>0.493</td>
<td>0.247</td>
</tr>
<tr>
<td>New_Products</td>
<td>3.17</td>
<td>1.525</td>
<td>12.46</td>
<td>4.777</td>
<td>0.75</td>
<td>0.681</td>
<td>0.491</td>
<td>0.681</td>
<td>0.491</td>
</tr>
<tr>
<td>Acquire_Skill</td>
<td>3.13</td>
<td>1.568</td>
<td>12.50</td>
<td>4.821</td>
<td>0.77</td>
<td>0.620</td>
<td>0.429</td>
<td>0.620</td>
<td>0.429</td>
</tr>
<tr>
<td>Research_Develop</td>
<td>3.09</td>
<td>1.596</td>
<td>12.54</td>
<td>4.775</td>
<td>0.77</td>
<td>0.638</td>
<td>0.409</td>
<td>0.638</td>
<td>0.409</td>
</tr>
<tr>
<td>Innovate_Skill</td>
<td>3.23</td>
<td>1.543</td>
<td>12.40</td>
<td>4.878</td>
<td>0.78</td>
<td>0.590</td>
<td>0.362</td>
<td>0.590</td>
<td>0.362</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>15.63</td>
<td>5.921</td>
<td>0.81</td>
<td></td>
<td>0.81</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cronbach's Alpha    | 0.81 | Std. Cronbachs Alpha | 0.81 |

5.2.5.13 The structural ambidexterity construct

Structural ambidexterity is defined as a multidimensional construct consisting of the non-substitutable combination of exploration and exploitation, that is, as the multiplicative interaction of these two capabilities (O’Reilly and Tushman, 2004; Menguc and Auh, 2007). Table 5.41 shows the results of the Cronbach alphas within the structural ambidexterity construct. The alphas are above 0.8, which tends to suggest that a strong internal consistency exists.
### Table 5.43: Internal Consistency – Structural Ambidexterity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Total Mean</th>
<th>Total Std.Dev.</th>
<th>Coef Alpha</th>
<th>Corr Total</th>
<th>Other Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade_Knowledge</td>
<td>3.75</td>
<td>1.175</td>
<td>31.69</td>
<td>8.556</td>
<td>0.85</td>
<td>0.550</td>
<td>0.354</td>
</tr>
<tr>
<td>Enhance_Skill</td>
<td>3.88</td>
<td>1.148</td>
<td>31.56</td>
<td>8.594</td>
<td>0.86</td>
<td>0.530</td>
<td>0.382</td>
</tr>
<tr>
<td>Enhanced_Competent</td>
<td>4.06</td>
<td>1.062</td>
<td>31.38</td>
<td>8.687</td>
<td>0.86</td>
<td>0.490</td>
<td>0.293</td>
</tr>
<tr>
<td>Upgrade_Skills</td>
<td>4.01</td>
<td>1.176</td>
<td>31.43</td>
<td>8.512</td>
<td>0.85</td>
<td>0.590</td>
<td>0.385</td>
</tr>
<tr>
<td>Strength</td>
<td>4.11</td>
<td>1.262</td>
<td>31.33</td>
<td>8.464</td>
<td>0.85</td>
<td>0.581</td>
<td>0.443</td>
</tr>
<tr>
<td>New_Skills</td>
<td>3.01</td>
<td>1.586</td>
<td>32.43</td>
<td>8.416</td>
<td>0.86</td>
<td>0.461</td>
<td>0.265</td>
</tr>
<tr>
<td>New_Products</td>
<td>3.17</td>
<td>1.525</td>
<td>32.27</td>
<td>8.147</td>
<td>0.84</td>
<td>0.682</td>
<td>0.550</td>
</tr>
<tr>
<td>Acquire_Skill</td>
<td>3.13</td>
<td>1.568</td>
<td>32.31</td>
<td>8.152</td>
<td>0.84</td>
<td>0.654</td>
<td>0.477</td>
</tr>
<tr>
<td>Research_Develop</td>
<td>3.09</td>
<td>1.596</td>
<td>32.35</td>
<td>8.138</td>
<td>0.85</td>
<td>0.649</td>
<td>0.471</td>
</tr>
<tr>
<td>Innovate_Skill</td>
<td>3.23</td>
<td>1.543</td>
<td>32.21</td>
<td>8.224</td>
<td>0.85</td>
<td>0.615</td>
<td>0.401</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>35.44</td>
<td>9.254</td>
<td>0.86</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cronbach's Alpha: 0.86
Std. Cronbachs Alpha: 0.87

### 5.2.6 Alignment, Adaptation and Contextual Ambidexterity

Contextual ambidexterity is the behavioural capacity centred on the process and systems in a given context focused on achieving a balance between the adaptation and alignment across units. Gibson and Birkinshaw (2004, p 209) defined alignment as the “coherence among all the patterns of activities in the business unit; they are working together towards the same goals”. They defined adaptability as well as the “capacity to reconfigure activities in the business unit quickly to meet changing demands in the task environment”
This section of the survey consists of six questions, each with a five-point Likert scale. The scales were used to indicate the perception of the degree to which the organisations were displaying characteristics of either capability (that is alignment or adaptability). The contextual ambidexterity was taken as the multiplicative term of alignment and adaptability as in Gibson and Birkinshaw (2004). This part of the questionnaire was adapted from the survey of Gibson and Birkinshaw (2004).

5.2.6.1 Management systems support organisational objectives

Table 5.42 below shows that 75% of the respondents collectively agree with the notion that the management systems in their organisations work coherently to support the overall objectives of the organisation.

Table 5.44: Management systems support overall objectives

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Strongly Disagree</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2 - Disagree</td>
<td>11</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>11</td>
<td>11</td>
<td>25</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>28</td>
<td>28</td>
<td>53</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>47</td>
<td>47</td>
<td>100</td>
</tr>
</tbody>
</table>
5.2.6.2 Management systems causing waste resources

In respect of the management systems in their organisations causing them to waste resources on unproductive activities, 64% of the respondents collectively agreed with this, while 23% collectively disagreed.

Table 5.45: Management systems waste resources on unproductive activities.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Strongly Disagree</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2 - Disagree</td>
<td>18</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>13</td>
<td>13</td>
<td>36</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>30</td>
<td>30</td>
<td>66</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>34</td>
<td>34</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.6.3 Management systems create conflicts

In table 5.44, there was a fifty-one percent collective agreement that the respondents in these organisations often end up working at cross-purposes because their management systems give them conflicting objectives. Thirty –three percent disagreed with this.
Table 5.46: People in this organisation often end up working at cross-purposes

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Strongly Disagree</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>2 - Disagree</td>
<td>27</td>
<td>27</td>
<td>33</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>16</td>
<td>16</td>
<td>49</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>25</td>
<td>25</td>
<td>74</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>26</td>
<td>26</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.6.4 The alignment construct

The alignment construct comprises of the previous three elements. However, the Cronbach alpha is small (0.19 for the total) which tends to suggest that there was a lack of internal consistency within the alignment construct. Nonetheless, it was decided to include this construct with its elements as the contextual ambidextrous construct is a multiplicative interaction of alignment and adaptability (Gibson and Birkinshaw, 2004).

