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The management of innovation in information-intensive organisations in South Africa

Robyn Zoë Randall

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Business Administration.

Johannesburg
July, 2008

ABSTRACT

Innovation and therefore the management of innovation has increased in importance in recent times, as the need to grow, change and remain sustainable becomes a larger focus for organisations. In general, managers are more aware of their need to manage the process of innovation, but are still grappling with what they can do to improve innovation in their organisations. This study explores the understanding of innovation by managers in information-intensive organisations, as well as their approaches to innovation, in order to identify and assess the enablers of innovation within these types of organisations. In-depth, semi-structured interviews were used to obtain the views of middle to senior managers and executives at information-intensive organisations, on their innovation management approaches. The main finding of the research was that innovation is more than creativity and the thinking of ideas, but involves implementing those ideas, with a benefit to both organisation and customer. As a result, innovation needs to be consciously managed, through focusing on supporting the right behaviour and promoting the right culture. In addition, leadership has a critical role in communicating the innovation strategy, in order to provide context and direction for innovation within the organisation. Finally, support mechanisms for innovation are particularly important in allowing for the implementation of innovation and taking that innovation to market.

DECLARATION

I, Robyn Zoë Randall, declare that this research report is my own, unaided work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

_____

Robyn Zoë Randall

31 July 2008

DEDICATION

To Tim, for your unwavering support and belief in my ability to do this, and for taking care of our lives for a while.

To Mom, Dad and Dave, for always stretching me to be more than I thought possible.

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I would like to express my sincere thanks to:

- Antony Soicher, my supervisor, for his time and direction.
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1 INTRODUCTION

1.1 Purpose of the study

The purpose of the research is to explore what managers of information-intensive organisations in South Africa understand by innovation, as well as how they are approaching and managing it, in order to gain a better understanding of what they are thinking and doing about innovation.

1.2 Context of the study

Given the changes, both anticipated and unanticipated, in the global environment, as well as the increase in the rate of change in the business world, much of the recent organisation design and culture literature looks at ways in which companies are able to continually provide value-added products and services to their clients. As a result, there has been a great deal of interest and research into topics which address systems and processes within organisations, to aid their ability to adapt, grow and innovate (Grulke, 2002). “Knowledge management” and growing “learning organisations” have become the “buzz” concepts of the current time.

It is topics such as these that point, albeit sometimes indirectly, toward innovation as the only way in which companies are able to change what they do to suit new and emerging needs. However, very little of this literature focuses on what South African organisations are doing in order to enable, and indeed drive, the very innovation that they need to grow and survive.

The word “innovation” itself has become another of the latest buzzwords, as management looks for new ways to take their company into the future, as they seek ongoing change to not only keep up with the most recent market requirements (Drejer, 2002), but to surpass these and create new markets and consumer needs. Organisational creativity and ideation (also called idea generation) is, in turn, an important element of organisational innovation and change (Woodman, Sawyer & Griffin, 1993).

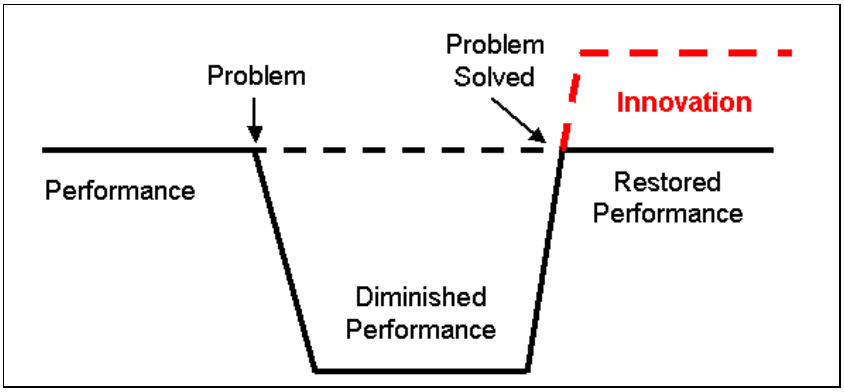
A great deal of the more recent literature on organisational design and development, as well as strategy, acknowledges that change and innovation are critical for long-term

competitiveness and survival. As Senge (1990) points out, in the long-run the only way a company can be competitive in a sustainable way is to have the means and ability to learn and change faster than their competition.

As a result, an entirely new competitive situation has resulted in companies becoming increasingly interested in innovation management, as well as ways in which they are able to put innovation management into practice (Drejer, 2002).

As discussed by Robert & Weiss (1988), there is a very distinct difference between solving problems ongoing and incrementally within a firm to meet customer needs, and true innovation. Figure 1 illustrates this concept clearly.

Figure 1: Problem solving versus innovation



(Robert & Weiss, 1988)

As can be seen in figure 1, problem solving only allows you to be as good as you used to be, whereas innovation allows you to become more productive, or to improve performance considerably from how it used to be (Robert & Weiss, 1988).

Information-intensive organisations rely on information and information processing in order to perform and grow their core business functions (Glazer, 1993). "A firm is information-intensive to the degree that its products, services and operations are based on the information collected and processed as part of exchanges with customers, suppliers and within the firm itself" (Glazer, 1993). Improved information availability and processing within these firms allow them to be more innovative and leads to them developing new products and processes. It is for this reason that this research will

focus on managers' thoughts on and approaches to innovation within these types of organisations.

This research aims to explore the understanding of innovation by managers in information-intensive South African firms, and to explore what they are doing about innovation.

The purpose of the research is to explore what managers of information-intensive organisations in South Africa understand by innovation, as well as how they are approaching and managing it, in order to gain a better understanding of what they are thinking and doing about innovation.

As the research is exploratory in nature, the research is conducted in the qualitative paradigm, using interviews as the chief method of data collection (Burrell & Morgan, 1979), and content analysis and cognitive mapping as the tools for analysis.

1.3 Motivation for the research

For an organisation to be successful as well as sustainable in the long run, it must innovate. Therefore, the only organisational capabilities and strategies that truly matter are those that make a difference in the long run and allow an organisation to innovate (Fruhling & Siau, 2007).

In this study, it is hoped that insight will be gained into how management view innovation, what managers are thinking about it, and what organisations are doing about innovation. Differing organisational approaches to innovation, as well as insight into innovation practices and strategies being followed, are also hoped to be gained from the research.

1.4 Problem statement

1.4.1 Main problem

The purpose of the research is to explore what managers of information-intensive organisations in South Africa understand by innovation, as well as how they are approaching and managing it, in order to gain a better understanding of what they are thinking and doing about innovation.

1.4.2 Sub-problems

An analysis of the literature pertinent to the problem has resulted in the following sub-problems being identified:

The first sub-problem is to explore what managers of information-intensive organisations in South Africa understand by innovation.

The second sub-problem is to explore how managers of information-intensive organisations in South Africa are approaching innovation, and to gain insight into what they believe is important to do in order to enable innovation in their organisations. In so doing, insight into what is working and what is not, will be explored.

1.5 Significance of study

Innovation Research

McAdam & McClelland (2002) believe that there is a need for systematic integrated research to investigate how organisations develop philosophies of knowledge, create knowledge and generate ideas, thus being able to innovate. They believe that organisations have much to gain by adopting a more systematic approach to innovation and by incorporating strategies for knowledge creation as a key catalyst for growth. Similarly, Nieto (2004) states that academia still does not have "a solid theoretical base for the study of innovation". Therefore, any academic research aimed at improving the theoretical base of innovation is significant.

As far as Fruhling & Siau (2007) are aware, there are few, if any, empirical studies that focus on organisational innovation and innovation strategies. Along the same lines, Lucas, Swanson, & Zmud (2007) identify that additional research in the area of innovation is required at the organisational level, which allows us to understand the organisational capabilities that provide competitive advantage through innovation.