Table 5.47: Internal Consistency – Alignment capability

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Total Mean</th>
<th>Total Std.Dev.</th>
<th>Coef Alpha</th>
<th>Corr Total</th>
<th>Other Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support_Object</td>
<td>4.05</td>
<td>1.140</td>
<td>7.08</td>
<td>2.048</td>
<td>0.46</td>
<td>-0.067</td>
<td>0.008</td>
</tr>
<tr>
<td>Waste_Resource</td>
<td>3.70</td>
<td>1.251</td>
<td>7.43</td>
<td>1.647</td>
<td>-0.19</td>
<td>0.220</td>
<td>0.088</td>
</tr>
<tr>
<td>Cross_Purpose</td>
<td>3.38</td>
<td>1.293</td>
<td>7.75</td>
<td>1.678</td>
<td>-0.04</td>
<td>0.161</td>
<td>0.095</td>
</tr>
<tr>
<td>Total</td>
<td>11.13</td>
<td>2.277</td>
<td>0.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cronbach's Alpha 0.19 Std. Cronbachs Alpha 0.17
5.2.6.5 Management systems encourage paradigm shifts

It was depicted in table 5.46 that 37% of respondents felt that they could not change current practise, while 47% felt that management systems in their organisations encouraged people to challenge outdated traditions or practices or sacred cows.

Table 5.48: Management systems encourage people to challenge the norm

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Strongly Disagree</td>
<td>21</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>2 - Disagree</td>
<td>16</td>
<td>16</td>
<td>37</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>16</td>
<td>16</td>
<td>53</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>21</td>
<td>21</td>
<td>74</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>26</td>
<td>26</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.6.6 Management systems allow flexibility

Half of the respondents collectively agreed that the management systems in their organisations were flexible enough to allow them to respond quickly to changes in their markets, while 33% collectively disagreed.
Table 5.49: Management systems are flexible to quickly respond changing markets

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Strongly Disagree</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>2 - Disagree</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>31</td>
<td>31</td>
</tr>
</tbody>
</table>

5.2.6.7 Management systems evolve rapidly

In table 5.48, 47% of respondents collectively agreed that the management systems in their organisations evolve rapidly in response to shifts in their business priorities, while 37% felt otherwise.

Table 5.50: Management systems evolve rapidly to shifts in our business priorities

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Strongly Disagree</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>2 - Disagree</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>3 - Neither agree nor disagree</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>4 - Agree</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>5 - Strongly Agree</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>
5.2.6.8 The adaptability construct

The adaptability construct showed a greater improvement compared to alignment.

The Cronbach alpha in table 5.49 is 0.72 for the total sample, suggesting that internal reliability is high.

Table 5.51: Internal Consistency – Adaptability construct

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Total Mean</th>
<th>Total Std.Dev.</th>
<th>Coef Alpha</th>
<th>Corr Total</th>
<th>Other Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenge_Norm</td>
<td>3.15</td>
<td>1.500</td>
<td>6.51</td>
<td>2.525</td>
<td>0.69</td>
<td>0.486</td>
<td>0.255</td>
</tr>
<tr>
<td>Flexible</td>
<td>3.30</td>
<td>1.494</td>
<td>6.36</td>
<td>2.381</td>
<td>0.52</td>
<td>0.620</td>
<td>0.386</td>
</tr>
<tr>
<td>Evolve</td>
<td>3.21</td>
<td>1.395</td>
<td>6.45</td>
<td>2.587</td>
<td>0.66</td>
<td>0.508</td>
<td>0.289</td>
</tr>
<tr>
<td>Total</td>
<td>9.66</td>
<td>3.508</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cronbach's Alpha: 0.72
Std. Cronbachs Alpha: 0.72

5.2.6.9 The contextual ambidexterity construct

Internal reliability was low for the contextual ambidexterity construct, with a Cronbach alpha of 0.56 for the total. It is interesting to note that in table 5.50, when the elements “Waste_Resource” and “Cross_Purpose” are omitted the resulting alpha is greater than the total alpha. This implies that these two terms are
not contributing to the internal consistency of the construct. Table 5.51 shows the contextual ambidexterity construct with these two elements removed. As expected, the Cronbach alpha has increased to an acceptable 0.75.

Table 5.52: Internal Consistency – Contextual Ambidexterity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Deviation</th>
<th>Total Mean</th>
<th>Std.Dev.</th>
<th>Coef Alpha</th>
<th>Corr Total</th>
<th>Other Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support_Object</td>
<td>4.05</td>
<td>1.140</td>
<td>16.74</td>
<td>3.933</td>
<td>0.47</td>
<td>0.422</td>
<td>0.310</td>
</tr>
<tr>
<td>Waste_Resource</td>
<td>3.70</td>
<td>1.251</td>
<td>17.09</td>
<td>4.374</td>
<td>0.64</td>
<td>-0.014</td>
<td>0.167</td>
</tr>
<tr>
<td>Cross_Purpose</td>
<td>3.38</td>
<td>1.293</td>
<td>17.41</td>
<td>4.262</td>
<td>0.61</td>
<td>0.065</td>
<td>0.149</td>
</tr>
<tr>
<td>Challenge_Norm</td>
<td>3.15</td>
<td>1.500</td>
<td>17.64</td>
<td>4.262</td>
<td>0.61</td>
<td>0.065</td>
<td>0.149</td>
</tr>
<tr>
<td>Flexible</td>
<td>3.30</td>
<td>1.494</td>
<td>17.49</td>
<td>4.262</td>
<td>0.61</td>
<td>0.065</td>
<td>0.149</td>
</tr>
<tr>
<td>Evolve</td>
<td>3.21</td>
<td>1.395</td>
<td>17.58</td>
<td>3.785</td>
<td>0.46</td>
<td>0.405</td>
<td>0.381</td>
</tr>
<tr>
<td>Total</td>
<td>20.79</td>
<td>4.533</td>
<td>0.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cronbach's Alpha Std. Cronbachs Alpha
0.56 0.55

Table 5.53: Internal Consistency – Contextual Ambidexterity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Deviation</th>
<th>Total Mean</th>
<th>Std.Dev.</th>
<th>Coef Alpha</th>
<th>Corr Total</th>
<th>Other Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support_Object</td>
<td>4.05</td>
<td>1.140</td>
<td>9.66</td>
<td>3.508</td>
<td>0.72</td>
<td>0.512</td>
<td>0.290</td>
</tr>
<tr>
<td>Challenge_Norm</td>
<td>3.15</td>
<td>1.500</td>
<td>10.56</td>
<td>3.176</td>
<td>0.69</td>
<td>0.563</td>
<td>0.358</td>
</tr>
<tr>
<td>Flexible</td>
<td>3.30</td>
<td>1.494</td>
<td>10.41</td>
<td>3.137</td>
<td>0.66</td>
<td>0.601</td>
<td>0.388</td>
</tr>
<tr>
<td>Evolve</td>
<td>3.21</td>
<td>1.395</td>
<td>10.5</td>
<td>3.301</td>
<td>0.70</td>
<td>0.528</td>
<td>0.318</td>
</tr>
<tr>
<td>Total</td>
<td>13.71</td>
<td>4.207</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cronbach's Alpha Std. Cronbachs Alpha
0.75 0.75
5.2.7 Hypothesis 1

The higher the level of ambidexterity in the financial services (banking) sector, the greater the level of performance.

This relationship can be shown using the correlation matrix in table 5.5. The combined ambidexterity construct (a combination of structural and contextual ambidexterity) is correlated with perceived business performance, correlation coefficient being 0.51. Figure 5.5 shows that a positive relationship does exist between business performance and combined ambidexterity.

![Relationship between Business Performance and Combined Ambidexterity](image)

Figure 5.5: Scatter Plot - Business Performance vs Combined Ambidexterity
5.2.8 Hypothesis 2

The more the financial services (banking) sector is characterised by structural ambidexterity the greater the level of performance.

The correlation matrix in table 5.52 was used to determine the relationship between the structural ambidextrous capabilities of an organisation and its level of performance. The table shows a weak correlation between these two constructs, correlation coefficient being 0.47.

Some other interesting correlations were identified by the correlation table. A strong correlation exists between innovation and exploitation and innovation and adaptability. In trying to understand this, it is easier to see that in order to perform against the grain, or away from the norm, or in constant flux, as does the explorative and adaptive capability require, an organisation would have to be innovative. From this, it would imply that a relationship exists between exploration and adaptability, and according to the matrix table, a strong correlation does exist, correlation coefficient being 0.74. Figure 5.6 shows that a positive relationship does exist between business performance and structural ambidexterity.
Exploitation is about maintaining efficient operations, performing well those activities that you are good at, while alignment is about management processes that create an enabling and efficient environment (O’Reilly and Tushman, 2004; Gibson and Birkinshaw, 2004). This may imply that a relationship could exist between exploitation and alignment. The correlation matrix does indicate a strong correlation between these two capabilities, correlation coefficient being 0.65.
Table 5.54: Correlation Report with Pearson Correlations Section

<table>
<thead>
<tr>
<th>Management Level</th>
<th>Strategy</th>
<th>Business Performance</th>
<th>Innovation Orientation</th>
<th>Exploitation</th>
<th>Exploration</th>
<th>Structural Ambidexterity</th>
<th>Alignment</th>
<th>Adaptability</th>
<th>Contextual Ambidexterity</th>
<th>Combine Ambidexterity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Level</td>
<td>1.00</td>
<td>-0.03</td>
<td>0.09</td>
<td>0.06</td>
<td>0.04</td>
<td>-0.03</td>
<td>-0.01</td>
<td>-0.15</td>
<td>0.02</td>
<td>-0.08</td>
</tr>
<tr>
<td>Strategy</td>
<td>-0.03</td>
<td>1.00</td>
<td>0.60</td>
<td>0.59</td>
<td>0.21</td>
<td>0.44</td>
<td>0.43</td>
<td>0.08</td>
<td>0.59</td>
<td>0.45</td>
</tr>
<tr>
<td>Business Performance</td>
<td>0.09</td>
<td>0.60</td>
<td>1.00</td>
<td>0.52</td>
<td>0.27</td>
<td>0.47</td>
<td>0.47</td>
<td>0.09</td>
<td>0.60</td>
<td>0.47</td>
</tr>
<tr>
<td>Innovation Orientation</td>
<td>0.06</td>
<td>0.59</td>
<td>0.52</td>
<td>1.00</td>
<td>0.47</td>
<td>0.70</td>
<td>0.71</td>
<td>0.15</td>
<td>0.63</td>
<td>0.53</td>
</tr>
<tr>
<td>Exploitation</td>
<td>0.04</td>
<td>0.21</td>
<td>0.27</td>
<td>0.47</td>
<td>1.00</td>
<td>0.56</td>
<td>0.66</td>
<td>0.65</td>
<td>0.45</td>
<td>0.70</td>
</tr>
<tr>
<td>Exploration</td>
<td>-0.03</td>
<td>0.44</td>
<td>0.47</td>
<td>0.70</td>
<td>0.56</td>
<td>1.00</td>
<td>0.96</td>
<td>0.29</td>
<td>0.74</td>
<td>0.69</td>
</tr>
<tr>
<td>Structural Ambidexterity</td>
<td>-0.01</td>
<td>0.43</td>
<td>0.47</td>
<td>0.71</td>
<td>0.66</td>
<td>0.96</td>
<td>1.00</td>
<td>0.34</td>
<td>0.76</td>
<td>0.73</td>
</tr>
<tr>
<td>Alignment</td>
<td>-0.15</td>
<td>0.08</td>
<td>0.09</td>
<td>0.15</td>
<td>0.65</td>
<td>0.29</td>
<td>0.34</td>
<td>1.00</td>
<td>0.23</td>
<td>0.73</td>
</tr>
<tr>
<td>Adaptability</td>
<td>0.02</td>
<td>0.59</td>
<td>0.60</td>
<td>0.63</td>
<td>0.45</td>
<td>0.74</td>
<td>0.76</td>
<td>0.23</td>
<td>1.00</td>
<td>0.81</td>
</tr>
<tr>
<td>Contextual Ambidexterity</td>
<td>-0.08</td>
<td>0.45</td>
<td>0.47</td>
<td>0.53</td>
<td>0.70</td>
<td>0.69</td>
<td>0.73</td>
<td>0.73</td>
<td>0.81</td>
<td>1.00</td>
</tr>
<tr>
<td>Combine Ambidexterity</td>
<td>-0.05</td>
<td>0.47</td>
<td>0.51</td>
<td>0.66</td>
<td>0.73</td>
<td>0.88</td>
<td>0.93</td>
<td>0.58</td>
<td>0.85</td>
<td>0.94</td>
</tr>
</tbody>
</table>

*Shanil Mohabir*
5.2.8 Hypothesis 3

The degree of the innovative culture in the financial services (banking) sector is greatest in prospectors than in defenders

\[ H_0 : \mu_P \leq \mu_D \]

\[ H_a : \mu_P > \mu_D \]

The correlation matrix in table 5.52 does imply that a correlation exists between innovation and strategic orientation. In order to evaluate this hypothesis, the data was split between prospectors and defenders, which make up the strategic orientation that was studied. A sample summary is provided in table 5.53. StatTOOLS 1.0 was used to perform the exercise. The hypothesis testing option was chosen with a two sample analysis. The results are provided in table 5.53.