In addition, Martins & Terblanche (2003) believe that there is a need for empirical research to support the theoretical research findings on the organisational cultural determinants that support creativity and innovation.

Relevance to the managerial role

Managers need to understand the underlying drivers and inhibitors of innovation in order to implement innovation changes within their organisations (McAdam & McClelland, 2002). Swan and Newell (1994) believe that there is growing evidence that the success or failure of technological innovation depends crucially on the beliefs of the managers managing the innovation process along the way.

There is increasing awareness by firms in South Africa of the need to become more innovative. This study will provide guidance to managers within South African firms with regards to what organisations are thinking about innovation, as well as what is being done by organisations to improve their ability to innovate. The understandings gained from the research may assist in informing the practices of organisations looking for ways in which to improve their innovation strategies and processes.

This study therefore aims to address a gap in the innovation literature and in academic research, and also to provide guidance to managers with regards to how to tackle innovation within their organisations.

1.6 Delimitations and limitations

1.6.1 Delimitations

The study is done from the perspective of a pre-determined sample of middle to strategic managers at a small number of sizeable organisations in South Africa.

Only organisations known for their innovation capacity or organisations known to have formal innovation programs, initiatives or strategies are included in the research population.

Only information-intensive organisations are included in the research population. Information-intensive organisations are firms that rely on information and information processing to deliver on their core functions.

As the research is exploratory in nature, and even though innovation management is a very broad field of study, no attempt has been made to limit the research to focus on one specific aspect or sub-process of innovation.

Innovation performance is difficult to quantify (Casper & Van Waarden, 2005). Therefore this study does not aim to quantify the innovation performance of the firms being interviewed. Instead it is hoped that the study provides some insight into the viewpoint of business management regarding innovation within their organisations.

1.6.2 Limitations

This research relies upon the self-assessment by management of their role within the innovation process. The accuracy of research conducted in this way is a matter of conjecture, and it therefore constitutes one of the limitations of this study. Iwamura & Jog (1991), in a study of innovation in the securities industry, explain that "as a rule, there is consistency among the respondents' self-evaluation and the evaluation of others." Therefore, this study aims to achieve internal consistency as a minimum requirement.

In addition to the above limitation, the extension and generalisability of the results of this research are limited by the criteria used to describe the population for the research. This will be further elaborated on in chapter 3, entitled "Research Methodology".

The test sample only comprises of a few medium-to-large information-intensive organisations in South Africa who are widely known for their innovativeness. The researcher is aware of the potential problems of "generalisability" when testing the perceptions of these groups. Generalisations about the applicability of the results across other organisations cannot be made, but it is hoped that this research can be used as a basis for further research.

Due to the fact that the research conducted is exploratory in nature, no statistically significant result or trend will be offered.

The research was carried out over a short time frame and with limited financial resources. This has resulted in the limitation of the number of managers at information-intensive companies that were interviewed.

1.7 Definition of terms

The following definitions are relevant to this research:

- ***Innovation*** is a complex concept, which can and has been defined in many different ways. Much of the innovation research that has been done so far can be grouped into incremental versus radical innovation studies, and process versus product innovation studies (Hage, 2005). This is discussed in more detail in section 2.1.

- ***Innovation Management*** is the process by which management promotes freedom of thought and expression in order to allow employees to identify gaps or new markets, without fear of repercussion (Tushman & O'Reilly, 1997). It is the set of management skills and processes that allow a manager to foster and enable innovation in their organisation. This too is discussed in more detail in sections 2.1 to 2.4.

- ***Strategic Innovation***, in broad terms, is consistently defined as the adoption of an idea, in the form of a new product, service or technology, which is completely new to the organisation (Hage, 2005). Markides (1997) said it best when he said "By breaking the rules of the game and thinking of new ways to compete, a company can strategically redefine its business and catch its biggest competitors off guard. The trick is not to play the game better than the competition, but to develop and play a completely different game".

1.8 Assumptions

No assumptions have been made in the conducting of this research.

1.9 Subsequent chapters of the research report

To position the research relative to previous research and to give it context, a literature review is provided in Chapter 2. Initially the chapter deals with the concept of innovation, defines the process of innovation, and looks at the different types of innovation that are proposed in the literature. Different authors' views on managing innovation are also explored.

This is followed by a detailed discussion on the factors that are seen to enable innovation within organisations. Within each section of the literature review, the research questions that address the sub-problems of the research are identified. Chapter 3 outlines the research methodology that was followed in order to answer the research questions.

The research findings are presented, evaluated and discussed in Chapter 4. Finally, in Chapter 5, the concluding chapter, the findings and conclusions drawn of the research are outlined. In addition, recommendations to management and suggestions for further research are made.

2 LITERATURE REVIEW

As per Leedy & Ormrod (2001), a literature review is a critical part of the research process. The researcher must fully understand the literature in order to identify relevant information, and in order to guide the direction of the research. In this chapter, the literature that has been used in formulating the research design, and which will be used as reference material, is presented.

The purpose of the research is to explore what managers of information-intensive organisations in South Africa understand by innovation, as well as how they are approaching and managing it, in order to gain a better understanding of what they are thinking and doing about innovation.

Innovation as a concept is broad and complex. The literature review has been structured in such a way as to try to group and outline the literature in a meaningful way. The literature review has been structured as follows:

- Firstly, the concept of innovation will be explored;
- The steps of an innovation process will be explained;
- Conflicting viewpoints on innovation management will be outlined;
- The different types and classifications of innovation are explored; and
- Lastly, the organisational enablers of innovation, as identified in the literature, are explored.

2.1 The concept of innovation

As the topic of the research involves exploring what managers are thinking about innovation in the workplace, it is crucial to understand what is meant by the term “innovation”, as well as to gain insight into the different schools of thought on innovation. Also, while there is very little practical value in making distinctions between what constitutes innovation and what does not, it is important to understand the different viewpoints on innovation. Therefore, in this section, different understandings of innovation will be discussed.

Drejer (2003) is of the opinion that innovation is not merely the thinking of ideas, but is the process of putting these ideas into practice. Along the same lines, Senge (1999) suggests that only once an idea has been successfully implemented commercially, can

the process be termed innovation. Similarly, Zhuang, Williamson & Carter (1999) view innovation as stretching from idea generation through to invention of a product or service for use or sale. Pavitt (2003) also defines innovation as involving "the exploration and exploitation of opportunities for a new or improved product, process or service, based either on an advance in technical practice or a change in market demand, or a combination of the two." In all of these definitions of innovation creativity, or the thinking of ideas, is seen as the starting point of innovation, and occurs at the front-end of the innovation process. Implementation, or "taking an idea to market", is described as a central part of the innovation process. This viewpoint of innovation as a process is described in more detail in Section 2.2.

A contrasting view of innovation, by Meeus & Oerlemans (2005), explains innovation as a trade-off between competing risks, namely the risk of changing known and stable products and processes, versus the risk of not changing.

Yet another view on innovation, as outlined by Zhuang *et al* (1999), describes innovation as either:

- An invention which may be considered completely new; or
- An improvement of an existing product or system; or
- A diffusion of an existing innovation into a new application.

Gray (2006) also states that "technical innovation can come from a disruptive technology or from product or procedure improvements." Technological innovation, in particular, is seen as central to any firm's strategy to maintain and grow their competitive advantage (Swan & Newell, 1994).