It is shown that at a 99% confidence interval the null hypothesis is rejected, implying that the degree of innovation in prospectors is greater than defenders.
Table 5.55: Hypothesis 3

<table>
<thead>
<tr>
<th>Sample Summaries</th>
<th>Prosectors</th>
<th>Defenders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>59</td>
<td>41</td>
</tr>
<tr>
<td>Sample Mean</td>
<td>76.68</td>
<td>53.64</td>
</tr>
<tr>
<td>Sample Std Dev</td>
<td>17.33</td>
<td>10.06</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hypothesis Test (Difference of Means)</th>
<th>Equal Variances</th>
<th>Unequal Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Alternative Hypothesis</td>
<td>&gt;</td>
<td>&gt;</td>
</tr>
<tr>
<td>Sample Mean Difference</td>
<td>23.04</td>
<td>23.04</td>
</tr>
<tr>
<td>Standard Error of Difference</td>
<td>3.009681855</td>
<td>2.749717311</td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>98</td>
<td>95</td>
</tr>
<tr>
<td>t-Test Statistic</td>
<td>7.6557</td>
<td>8.3795</td>
</tr>
<tr>
<td>p-Value</td>
<td>&lt; 0.0001</td>
<td>&lt; 0.0001</td>
</tr>
<tr>
<td>Null Hypoth. at 10% Significance</td>
<td>Reject</td>
<td>Reject</td>
</tr>
<tr>
<td>Null Hypoth. at 5% Significance</td>
<td>Reject</td>
<td>Reject</td>
</tr>
<tr>
<td>Null Hypoth. at 1% Significance</td>
<td>Reject</td>
<td>Reject</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equality of Variances Test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio of Sample Variances</td>
<td>2.9675</td>
</tr>
<tr>
<td>p-Value</td>
<td>0.0004</td>
</tr>
</tbody>
</table>

5.2.9 Hypothesis 4

The combination of the prospector strategic orientation and the ambidextrous capability matched in the financial services (banking) sector performs greater than any other combination of prospector and defender strategic orientation with exploitation, exploration, alignment, adaptability and structural or contextual ambidextrous capabilities.
The business performance for the combination of prospector and combination ambidexterity was evaluated. This diagnostic ($\mu_{PA}$) was compared to the rest of the cluster (or the non-prospector-combination ambidexterity cluster) in order to evaluate this hypothesis. A sample summary is provided in table 5.54. StatTOOLS 1.0 was used to perform the exercise. Similarly to hypothesis 3, the hypothesis testing option was chosen with a two sample analysis. The results are provided in table 5.54.

It is shown in table 5.54 that at a 99% confidence interval the null hypothesis is rejected, implying that the combination of the prospector strategic orientation and the ambidextrous capability matched in the financial services (banking) sector performs greater than any other combination of prospector and defender strategic orientation with exploitation, exploration, alignment, adaptability and structural or contextual ambidextrous capabilities.
Table 5.56: Hypothesis 4

<table>
<thead>
<tr>
<th>Sample Summaries</th>
<th>PA</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>38</td>
<td>62</td>
</tr>
<tr>
<td>Sample Mean</td>
<td>71.34</td>
<td>47.18</td>
</tr>
<tr>
<td>Sample Std Dev</td>
<td>13.58</td>
<td>15.52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hypothesis Test (Difference of Means)</th>
<th>Equal Variances</th>
<th>Unequal Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Alternative Hypothesis</td>
<td>&gt;</td>
<td>&gt;</td>
</tr>
<tr>
<td>Sample Mean Difference</td>
<td>24.16</td>
<td>24.16</td>
</tr>
<tr>
<td>Standard Error of Difference</td>
<td>3.0526433</td>
<td>2.955917781</td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>98</td>
<td>86</td>
</tr>
<tr>
<td>t-Test Statistic</td>
<td>7.9160</td>
<td>8.1750</td>
</tr>
<tr>
<td>p-Value</td>
<td>&lt; 0.0001</td>
<td>&lt; 0.0001</td>
</tr>
<tr>
<td>Null Hypoth. at 10% Significance</td>
<td>Reject</td>
<td>Reject</td>
</tr>
<tr>
<td>Null Hypoth. at 5% Significance</td>
<td>Reject</td>
<td>Reject</td>
</tr>
<tr>
<td>Null Hypoth. at 1% Significance</td>
<td>Reject</td>
<td>Reject</td>
</tr>
</tbody>
</table>

| Equality of Variances Test                     |                |
| Ratio of Sample Variances                      | 0.7655         |
| p-Value                                        | 0.3860         |

5.3 CONCLUSION

The aforementioned results presented clearly and concisely, represent the findings drawn from the survey questionnaires. Hereafter Chapter Six will provide a detailed insight and explanation of the results which will be discussed in terms of the hypotheses and literature.
CHAPTER 6: DISCUSSION OF RESULTS

6.1 INTRODUCTION

In this chapter the quantitative results that were presented in Chapter Five will be discussed in terms of the research hypotheses and the literature.

Pearson Correlations were performed between the various clusters those being management level, strategy, innovation and capabilities and the results are presented in table 5.52.

6.2 HYPOTHESIS 1

The higher the level of ambidexterity in the financial services (banking) sector, the greater the level of performance.
March (1991) in his seminal article discusses the notion of trade-off. A balance or a trade-off between exploration and exploitation is required. Too much focus solely on exploration leads to inefficiency in the process (Menguc and Auh, 2005). Too much focus solely on exploitation leads to a myopic view of the changing environment in which organisations survive (Levinthal and March, 1993). It is required that a combination of these capabilities be used in the business process. While some may argue that this combination of capabilities should be at strategic level, higher up in the organisation (O’Reilly and Tushman, 2004), others argue that a context should be created around individual employees so that they can function on a dual capability basis (Gibson and Birkinshaw, 2004).

The research hypothesis was intended to elicit responses that were aligned to the notion that by combining explorative and exploitive capabilities, this would be correlated to a greater perceived performance. However, it was decided that the level of ambidexterity would refer to the combination of the structural and contextual ambidexterity. Structural and contextual ambidexterity is made up of the multiplicative term between exploration and exploitation, and between alignment and adaptability respectively.
The transition is required to make these ambidextrous capabilities a core competence of an organisation. Hafeez et al (2001) found that core competencies are the valuable capabilities that when fully exploited yields a competitive advantage for the organisation in the market place. The competitive advantage is indicated with the positive relationship between ambidexterity and business performance. This argument, therefore implies that an organisation could master its combined ambidextrous capabilities to such an extent that it becomes ingrown, “second-nature”, part of the fabric, and which will lead to an enhanced business performance.

Some organisations, and in this specific case banking institutions, utilise their exploitive capabilities to try and protect their domain. This form of myopia is detrimental to the success of the organisation. On the other hand, organisations are perpetually involved in research and development (R&D), not building up enough reserves in the short run to accommodate the huge spends on R&D (March, 1991). If these were the competitors in the banking industry in South Africa, one would agree that by combining these capabilities, the ambidextrous organisation could challenge some of the other organisations. Also, the ambidextrous organisation could sustain both its short run activities as well as the
long run research and development phases, in this way, outperforming and outlasting its rivals.

Gibson and Birkinshaw (2004) found that ambidexterity relates positively to performance. Their study encompassed a wide variety of industries, suggesting that ambidexterity is a critical capability for many firms.

Menguc and Auh (2007) set out to dispel the notion that ambidexterity supports performance. They were not successful and their data supported a lack of negative ambidexterity effect on firm performance.

**6.2.1 Statistical Test**

In order to prove that a linear relationship exists between business performance and combined ambidexterity, a correlation coefficient closer to 1 is required (Albright, Winston and Zappe, 2006). The sign of the correlation, plus or minus, determines whether the linear relationship between business performance and combined ambidexterity is positive or negative. The strength of the linear relationship between these two constructs is measured by the absolute value, or
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magnitude of the correlation. The closer this magnitude is to 1, the stronger the relationship.

6.2.2 Test Result

Figure 5.5 suggests that there exists a relationship between business performance and combined ambidexterity. The correlation of 0.51 shown in table 5.52 supports this conclusion and implies a positive linear relationship between the two variables. The magnitude is between 0 and 1, or between a weak and perfect relationship.

In conclusion, the research indicates that for the financial services (banking) sector in South Africa, the higher the level of ambidexterity, the greater the level of performance.

6.3 HYPOTHESIS 2

The more the financial services (banking) sector is characterised by *structural* ambidexterity the greater the level of performance.
Organisational ambidexterity in the literature is defined as the ability to simultaneously pursue both incremental and radical innovation and change by combining exploration and exploitation (Tushman and O’Reilly, 1996). Gibson and Birkinshaw (2004) describe two types of ambidexterity, structural and contextual. Li et al (2008, p121) explains that “structural ambidexterity refers to balancing exploitation and exploration by allocating conflicting activities at different units at various levels within an organisation” and “contextual ambidexterity refers to the behavioural capacity to simultaneously demonstrate alignment and adaptability across an entire business unit”.

Exploration and exploitation are crucial for the adaptation and survival of organisations as they comprise of different risk levels, they require diverse resources and they create different benefits (Li et al, 2008). Kyriakopoulos and Moorman (2004) argue that if the organisation focuses singularly on exploration, the returns which for this capability are far and inconsistent (March, 1991), would not be realised for the gain in knowledge. The organisation that focuses on exploitation alone will suffer from obsolescence. “Survival requires a balance” (Kyriakopoulos and Moorman, 2004, p220), a balance between exploration and exploitation. This ambidextrous approach would ensure that sufficient energy is
utilised for current and future viability engaging in both exploratory and exploitive capabilities simultaneously.

6.2.1 Statistical Test

A similar approach to hypothesis 1 was pursued. In order to prove that a linear relationship exists between business performance and structural ambidexterity, a correlation coefficient closer to 1 is required (Albright, Winston and Zappe, 2006).

6.2.2 Test Result

Figure 5.6 suggests that there exists a relationship between business performance and combined ambidexterity. However, the correlation of 0.47 shown in table 5.52 does not support a significant positive linear relationship between the two constructs. This strength of this relationship is slightly weaker than the relationship that exists from hypothesis 1. However, Menguc and Auh (2007) found that structural ambidexterity does not have a negative effect on firm performance. Further van Looy et al (2005, p219) found that ambidextrous organisations can adopt sustainable forms “whereby sustainability is defined as resulting in overall value creation equal or superior to focused mature firms”.
In conclusion, this research indicates that for the financial services (banking) sector in South Africa, a positive linear relationship does exist, in that, a higher level of structural ambidexterity, correlates to a greater level of performance. However, this relationship is not significant.

6.4 HYPOTHESIS 3

Null Hypothesis (H₀) :

The degree of the innovative culture in the financial services (banking) sector is equal (or less) in prospectors and (than in) defenders

Alternative Hypothesis (Hₐ) :

The degree of the innovative culture in the financial services (banking) sector is greatest in prospectors than in defenders

6.4.1 Significance level

Reject the null hypothesis if there is a 1% probability of being wrong, that is, a 99% confidence interval
Prospectors and defenders as described by Miles and Snow (1978) are two opposing strategic typologies used in the literature (Matsuno and Mentzer, 2000). Prospectors focus on the exploration as their central strategy. This entails experimentation, risk taking and creative destruction (Rust et al., 2002). Defenders on the other hand default to their exploitation capabilities. These usually imply a cost management approach through automation and modernisation of facilities, cost reduction through economies of scale and improving on capacity utilisation (Rust et al., 2002).

6.4.2 Statistical Test

Since the innovation in prospectors is being compared to the innovation in defenders, it was decided to use the hypothesis test from statTOOLS to determine the difference of two means. The two sample analysis performs hypothesis tests for the difference between means from two independent populations.

6.4.3 Test Result

The null hypothesised mean difference between the innovative culture in prospectors and the innovative culture in defenders was zero. The probability from
the test was less than 0.0001, as depicted in table 5.53. Hence, the null hypothesis can be rejected at a confidence level of 99%, implying that innovation in prospectors is greater than innovation in defenders.

The results of this hypothesis concurs with Laforet’s (2008) findings in that strategic orientation associates with new product innovation and a company’s innovativeness. Prospectors, they found, are more innovative, have a stronger market orientation and are generally larger in size than defenders.

These results also agree with the study on key success factors in Singaporean small and medium enterprises by Ghosh, Liang, Meng and Chan (2001). They found that prospectors display higher capabilities while defenders concentrate on achieving efficiency, similarly to what the explorative and exploitive capabilities strive to achieve. From table 5.52, the correlation matrix, it is evident that strong correlations do exist between innovation and exploration, adaptability and combined ambidexterity.