Historically, managers have focused on the characteristics of products when looking to innovate (West, 1992). However, in recent times, the need for innovation to focus on the business as a whole is clear. Robert & Weiss (1988) describe innovation as "the systematic anticipation, recognition and exploitation of change." Therefore, innovation should not be seen as a "solitary undertaking requiring boldness, creativity and brilliance", but rather as an organisation's overall preparedness for accelerating change. Similarly, Fruhling & Siau (2007) define innovation as the development and implementation of new ideas by people who, over time, "engage in transactions with others within an institutional order."

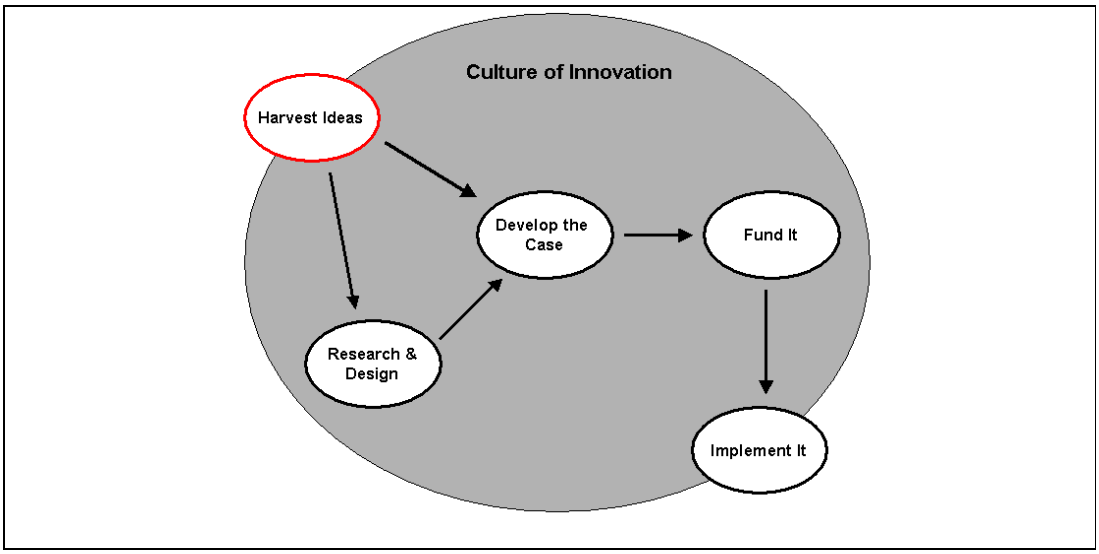
Strategic innovation moves one step beyond this definition of innovation. Strategic innovation refers to an organisation's ability to look beyond environmental and market changes, looking for entirely new markets, entirely new products and entirely new ways of doing things (Hage, 2005). Indeed, being successful at innovation goes beyond being successful once, to developing deep capabilities that allow an organisation to innovate repeatedly (Anthony, Johnson & Sinfield, 2007). Le Bas & Latham (2006) advocate the importance of persistent innovation, which is the ability of an organisation to continuously innovate over time.

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2.2 The innovation process

Peter Drucker first said that innovation is not just an outcome, but it is also a process (Drejer, 2003). The comprehensive "process" approach to innovation, as put forward by Grulke (2002), is best summarised in figure 2.

Figure 2: The innovation process



(Grulke, 2002)

Idea generation begins the innovation process. Once this has occurred, research needs to be conducted to determine whether or not the idea is feasible within the specific context. However, if the idea is relatively simple, research may not be required, and a business case might only need to be built. Once the business case has been tested, the innovation must acquire funding, and then be implemented (Grulke, 2002).

According to Nieto (2004), the words technological innovation and technology are often used interchangeably in the literature, to mean the same idea. Nieto (2004) believes that the difference in these two terms is significant, as technological innovation refers to the process of innovation (through the generation and dissemination of new technologies), whereas technology is the availability of specific technological resources at a specific point in time.

As per Nieto's (2004) research, the innovation process in the firm could be defined as follows: "Innovation in companies is a learning process through which a flow of new knowledge competencies and capabilities is generated."

The innovation process is often seen, in the literature, as an organisation's ability to learn, and the process through which they are able to continuously learn (Nieto, 2004).

2.3 Conflicting viewpoints on innovation management

Innovation management is the set of managerial activities that aim to control an organisation's innovation processes (Drejer, 2003). Innovation involves "altering what already exists" as well as "introducing novelties" or "new ways of doing things" (Grulke, 2002). Innovation therefore has two separate parts, both of which need to be encouraged within an organisation.

However, there is some division in the literature as to the purpose and scope of innovation management. Grulke (2002) proposes two main schools of thought on innovation management. The first of these schools of thought likens innovation to a machine, in that the innovation process must be designed, built and controlled.

On the other hand, the second school of thought likens innovation to a garden, in that companies can only create the most optimal conditions in which innovation might occur, focusing on areas such as organisational culture and leadership. In the "garden" school of thought, the innovation process can merely be encouraged, rather than managed or controlled (Grulke, 2002).

Grulke's (2002) explanation of the two schools of thought on innovation management is similar to Drejer's (2002) who prefers to view innovation management as the managing of a process that leads to an outcome, as opposed to focusing on the outcome alone. Drejer (2002) describes innovation management as "the set of managerial activities

that aims to control the organisation's innovation process". Drejer (2002) therefore can be seen to agree with the "machine" school of thought.

This is in direct opposition to the viewpoint of Smith & Ainsworth (1989) who can be seen to agree with the "garden" school of thought. Smith & Ainsworth (1989) propose that managing innovation is not a matter of managing process, but of managing groups who work together for the sole purpose of innovating. This is again in conflict with Drejer (2002), who mentions that the process of innovation must be cross-functional across business processes and technologies, and that no single department or group should be responsible for innovation.

Both of these schools of thought have implications for how the innovation process is managed in different firms. Managers who view innovation from the "garden" school of thought are more likely to leave innovation to chance, hoping that by hiring the right people, and supporting the "right" culture, innovation will be natural, incremental, and therefore successful. However, managers who view innovation from the "machine" school of thought are likely to have processes in place for groups to actively and consciously engage in idea transferral and discussions about new products or the way of doing business.

As has been discussed, there are two main ways in which the literature tends to divide innovation management. While one allows for a more dynamic view of innovation, the other proposes a more structured approach to managing innovation. The way in which a manager views innovation and innovation management will impact on how they choose to encourage, support and drive innovation within the firm (West, 1992).

2.4 Types of innovation

According to the literature, there is a range of different types of innovation that must be focused on and developed within a firm. These innovation streams, as described by Tushman & O'Reilly (1997), are:

- *Incremental innovation*

  This is the continual improvement of products or services, as problems are solved or opportunities within existing product offerings are identified. It does not result in a significant change in the product or service being offered, or the way in which business is done.

- *Architectural innovation*

  This involves essentially changing the way in which work is performed by the organisation. Structures and processes are radically transformed in order to improve business outputs.

- *Discontinuous or strategic innovation*

  This is innovation in completely new and unique areas, outside normal business functioning.

Both architectural and strategic innovation involves radical organisational design changes (Tushman & O'Reilly, 1997). Each of these different types of innovation requires differing levels of support and offer differing benefits. Information systems often fall into the role of supporting architectural innovation (Tushman & O'Reilly, 1997), but as proposed by Slywotzky & Morrison (2000), information systems are even more useful when used to drive strategic innovation. The characteristics of the different types of innovation, as discussed by Tushman & O'Reilly (1997), are listed in Table 1.

Table 1: Types of innovation

Incremental	Architectural	Strategic
This is supported by a culture promoting continuous improvement.	This is supported by a culture promoting linkages across units.	This is supported by a culture promoting breakthrough innovation.
Involves ongoing and incremental change.	Involves the adding and linking of sub-systems.	Involves continual experimentation.
Management team rewards continual product, process and/or service improvements.	Management team rewards integration across business units or functions.	Best supported by tolerating multiple small failures.
Allows for the elimination of variability.		Promotion of "learning by doing" is important.
Cost and volume improvements are emphasised above all else.		Management rewards experimentation.
Supported by consistency and control.		