O’Cass and Ngo (2007, p14) set out to prove the same hypothesis and found that the degree of innovative culture is highest in prospectors than defenders. “Firms with a culture that stresses innovation should maintain and use more adaptive and
innovative strategies than firms possessing a less innovative culture. An innovative culture encourages exploration and experimentation to develop new businesses and the renewal or revival of ongoing businesses...an innovative culture is a driving force that harmonises different perspectives on a strategic option. Innovative culture, with its focus on entrepreneurship, creativity and adaptability, is inherently novel-opportunity seeking”.

To stimulate this innovative environment, management has a key role to play, and it was observed from the results (table 5.12) that there was agreement (60% of sample) that management actively seeks innovative ideas.

South African banking institutions could take away one lesson from this, that is, in order to create that advantage over their rivals, banks are required to continuously innovate.
6.5 HYPOTHESIS 4

Null Hypothesis (H₀) :

The combination of the prospector strategic orientation and the ambidextrous capability matched in the financial services (banking) sector performs equal to or less than any other combination of prospector and defender strategic orientation with exploitation, exploration, alignment, adaptability and structural or contextual ambidextrous capabilities.

Alternative Hypothesis (Hₐ) :

The combination of the prospector strategic orientation and the ambidextrous capability matched in the financial services (banking) sector performs greater than any other combination of prospector and defender strategic orientation with exploitation, exploration, alignment, adaptability and structural or contextual ambidextrous capabilities.

6.5.1 Significance level

Reject the null hypothesis if there is a 1% probability of being wrong, that is, a 99% confidence interval.
6.5.2 Statistical Test

The data was split between the business performances for prospectors and combined ambidexterity (which will be known as PA) and the other constructs combined (which will be known as OTHER), that is, the rest of the data. After this simplification, it was the business performance in PA being compared to the business performance in OTHER; hence it was decided to use the hypothesis test from statTOOLS to determine the difference of two means, similarly to hypothesis three.

6.5.3 Test Result

The null hypothesised mean difference between the innovative culture in prospectors and the innovative culture in defenders was zero, or less than zero. The probability from the test was less than 0.0001, as depicted in table 5.54. Hence, the null hypothesis can be rejected at a confidence level of 99%, implying that business performance recorded from the prospector–combined ambidextrous combination is greater than business performance recorded from any other combination of prospector and defender strategic orientation with exploitation,
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exploration, alignment, adaptability and structural or contextual ambidextrous capabilities.

With technology as a driver for change and organisations having to adapt to this change, this hypothesis set about trying to determine how and with what combination of capabilities and strategic orientations do the organisations in the financial services (banking) sector in South Africa rely on for outperforming their rivals in the industry. Technology as an example has enabled banks to make use of the internet, thus changing the channels through which they deal with customers. Technology has also enabled customers to gain control over their own personal finances as they are now able to engage with the banks and gather more information through the internet, while globalisation has created a seamless banking environment that provides customers with a choice – the most important being the choice of how they want to manage their own finances (It-online, 2008). With this level of innovation, in the current context of the industry, how do these organisations prepare for the future to attain success over their rivals?

Part of the answer to this question lies in the way the banking organisations monopolise on those capabilities that they are good at, then combining various capabilities to produce a winning formula. Hypothesis 4 indicated that the Miles
and Snow’s (1978) prospector type strategic orientation combined with the ambidextrous capability could yield the competitive advantage that this sector is seeking.

6.6 CONCLUSION

In conclusion, the essence of this study set via the hypotheses has been captured in the results for each hypothesis. For hypothesis 1 the correlation between combined ambidexterity and business performance has been established. However, contrary to the expected result for hypothesis 2, the correlation was not strong enough to establish a significant positive linear relationship between structural ambidexterity and business performance.

The results confirmed, at 99% confidence levels, the alternative hypotheses three and four.

The following chapter is the final chapter that presents the overall conclusion, certain limitations to the study and future recommendations.
CHAPTER 7: CONCLUSION

7.1 INTRODUCTION

This chapter highlights the main findings of this research. Recommendations to stakeholders as well as suggestions for future research will also be discussed.

The basis of this research focused primarily on the association between ambidexterity and business performance in the financial services (banking) sector. The study then grouped this capability with the strategic orientation of Miles and Snow’s (1978) typology, prospectors and defenders to result in a combination that yielded the greatest performance.

This research took on the form of a quantitative study, which proceeded in the form of a sample survey questionnaire. The questionnaires were electronically distributed to respondents representing the target population. The pre-test highlighted certain biases, which will be discussed later. The expertise of a statistician was used to validate the results.
The unit of analysis referred to the banking institutions in the South African financial services sector.

A summary of the research objectives along with an overview of the key findings will be discussed in the following pages.

7.2 SUMMARY OF KEY FINDINGS

The study in Chapter One set out to show that in the financial services (banking) sector an association exists between combined ambidexterity and business performance and structural ambidexterity and business performance. The results indicate that this is indeed true. However, it was found that the latter relationship is not significant.

Part of the explanation could be that some of the attributes of ambidexterity; risk taking and risk management; incremental and radical innovation; and efficiency and effectiveness, are profit enabling. All these attributes assist in creating a competitive advantage, thus assisting the organisation in taking the lead in a certain market.
Further objectives were to show that innovation orientation is greater in prospectors than defenders and that business performance is greatest in the prospector-combined ambidexterity combination than any other combination of prospector and defender strategic orientation with exploitation, exploration, alignment, adaptability and structural or contextual ambidextrous capabilities. The results elicited indicated that these are true.

Innovation is a construct that is deep rooted in the explorative and exploitive capabilities, and hence in ambidexterity, in the form of radical and incremental innovation. Prospectors are renowned for their “against the grain” philosophy, they are constantly innovating to find new ways of performing tasks and activities. They are redefining their markets, while the defender is forced to “protect his turf”, by conforming to the rules of the market and being more efficient than his competitors. The results have indicated that innovation is greater in prospectors than defenders.
7.3 RECOMMENDATIONS TO STAKEHOLDERS

In reviewing both the literature and the results, the following is recommended:

- Although it might be considered that an oligopoly exists in the banking industry, banking institutions should be wary of the findings of this study that ambidexterity is positively associated with performance. In South Africa, the “Big Four” banking institutions control more than 80% of the market share. However, one must be careful not to allow complacency to set in and if it has already, these organisations should adopt an ambidextrous approach for future growth, while still protecting their market share. History has shown us that super profits act as a magnet for competition, merges and acquisitions.

- There should be some mobilisation to lower entry barriers into this sector. This will ensure that the sector becomes more competitive and consumers will benefit. In a move to increase the country’s competitiveness, it would be advantageous, if South Africa created competitive sectors, as there are many monopolies that lessen the free market system. The banking sector
comes dangerously close as an example of an oligopoly, whilst the petroleum sector has two companies listed on the Johannesburg Stock Exchange.