(Tushman & O'Reilly, 1997)

This shows that depending on the type of innovation being pursued by an organisation, the organisational requirements for successful innovation are different.

Along similar lines, Wonglimpiyarat (2004) identifies five generations of innovation. These can be seen in Table 2 below.

Table 2: Generations of innovation

Generation	Features
First	Technology push: simple, linear, sequential process.
Second	Need pull: simple, linear, sequential process.
Third	Coupling model: recognising interaction between different elements and feedback loops.
Fourth	Integrated model: Integration within the firm, upstream with key suppliers and downstream with demanding and active customers, emphasis on linkages and alliances.
Fifth	Systems integration and extensive networking model: flexible and customised response, continuous innovation.

(Wonglimpiyarat, 2004)

The success of the technology push model is limited by the fact that environmental and industry technological changes are continuously changing the pool of technology from whence a company can choose its technological innovations. This results in a lack of stability or a single-minded technology strategy. Need pull also has limitations in that often the customer lacks the necessary foresight in a world with radically new products, in order to truly innovate (Wonglimpiyarat, 2004).

In the third generation, "innovations come to be seen as a result of collaboration and integration of skills and capabilities when competing for the future market" (Wonglimpiyarat, 2004). When firms enjoy large market shares with existing procedures and routes to customers, they are likely to resist innovations that would require shared or open procedures. Concerns over returns and risk are high in this generation. Wonglimpiyarat (2004) views the willingness and intrinsic ability of an organisation to collaborate externally as important in how the organisation chooses to innovate. Firms innovate and compete according to their capabilities (Wonglimpiyarat, 2004).

The adoption of an innovation strategy is important in managing innovation (Wonglimpiyarat, 2004). The kind of innovative strategy adopted by an organisation (for example, the choice of a competitive strategy versus a collaborative strategy) will be impacted by the organisation's internal capabilities. These will be discussed in section 2.6.

2.5 Addressing sub-problem 1 through research question 1

The literature that was reviewed in the preceding sections addresses the first sub-problem of exploring what managers of information-intensive organisations in South Africa understand by innovation.

Research question 1:

What do managers of information-intensive organisations in South Africa understand by innovation?

2.6 Enabling innovation in organisations

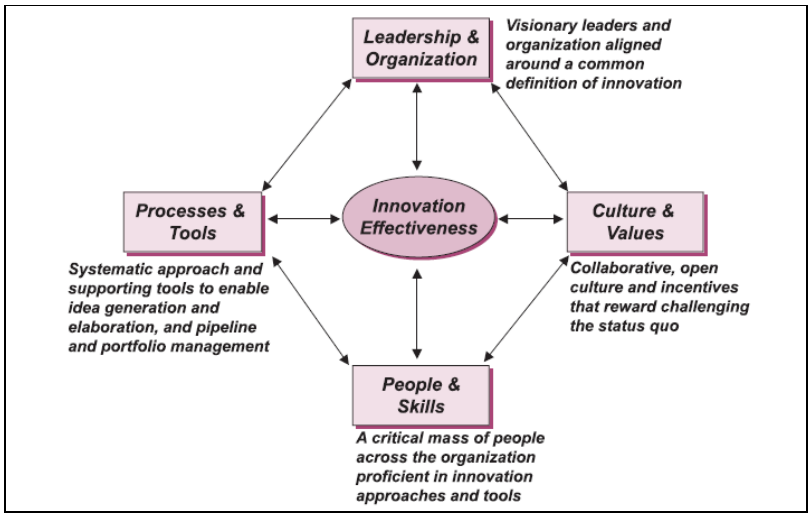
It has often been noted that "there is no logic in innovation" (West, 1992). However, much research has been done regarding the organisational requirements that foster creativity and idea generation within organisations. According to Anthony *et al* (2008), organisations that are successful at innovation need to develop "deep capabilities" which allow them to "disarm disruptive threats and seize new growth opportunities repeatedly".

This section of the literature review is based on three separate models, proposed in the literature, which outline factors that enable innovation in organisations. The first of these models is the one proposed by Loewe & Dominiquini (2006). This model can be seen in Figure 3 on the following page.

Essentially, Loewe & Dominiquini (2006), state that there are four organisational areas that impact on an organisation's innovation capability. These are:

- Leadership and organisation;
- Culture and values;
- People and skills; and
- Processes and tools.

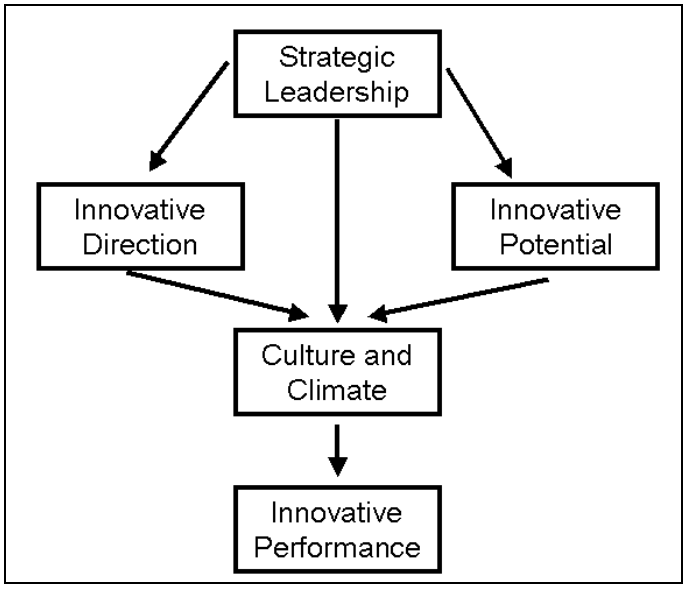
Figure 3: Four keys to systematic innovation capability



(Loewe & Dominiquini, 2006)

The second of the models upon which this literature review is based, is the one proposed by Nylstrom (in West & Farr, 1990). This model can be seen in Figure 4. Similar to Loewe & Dominiquini (2006), Nylstrom (in West & Farr, 1990) also highlights the importance of leadership and culture. However, he explicitly proposes that innovative direction (through strategy) and innovative potential (through processes, tools and people) also impact on innovative performance.

Figure 4: Model for organisational innovation



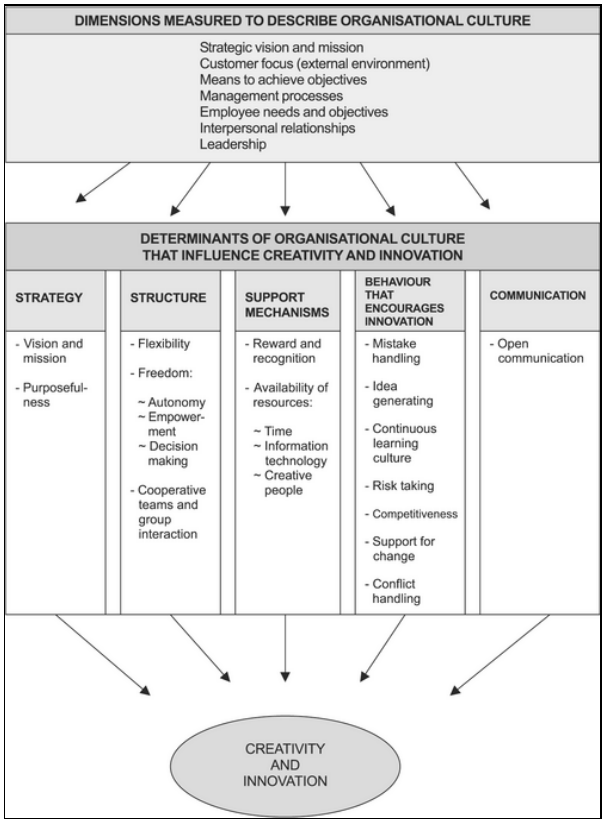
(Nylstrom (in West & Farr, 1990))

The last of the models upon which this literature review is based, is the model proposed by Martins & Terblanche (2003). This model can be seen in Figure 5. Martins & Terblanche (2003) outline five determinants of organisational culture that influence creativity and innovation. These are as follows:

- Strategy;
- Structure;
- Support mechanisms;
- Behaviour that encourages innovation; and
- Communication.

As concluded by Nylstrom (in West & Farr, 1990), Martins & Terblanche (2003) also view strategy as crucial to the process of innovation. Martins & Terblanche (2003) are also in agreement with Loewe & Dominiquini (2006) with regards to the importance of support mechanisms and organisational structure.

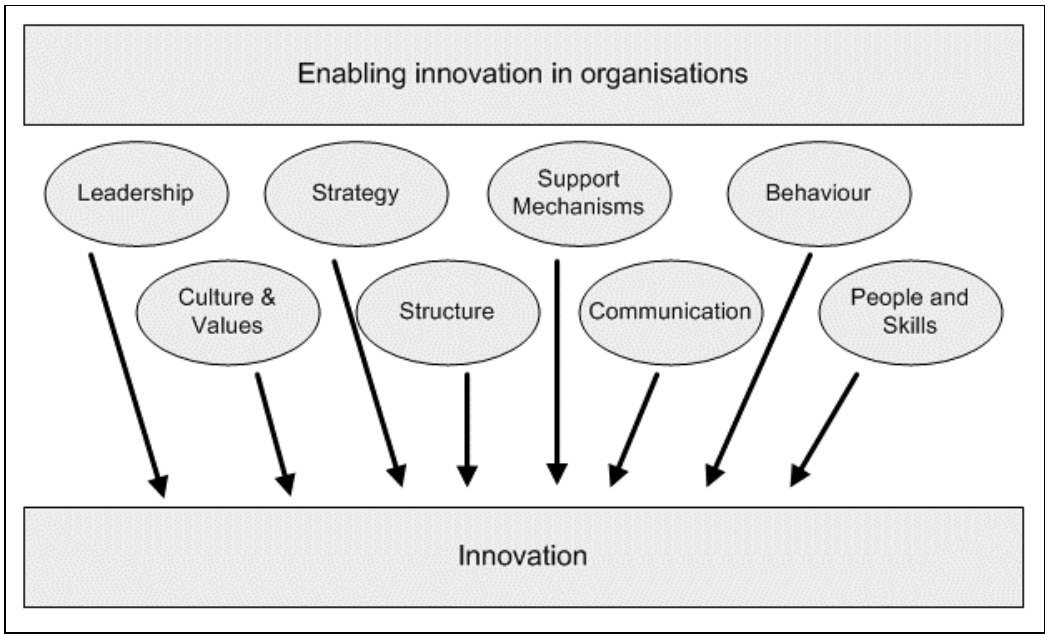
Figure 5: Determinants of organisational culture that influence creativity and innovation



(Martins & Terblanche, 2003)

The above three models have been combined in this literature review to propose a new model of how organisations are able to enable innovation, taking the viewpoints of Nylstrom (in West & Farr, 1990), Martins & Terblanche (2003) and Loewe & Dominiquini (2006) into account. This proposed model is outlined in Figure 6. Additional literature has also been reviewed in order to support the proposed model.

Figure 6: Proposed model: enabling innovation in organisations



This proposed model for organisational innovation considers all the organisational variables that impact upon innovation within an organisation. Each of these innovation enablers is discussed in the remainder of this section, drawing on the existing literature.

2.6.1 Leadership

Visionary leaders

Loewe & Dominiquini (2006) believe that visionary leaders are crucial for innovation. Similarly Pohle & Wunker (2007) advocate leaders who encourage innovation by leading from behind, such that certain ideas are not biased. They also believe that leaders who are successful at innovation are able to combine deep business insights and creativity with the ability to motivate employees.

Nylstrom (in West & Farr, 1990) views strategic leadership as being the overriding enabler of innovation in organisations, as it affects what the company wants to do, as well as what it can do. Strong executive leadership that is able to set priorities and communicate these effectively, allow for innovation to take place in the "right" way (Pohle & Wunker, 2007).

Innovative direction

Innovative direction, according to Nylstrom (in West & Farr, 1990), is driven by strategic leadership. Organisational leadership needs to provide the direction in which innovation will be encouraged or tolerated. The types of innovation encouraged (as discussed in section 2.4) will also provide innovative direction.

Leadership styles

There is a need for participative and collaborative leadership in order to encourage creativity (West & Farr, 1990). However, it is agreed that no single style can be universally prescribed, due to the different types of employee groups and the kind of work being done (West & Farr, 1990). In essence, leadership style should be modified in each situation to increase innovation capacity of employees.

2.6.2 Culture and values

It is not only strategy but also the company's culture and daily operating processes which informs the day-to-day decisions made without any senior management interference. Therefore, the combination of culture and operations plays a significant role in how an organisation innovates (Pohle & Wunker, 2007).

Common understanding of innovation

Loewe & Dominiquini (2006) state that it is crucial that the organisation values innovation and that the organisation is aligned with a common understanding of the term innovation, and knows precisely and clearly what they want to achieve.

Climate for change

West & Farr (1990) broadly outline climate and culture as a having a distinct impact on the innovation process. A culture promoting effective innovation is the final step in achieving organisational innovation, according to Nylstrom (in West & Farr, 1990). Tushman & O'Reilly (1997) agree that culture can either provide competitive advantage

or stifle innovation. Therefore, culture is critical in allowing a company to innovate. Culture must be adaptable and keen to learn and change.

Organisational culture appears to have an influence on the degree to which creativity and innovation are stimulated in an organisation (Martins & Terblanche, 2003). A strong culture provides shared values that ensure that everyone in the organisation is on the same track (Robbins, 1996). A culture in which people are encouraged to take responsibility for both successful and failed initiatives, enables innovation (Christiansen, 2000). In addition, organisational leadership must promote freedom of thought and expression to allow employees to identify gaps or new markets. New ideas and approaches can be stifled if a company has invested heavily in old ideas that have outlived their usefulness or never were particularly useful (Appelbaum & Goransson, 1997).

Organisational age

The age of an organisation, and where it sits on the organisational evolution path, could impact on an organisation's ability to innovate. Newly started companies are more likely to innovate more effectively than those who have been around longer (West & Farr, 1990).

Collaborative culture

Loewe & Dominiquini (2006) believe that a collaborative culture, in which organisational teams are encouraged to work together, is important to enable innovation.

Values

Values like flexibility, freedom and co-operative teamwork promote creativity and innovation, whereas values like rigidity, control, predictability, stability and order will hinder creativity and innovation (Arad, Hanson & Schneider, 1997). It is important to slowly change the culture of an organisation by increasing the expectation of innovation activity and the value placed on this type of activity (Christiansen, 2000).

Without an appropriate culture, even with elaborate incentive schemes, innovation initiatives are unlikely to succeed (Tushman & O'Reilly, 1997). Changing an organisation's structures and processes are not adequate, as people's attitudes, feelings and values also need to be changed or adapted to the new scenarios (Coulson-Thomas, 1997).

2.6.3 Strategy

An innovation strategy is a strategy that promotes the development and implementation of new products and services (Robbins, 1996).