7.4 RECOMMENDATIONS FOR FURTHER RESEARCH

There is overwhelming potential for future research in this arena. Apart from repeating this study to include a larger sample size in order to build on the existing findings, opportunities exist to conduct research in the following area:

- Repeat the study to include the banking institution to which the respondent belongs in the survey. That way, it will allow for accurate financial data to be obtained and compared between banking institutions, as these organisations are public companies. Thus the study will not rely on perceived business performance. One limitation in this study could possibly be that there was a sense of self desirability when the respondents were requested to give their impression of their company’s performance.
• To broaden the study to include other sectors for a comparative investigation to the associations between ambidexterity and performance. Until that is done the findings are limited to only the sample of this study.

• Structural and contextual ambidexterity was given as the interaction of exploitation and exploration and alignment and adaptability respectively. Hence the measure for ambidexterity for this study is derived. Additional studies could attempt to develop a direct measure for ambidexterity.

• There exists little information as to the antecedents of ambidexterity, such as the kinds of organisational structures where ambidexterity may succeed or fail. Which types of control mechanisms accelerate or deter ambidexterity? It is therefore recommended that researchers undertake such studies to address those important issues.

• Leaders play an important role in creating an enabling environment for change and innovation. The relationship between the type of leadership present in an organisation and the level of ambidexterity present could be investigated.
7.5 CONCLUSION

The aim of this research study is centred on the association between ambidexterity, strategic orientation and business performance in the financial services (banking) sector. Four hypotheses were used to test these relationships.

This study demonstrated the positive linear relationship between ambidexterity and business performance. And to a lesser extent, this study found a relationship between structural ambidexterity and business performance. The findings in this research showed that innovation is greater in prospector-type banking organisations than defenders. It is also put forward and proved that in the sample of this study the business performance in the prospector-combined ambidexterity combination is greater than any other combination of prospector and defender strategic orientation with exploitation, exploration, alignment, adaptability and structural or contextual ambidextrous capabilities.

It is anticipated that this study will create the foundation for future comprehensive studies into the relationships of ambidexterity, strategic orientations and business performance. Further, it is hoped that this study will add value to relevant stakeholders aiming to understand these relationships in the South African context.
REFERENCES


Duncan, RB (1976) The ambidextrous organization: Designing dual structures for innovation. The management of organization, 1, 167-188.


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## APPENDIX 1: CONSISTENCY MATRIX

<table>
<thead>
<tr>
<th>HYPOTHESIS</th>
<th>LITERATURE REVIEW</th>
<th>DATA COLLECTION TOOL</th>
<th>ANALYSIS</th>
</tr>
</thead>
</table>
| 1 $H_1$: The higher the level of ambidexterity in the Financial Services (Banking) sector, the higher the level of performance. | Moore (2005)  
Menguc & Auh (2007)  
Matsuno & Mentzer (2000)  
Desarbo et al (2005)  
Atuahene-Gima (2005)  
March (1991)  
Levinthal and March (1993)  
Kyriakopoulos and Moorman (2001)  
Slater and Narver (1995)  
Daneels (2004)  
Auh and Menguc (2005)  
O’Reilly and Tushman, 2004 | Question 3, 4, 6 & 7 in questionnaire | Correlation coefficient from correlation matrix in table 5.52. data taken from series of Likert scale questions for combined ambidexterity, that is, structural and contextual and perception type questions on a scale of 0 to 100% for performance. |
| 2 $H_2$: The more that the financial services (banking) sector is characterised by structural ambidexterity the higher the level of performance. | Moore (2005)  
Menguc & Auh (2007)  
Matsuno & Mentzer (2000)  
Desarbo et al (2005)  
Atuahene-Gima (2005)  
O’Reilly and Tushman, 2004  
Auh and Menguc (2005)  
Looy, Martens and Debackere (2005)  
Adler et al (1999) | Question 3, 4, 6, & 7 in questionnaire | Correlation coefficient from correlation matrix in table 5.52. data taken from series of Likert scale questions for structural ambidexterity and perception type questions on a scale of 0 to 100% for performance. |
| 3 $H_3$: The degree of the innovative culture in the financial services (banking) sector is | Miles and Snow’s (1978)  
Hambrink’s (2003)  
Slater & Olson (2000)  
O’Regan & Ghobadian (2005)  
Desarbo et al (2005) | Question 1, 2, & 5 in questionnaire | Innovation made up of fixed alternative: dichotomous fixed and determinant choice questions. Strategy was made up of clusters to |
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<table>
<thead>
<tr>
<th>highest in prospectors than defenders.</th>
<th>Conant et al., 1990) Olson et al (2005) Laforet (2007)</th>
<th>choose the different strategies from. T-tests were performed to measure the difference of means to test whether the null hypothesis ( \leq 0 )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>T-tests were performed to measure the difference of means to test whether the null hypothesis ( \leq 0 )</td>
</tr>
</tbody>
</table>
APPENDIX 2: E-MAIL SENT TO RESPONDENTS

Good day,

Please assist me in collecting data for my thesis by filling in the attached survey if you are part of the Financial Services (Banking) Sector.

If you are not, it would be greatly appreciated if you would forward this survey on to your contacts in the Financial Services (Banking) Sector.

The survey will take you 10 minutes to complete, thereafter save, attach and send back to mohabir1@gmail.com

Thank you very much and good luck!

Shanil Mohabir
082 454 9319

A short summary of my thesis is provided below.

This research forms part of the Masters in Business Administration (MBA) programme at the Gordon Institute of Business Science (GIBS). This research will take on the form of a quantitative study, which will proceed in the form of a sample survey questionnaire (attached). The questionnaires have been emailed to all respondents representing the target population, the financial sector. All data obtained would be analysed in the thesis, which would be accessible from the University of Pretoria or GIBS campuses.

The questionnaire would be dealt with complete confidentiality. No reference to names of individuals or companies would be made in the research. Your completion of the survey confirms complete understanding of this document; complete understanding of the intent of the research to be undertaken, and informed consent to proceed with the questionnaire and research.

The purpose of the study is to firstly investigate the association between ambidexterity and firm performance in the financial sector as defined by the Johannesburg Stock Exchange (JSE) and secondly, to investigate the association between ambidextrous capabilities in these organisations and their strategic orientation in respect of Miles and Snow's (1978) typology.
APPENDIX 3: QUESTIONNAIRE

Survey Questionnaire

This research forms part of the Masters in Business Administration (MBA) programme at the Gordon Institute of Business Science (GIBS). The purpose of the study is to firstly investigate the association between ambidexterity and firm performance in the financial services (banking) sector as defined by the Johannesburg Stock Exchange (JSE) and secondly, to investigate the association between ambidextrous capabilities in these organisations and their strategic orientation in respect of Miles and Snow’s (1978) typology. This survey would assist to better understand strategy in the South African financial services environment and should take you no longer than 10 minutes to complete.

Your participation is voluntary and you may withdraw at any time without penalty or disadvantage to yourself. All data gathered will be kept confidential as specified in the accompanying consent form. By completing this survey, you indicate that you voluntarily participate in this research and that you consent to the use of the information supplied for the research being undertaken.

If you have any concerns, please contact my supervisor or me on the details provided.

Shanil Mohabir
MBA Student
mohabir1@gmail.com
082 454 9319

Ricardo Machado
Research Supervisor
machar@unisa.ac.za
082 449 7502

Demographics

Which sector of the economy does your business form part of?
Financial: Banking

Which level of the organisation are you representing?
Non / Lower Management

Question 1: STRATEGIC ORIENTATION

Please choose one of the clusters that best describes your organization:
My organisation attempts to maintain a relatively stable domain by aggressively protecting their product-market position. They rarely are at the forefront of product or service development: instead they focus on producing goods or services as efficiently as possible. This organisation generally focuses on increasing share in existing markets by providing products at the best prices.

My organisation is frequently the first-to-market with new product or service concepts. They do not hesitate to enter new market segments where there appears to be an opportunity. This organisation concentrates on offering products that push performance boundaries. Their proposition is an offer of the most innovative product, whether based on dramatic performance improvement or cost reduction. They are continually seeking opportunities and using flexibility to adapt and respond rapidly and creatively to the changing external environment.

Question 2: FIRM PERFORMANCE

2.1 People at my level are satisfied with the level of business performance (press F1 for explanation): **Strongly Agree**

Please use the drop down menus to rate how well this business unit has performed relative to all other competitors in the principal market segment over the past year.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>7</th>
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<td>0%</td>
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<td>11–20%</td>
<td>21–30%</td>
<td>31–40%</td>
<td>41–50%</td>
<td>51–60%</td>
<td>61–70%</td>
<td>71–80%</td>
<td>81–90%</td>
<td>91–100%</td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>If you believe that your sales growth is greater than that of approximately 45% of all competitors in your market sector, rate yourself a 5 for the sales growth.</td>
<td>Press F1 at each drop-down menu for an explanation of that menu.</td>
<td></td>
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<table>
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<th>Return on investment</th>
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<th>Return on assets</th>
<th>0   (0%)</th>
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<td>Overall customer retention</td>
<td>0   (0%)</td>
</tr>
<tr>
<td>Overall efficiency of operations</td>
<td>0   (0%)</td>
<td>Sales growth</td>
<td>0   (0%)</td>
</tr>
</tbody>
</table>
Company’s overall reputation | 0  (0%)
---|---

**Question 3 : INNOVATION ORIENTATION**

Please rate the following dimensions:

PRESS F1 AT EACH DROP-DOWN MENU FOR AN EXPLANATION OF THAT MENU.

3.1 Technical innovation based on research results is readily accepted.

**Strongly Agree**

3.2 Management actively seeks innovative ideas.

**Strongly Agree**

3.3 Innovation is readily accepted in program/project management

**Strongly Agree**

3.4 Individuals are penalised for new ideas that don’t work.

**Strongly Agree**

3.5 Innovation in the organization is perceived as too risky and is resisted.

**Strongly Agree**

3.6 How many New Product Ideas in last 5 years?

**None**

3.7 How many New Products Launched in last 5 years?

**None**

3.8 How many New Product Improvements in last 5 years?

**None**

3.9 Does this business have any Patented Products or its own designs or any copyrights?

**YES**

3.10 Has this business won any Innovation Prizes?

**YES**

3.13 Does this business have Innovation featuring in company-objectives or -policy or -vision?

**YES**
3.14 Does this business reward an employee/group of employees for their new ideas? **YES**

3.15 Do employees have freedom to act without supervision if they notice something wrong or can think of a new way of doing things? **YES**

3.16 Can employees feel free to disagree with their superiors on ways of working? **YES**

3.17 Does the company have an employee suggestion scheme? **YES**

3.18 Does the company have a cross-functional team when developing a New Product? **YES**

3.19 Does everyone know the criteria for evaluating New Product proposals? **YES**

---

**Question 4: Exploration and Exploitation orientation**

**Over the last three years, to what extent has your firm:**

4.1 Upgraded current knowledge and skills for familiar products and technologies?

5 - To a great extent

4.2 Invested in enhancing skills in exploiting mature technologies that improve productivity of current innovation operations?

5 - To a great extent

4.3 Enhanced competencies in searching for solutions to customer problems that are near to existing solutions rather than completely new solutions?

5 - To a great extent

4.4 Upgraded skills in product development processes in which the firm already possesses significant experience?

5 - To a great extent
4.5 Strengthened our knowledge and skills for projects that improve efficiency of existing innovation activities?

5 - *To a great extent*

4.6 Acquired manufacturing technologies and skills entirely new to the firm?

5 - *To a great extent*

4.7 Learned product development skills and processes (such as product design, prototyping new products, timing of new product introductions, and customizing products for local markets) entirely new to the industry?

5 - *To a great extent*

4.8 Acquired entirely new managerial and organisational skills that are important for innovation (such as forecasting technological & customer trends; identifying emerging markets & technologies; coordinating-integrating all functions; managing the product development process)?

5 - *To a great extent*

4.9 Learned new skills in areas such as funding new technology, staffing R&D function, training and development of R&D, and engineering personnel for the first time?

5 - *To a great extent*

4.10 Strengthened innovation skills in areas where it had no prior experience

5 - *To a great extent*

**Question 5: Alignment and Adaptability orientation**

5.1 The management systems in this organisation work coherently to support the overall objectives of the organisation.

**Strongly Agree**

5.2 The management systems in this organisation cause us to waste resources on unproductive activities.

**Strongly Agree**

5.3 People in this organisation often end up working at cross-purposes because our management systems give them conflicting objectives.

**Strongly Agree**

__Shanil Mohabir__
5.4 The management systems in this organisation encourage people to challenge outdated traditions / practices / sacred cows.

**Strongly Agree**

5.5 The management systems in this organisation are flexible enough to allow us to respond quickly to changes in our markets.

**Strongly Agree**

5.6 The management systems in this organisation evolve rapidly in response in shifts in our business priorities.

**Strongly Agree**
## APPENDIX 4: SPREADSHEETS

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Shanil Mohabir

-190-
### The Association between Analytics and Business Performance in the Financial Services (Banking) Sector

#### The Association between Ambidexterity, Strategic Orientation, and Risk Management

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The Association between Ambidexterity, Strategic Orientation and Business Performance in the Financial Services (Banking) Sector

Shanil Mohabir