High-risk strategy

Hage (2005) proposes that a high-risk strategy is key, in that it values the need for change and allows for creativity and risk taking. However, more often than not, calculated risks in specific business areas or functions are taken instead (Hage, 2005).

Clear focus

A clear strategy that focuses on innovation is necessary in order to allow for the correct amount of focus on innovation and change within organisations (West & Farr, 1990). The setting of explicit goals in relation to innovation is believed by Christiansen (2000) to allow clarity of direction and strategy.

Building shared vision

When there is a genuine vision, people learn and excel without being told to do so. This allows for the fostering of commitment, rather than the enforcement of compliance (Senge, 1990). A shared vision and mission allow for creativity to be fostered in a meaningful way (Martins & Terblanche, 2003).

Clearly communicated strategy

In addition, people need to be empowered to understand the overall organisational strategy in order to have a positive impact with relevant ideas (Martensen & Dahlgaard, 1999). It is important that leaders communicate the needs of the business to meet their vision of the future, so that employees are able to ideate effectively (Martins & Terblanche, 2003). Christiansen (2000) agrees that clear communication of strategy is vital.

Inclusion of information technology staff in the strategic conversations

According to Slywotzky & Morrison (2001), becoming a digital business involves moving information systems into the strategy conversations, and engaging with technology in a proactive and meaningful way. The importance of information technology in strategic innovation can be seen by its involvement in the strategy formulation process (Luftman, Lewis & Oldach, 1993). Senior executives should be informed of technology advancements at the very least, or an IT management

representative should be visible on the board or in the strategic management meetings of top management (Luftman *et al*, 1993).

Dell is used by Slywotzky & Morrison (2001) as an example of what is possible when technology is used to design the business. Dell's website is more than just a website, and has created a new sales channel, product and distribution network, providing customised products to their customers through a Digital Choice-board. Without top management consultation with information technology, the potential function of information systems is ignored and technology is relegated to performing a support function and being treated as a cost centre (Bartholomew, 1998). Becoming a digital business does not mean developing a great website, conducting business over the Internet through e-commerce, using the latest generation software or connecting your workforce on-line. It is rather a "strategic decision to use information technology to become unique and build profits and revenues in new and different ways" (Slywotzky & Morrison, 2000).

As succinctly put by Berman & Hagan (2006), "For more than a century, business leaders have viewed technology as the primary means to execute and implement their business strategies. However, many of today's most exciting and disruptive innovations now tend to occur at the intersection of market insight and technological know-how, making technology an input to the strategy-process rather than a strategy-enabler." Berman & Hagan (2006) propose a similar approach to strategic innovation as Slywotzky & Morrison (2000), which they call "technology-driven business strategy." As Slywotzky & Wise (2003) note: "Breakthrough technological innovations are often short-lived."

2.6.4 Structure

Shepherd and Ahmed (2000) deem organisational structure to be the most crucial aspect when looking to improve and enhance innovation. Similarly, Christiansen (2000) identifies an organisation's structure as having an important impact on innovation in organisations.

Division of labour

Hage (2005) proposes that a complex division of labour in which there are a "variety of occupational specialties, a variety of functional departments and complex jobs" is necessary to facilitate higher rates of innovation.

Innovation departments and teams

The presence of a research department, as suggested by Hage (2005), is a necessity to promote innovation within an organisation.

Organic structure

Managers need to provide a structure which influences behaviour in a positive way (Senge, 1990). An organic organisational structure involves a "level of decentralisation, absence of formal rules and high levels of communication" (Hage, 2005). In the innovation literature, much has been written about the structural characteristics of organisations and it is widely accepted that a flat structure, autonomy and work teams will promote innovation, whereas specialisation, formalisation, standardisation and centralisation will inhibit innovation (Martins & Terblanche, 2003). A "horizontal competence" organisational structure, where each competency is considered core to the business model, is considered important by Shepherd & Ahmed (2000).

Organisational size

West & Farr (1990) point out that the size of an organisation might impact the ease with which it is able to change, and therefore innovate successfully.

Degree of centralisation

The degree of centralisation of the key decision-makers is also seen to impact on innovation. If a few key decision-makers make all decisions, good ideas might sometimes be overlooked in favour of "the way things are done" (West & Farr, 1990). This implies that an organic, matrix-type organisational structure is more effective than a bureaucratic organisational structure when it comes to promoting creativity within an organisation (West & Farr, 1990).

Degree of formalisation

A high degree of formalisation might impact negatively on the speed of the innovation process, but it could also allow for ideas to be assessed more thoroughly and funded in a more structured way (West & Farr, 1990). Organisational structural barriers are often a hindrance to successful innovation. Organisational design and development theory points to organisations needing to restructure as opposed to consolidating existing structures and processes (West, 1992), when looking to become more innovative. Essentially, the amount and nature of a formalised structure that managers provide is likely to have a direct, negative effect on employees' creativity (Williams, 2004).

Complexity of the business model

The less complex the business model, the easier the implementation of an innovation, as less changes in fewer areas are likely to be required (West & Farr, 1990).

Team learning

Teams, rather than individuals, are the "fundamental learning units" within organisations (Senge, 1990). It is also widely understood that idea generation is best done in groups, as this allows for ideas to be discussed and built upon (Smith & Ainsworth, 1989). In addition, Smith & Ainsworth (1989) state that the management of innovation requires only the effective management of groups and group dynamics. As Tushman & O'Reilly (1997) explain, "innovation is a team sport." Similarly, Pohle & Wunker (2007) identify the employment of cross-functional teams, as an "innovation enabler". Therefore, an ideal organisation structure promoting innovation would encourage good group dynamics.

2.6.5 Support mechanisms (processes and tools)

Support mechanisms should be present in order to create an environment that will promote creativity and innovation (Martins & Terblanche, 2003). Tools that support and aid innovation should be readily available to all staff (Loewe & Dominiquini, 2006).

Reward and recognition

A problem faced by many organisations is that standard operating procedure is rewarded while a culture of innovation is trying to be created. Incentives are a key part of any learning initiative. Employees need to understand the benefits to themselves and to the organisation, for learning and innovating (Tushman and O'Reilly, 1997). Shepherd & Ahmed (2000) agree that adjusting reward and compensation schemes to encourage innovation is important to encourage these types of initiatives. Similarly Anthony *et al* (2007) state that creating human resource (HR) policies and incentives that encourage people to take managed risks on the path to innovative growth, and creating development paths which make it attractive for high-potential employees to work on innovative initiatives, are crucial.

However, as Tushman & O'Reilly (1997) point out, "in the short-term, each of us may be motivated by the prospect of a promotion, raise or prize, but in the longer term, commitment requires that people genuinely believe that their efforts contribute to some

higher good or make a difference." Similarly, appropriate feedback is an important facilitator of creativity in the innovation process (West & Farr, 1990). As is outlined above, incentives and entrepreneurial rewards are key in implementing innovation at a strategic level (Hage, 2005). However, just as important, and often ignored, are the motivation and incentives of the employees not directly involved in the innovation process. It is also important to reward individuals as well as teams (Tushman and O'Reilly, 1997).

Availability of resources

The availability of resources, namely time, information technology and creative people, are mechanisms that also play a role in supporting innovation. Recruitment of "the right people", who are diverse but also able to fit into the organisation's culture, is crucial in supporting innovation within an organisation (Martins & Terblanche, 2003). An organisation's resource allocation system, if designed and implemented with the correct balance on developing new products and supporting old ones, is identified by Christiansen (2000) as being important in enabling innovation.

Systematic approach

Organisations should adopt a systematic approach to innovation (Loewe & Dominiquini, 2006). Shepherd & Ahmed (2000) promote the alignment of key organisational processes to ensure clarity and consistency of execution.

Funding system

Clearly allocated funds aimed to support innovation should be allocated, and the management of these funds must always be tightly managed to prevent exploitation (Christiansen, 2000).

Pipeline management

A formalised process for managing ideas throughout the process of innovation, from creation to implementation, should be in place, so that good ideas are not lost (Loewe & Dominiquini, 2006).

Support systems thinking

System thinking involves looking at a problem as part of a whole (Senge, 1990). To this end, support and communication structures and processes that allow organisations to view the "big picture" are key.

Knowledge management

Knowledge management encompasses "business processes that seek to combine data and information processing capacity, and the creative and innovative capacity of human beings" (Soo, Devinney, Midgley & Deering, 2002). According to Zack (1999) "knowledge is considered the most strategically important resource and learning the most strategically important capability for business organisations" in the new business environment.

Similarly, West (1992) purports that the management of knowledge is more important than the management of innovation. In keeping with this viewpoint, he maintains that as long as employees have knowledge of the processes and products within the firm, as well as knowledge of organisational strategy, innovation should occur naturally, and the manager needs only to ensure that innovation is not stifled. Christiansen (2000) also states that improving information management is important to consider when looking to enable innovation. As per Nieto (2004), the ability of the organisation to learn, as well as the ease with which knowledge is able to flow through the organisation, is crucial in aiding innovation.

Project management practices

Christiansen (2000) identifies that an organisation's project management practices are important and can be enhanced in such a way so as to enable innovation.

Feedback loops

It is important to ensure that feedback loops are in place to feedback to managers that innovation strategy is working or not working, in order for changes to the relevant processes to be made (Shepherd & Ahmed, 2000).

Nieto (2004) points out that in the literature there are certain organisational feedback loops that improve the innovation process, namely:

- Learning by doing;
- Learning by using;
- Availability of complementary technologies;
- Economies of scale; and
- Dissemination of information about the new technology.

Ability and freedom to use technology in creative ways

Malhotra (2005) advocates that information technology "is just an enabler" of innovation. Malhotra (2005) points out that most organisations advocate a technology-push model of knowledge management, in which information technology systems are developed in such a one-directional way, that the results are pre-specified outcomes. This limits the innovation potential of these technologies and their outcomes.

In the strategy-pull model of knowledge management, business drives the information technology implementations, and requirements are updated on a regular basis (Malhotra, 2005). Malhotra (2005) advocates that "organisational functions should drive the choice of organisational form", and not information technology. People are disillusioned by the cost and over-running of information technology (IT) projects within their companies. It is therefore difficult for them to buy into the use of information technology as being part of strategy (Morton, 1991). Information systems are therefore used as a way in which strategic innovations can be implemented. It is viewed as a way to decrease manual labour.

Strydom (2001) purports that the increasing and more extensive use of information systems is resulting in the function of information systems moving away from being a cost-centre to being a strategic tool. Slywotzky & Morrison (2001) agree, and are convinced that information systems and digital technology can be used strategically in order to "expand a company's strategic options".

2.6.6 Behaviour

Certain types of behaviours, such as invoking trust, allowing for employee discretion, positive reinforcement, and concentrating on conflict management, allow for a culture of innovation and idea generation to grow (Tushman & O'Reilly, 1997).

Invoking trust and autonomy

Trust within an organisation, and between employees and management, is key in promoting learning, and therefore innovation (Tushman & O'Reilly, 1997). The freedom of choice of how to spend ones time and where to set ones priorities provides employees with autonomy, adding meaning to their work. There is some difference in the literature where some authors are seen to be promoting complete freedom of choice, while others promote freedom within strict guidelines and supportive consultations with supervisors or managers (West & Farr, 1990). Personal mastery,

which involves focusing of energy, clarifying and deepening of vision, motivation to continue learning and encouraging pro-activity, is seen as important to encourage for the sake of innovation (Senge, 1990).

Perceived risk and fear of repercussions

Perceived risk on the part of the employee is an important reason for less than desirable creative initiatives within an organisation (Dewett, 2004). To engage in creative efforts is not a risk free proposition. Risk in this scenario can be defined as "the extent to which there is uncertainty about whether potentially significant or disappointing outcomes of decisions will be realised" (Sitkin & Pablo, 1992). New ideas can pose a risk to an employee because they represent disturbances in routines, relationships, power balances, and job security. New ideas represent a change from the status quo and invite evaluation, which can be dangerous given that it is often difficult for people to separate ideas from their source (Dewett, 2004).

Capacity to be creative

This includes the ability of leaders, decision-makers, change agents and idea champions to be creative (West & Farr, 1990). In order for an organisation to change ongoing, management needs to "give people the opportunity to change the way they think and interact" (Senge, 1990). People need to understand their own unique ways of viewing the world, so that they can communicate these, and not dismiss other people's mental modes or ideas (Senge, 1990).

Resistance to change

Resistance to change by organisational members is also potentially problematic (West & Farr, 1990). Allen (2000) mentions that innovations that have come before will often influence the success of a new innovation, because of people's attitudes and beliefs about what has happened before. Ho & Ngai (2007) identify managerial attitudes as influencing and facilitating the adoption of innovation within a firm. They state that managerial attitudes, which are influenced by the notion of perceived competitive advantage and compatibility of a new innovation, indirectly affect the intention to adopt the innovation. The beliefs that managers hold about an innovation before it is implemented, also impacts on the success of the innovation (Swan & Newell, 1994).

2.6.7 Communication

Christiansen (2000) identifies the organisation's communication system as an important system that impacts on innovation.

Open communication

Loewe & Dominiquini (2006) believe that open communication is crucial for innovation to be successful. Ideas begin with dialogue, as dialogue allows for thinking together (Senge, 1990). Martensen & Dahlgaard (1999) point out that open communication allows for trust to be fostered. Open and honest communication between and within all organisational levels allows for creative initiatives to be both well received and meaningful. Perhaps the most meaningful contribution of Smith & Ainsworth (1989) was to point out that communication between group members in the groups specifically created to innovate, was critical in terms of allowing for and facilitating the process of both idea generation and implementation.

Similarly, Martensen & Dahlgaard (1998) point out that if communication is inadequate across organisational levels, functional areas and stages of the innovation process, the innovation management initiative will, in all likelihood, be unsuccessful. A clear and transparent decision-making process allows for all in the organisation to understand the direction in which the company is being driven, which innovations are approved and for what reasons (Christiansen, 2000).

Effective internal communications with the aim of keeping everyone informed of changes, as well as the need for change, will enable innovation within organisations (Shepherd & Ahmed, 2000).

Communication by leaders

An organisation's leaders must communicate accurately and succinctly the problems and challenges that they foresee, as well as the organisation strategy, so that employees are able to apply their minds and expertise in a meaningful and useful way (Tushman & O'Reilly, 1997).

Support knowledge sharing

Innovation by employees at all levels within an organisation is important for innovation to be truly successful. Ideas cannot be generated without contextual information and knowledge about existing systems (Senge, 1990). Mechanisms that support

knowledge sharing are therefore important for innovation. In addition to cultural and structural elements, an organisation's processes can be altered to ensure that knowledge can be easily shared so that the organisation can learn from past experiences, so as to improve the future (Senge, 1990).

2.6.8 People and skills

Sharp (2003) states that innovation takes place "not with technology, but through people."

Proficiency in innovation

A critical mass of people across the organisation should be proficient in innovation approaches and tools (Loewe & Dominiquini, 2006).

Training and development

Hage (2005) states that a high level of technical training is required for innovation. Anthony *et al* (2007) promote the hiring of a team of "movers and shakers" and training staff to be on the look out for innovative ideas, in order to facilitate innovation.

Availability of resources

West & Farr (1990) view the availability and capacity of human resources to innovate outside of what they do everyday, as allowing for and enabling innovation. Fruhling & Siau (2007) point out that one of the basic problems when trying to manage an environment of innovation is the human problem of managing attention. This involves allowing employees the time and dedication to pay attention to new ideas. Mobilisation capabilities, in terms of the percentage of staff employed specifically to achieve innovation goals, are seen by Pohle & Wunker (2007) as a crucial success factor for innovation initiatives. Anthony *et al* (2007) suggest that management of the resource allocation process is an important organisational capability for innovation.

Empowerment

Empowerment of people to innovate is stressed by Fruhling & Siau (2007) as being an important factor in allowing organisations to innovate successfully. Staff should be recruited specifically for their creativity and passion, and their ability to work successfully in teams (Pohle & Wunker, 2007). Staff should also be empowered to

make deals with external parties and look externally for new ideas (Pohle & Wunker, 2007).

Identification of competencies

The identification of the existing core skills and competencies of the people within the organisation, in order to determine what can be harnessed in the innovation process, is crucial. Also, any identified shortcomings can be managed, through training or hiring a different type of competency (Christiansen, 2000). Nieto (2004) believes that the ease with which new capabilities are generated and existing competencies are harnessed within organisations influences their innovation potential. Organisations should not be afraid to outsource key capabilities, and should grow the ability to manage these relationships successfully (Pohle & Wunker, 2007).

Ability and freedom to identify new technologies

A firm's ability to identify new enabling technologies, and matching those with market opportunities, are important for the success of innovation through information technology (King, 2007a). King (2007a) believes that technology-literate people are currently not exposed to as much new product knowledge about latest technological developments as in previous years. This prevents them from being able to identify new technologies that will help them to achieve their innovation goals. King (2007b) therefore believes that it is the responsibility of firms to give their technical people access to forums that allow them to keep tabs on the leading edge of technology within the industry. In addition, technical staff members need to have an open channel of communication to management in order to inform them of potential gains through the use of new or existing technologies.

2.7 Addressing sub-problem 2 through research questions 2, 3 and 4

The literature that was reviewed in the preceding sections addresses the second sub-problem of exploring how managers of information-intensive organisations in South Africa are approaching innovation, and to gain insight into what they believe is important to do in order to enable innovation in their organisations. In so doing, insight into what is working and what is not, will be explored.

Research question 2:

What do managers think is enabling innovation in their organisations and why?

Research question 3:

How are managers approaching innovation, through their innovation initiatives and other interventions?

Research question 4:

What do managers think is working and not working, in their experience, in their innovation programs and initiatives and why?

3 RESEARCH METHODOLOGY

In this chapter, the chosen research methodology for the research, and its implications, is described. The research design and interview guideline used are described, followed by an indication of the processes used in data collection, analysis and interpretation. Finally, the validity and reliability of the chosen method of research is discussed.

3.1 Research method

The research problem outlined in Section 1 requires that the researcher probes and gains insight into the thinking on innovation by managers in South African information-intensive organisations. Drejer (2003) explains that "innovation management theory should not be looked at in isolation, but needs to be applied discretionally to different situations." Therefore, as the research is exploratory in nature, according to Leedy & Ormrod (2001), it is best to follow a qualitative research design.

Qualitative research, according to Ahmad & Ali (2003) is concerned with describing rather than explaining the relationship between variables. Qualitative research is therefore meaningful in studies where there is a search to understand "how things happen and how they are related" rather than measuring the relationship between variables.

Therefore, the research method chosen for the proposed research is qualitative. It will make use of in-depth, semi-structured interviews to obtain the data, which will then be analysed using content analysis and cognitive mapping. This is described in the remainder of this chapter

3.1.1 Qualitative Research

Qualitative research aims to gain a deeper understanding of phenomena, which can then be used to inform other contexts and situations (Falconer & Mackay, 1999:288). In this form of research, the researcher "studies things in their natural settings, attempting to make sense of, or interpret, phenomena" (Falconer & Mackay, 1999). A qualitative study tries to answer the "how and why" of relatively complex social science

situations, which makes it a suitable approach for studying innovation, which is highly dependant on social interactions within organisations (Perry, 2001).

As a result, in qualitative research, general research questions are asked, resulting in an "extensive amount of verbal data from a small number of participants" (Leedy & Ormrod, 2001: 101). It is then the job of the researcher to organise this data in such a way as to answer the research questions in a meaningful way. This is the process that is followed for this research.

Some of the characteristics of qualitative research, as proposed by Leedy & Ormrod (2001), which are relevant to this research, are outlined here.

Role of the researcher

As standardised instruments are not available for the research being done, semi-structured interviews are being used for data collection purposes. An interview guideline, as drawn up by the researcher and seen in Appendix A, is used to guide the researcher through the interview process. Open-ended, exploratory questions are asked. The researcher's personal bias therefore plays a role in collection, integration and interpretation of data. An attempt is made to mitigate the subjectivity of the researcher by:

a) Not leading the interviewee;
b) Regular confirmation of meaning; and
c) Using techniques to ensure reliability and validity, discussed in section 3.6.

Theory-building

The purpose of the research is to explore, interpret, describe and explain management thinking on innovation in information-intensive South African organisations. Although, as a result of the small sample size, the research is not expected to add to the existing theory, it is hoped that the research will lay the groundwork for further studies in the same research area.

Emergent design

There is a need for a flexible and emergent design, due to the fact that the researcher might uncover variables that are not known at the outset of the research. In addition, many different perspectives on the topic could be uncovered and these will be included

and discussed. As new concepts emerge, the researcher will make interpretations within the context of the research.

3.2 Population and sample size

3.2.1 Population

The population comprises all middle to senior managers or executives at sizeable information-intensive South African organisations that are known for their ability to innovate, as well as organisations with explicit innovation programs, initiatives or strategies, and for which innovation is clearly on the agenda.

3.2.2 Sample size

The medium-to-large organisations selected for the study were identified through the business press, as organisations known for their innovation strategies, for winning prizes for being innovative or for being the best in their industry or in a specific sphere. Respondents were asked to provide proof of innovation during their interviews, if during the interview no reference had been made to new product successes made over the previous two years. This was done to ensure that respondents were indeed from companies or divisions that had been actively involved in innovation in recent times. In addition, if during the interviews the respondents referred to other organisations known for their innovation strategies, these organisations were also included in the study.

While some of the organisations chosen may, at first, not appear to be information-intensive and that their innovation might be seen as being driven by new technology or customer demand, these organisations are indeed information-intensive, as it is the information flow and application of technologies that truly drives their innovation. These information-intensive organisations are organisations that use the information they have at their disposal in such a way as to improve customer service and implement technology in a meaningful way. As stated by Glazer (1993), information-intensive organisations are those “firms that successfully integrate an information technology strategy with their business strategies by focusing on the information itself, rather than on technology, as the real carrier of value and source of competitive advantage.” This can be seen to be true for all organisations that form part of the respondent-base of this research.

Due to selection according to organisational characteristics, the sampling method used is “non-probability judgmental sampling” (Zikmund, 1997). Random sampling has not been attempted, and due to the small sample size and method of selection, this study cannot be generalised.

In addition, the organisations that have been selected for the study have been chosen as a result of the researcher having access to the organisations and the managers within those organisations. It is, to all intents and purposes, a convenience sample.

The sample chosen for this research comprises managers ranging from middle management to executive level, at organisations known for their recent innovativeness, as well as at organisations that are information-intensive.

At the outset of the research, the researcher planned to conduct between 15 and 20 interviews of managers at information-intensive organisations. However, during the course of the research, convergence of results was noticed, and as a result the final number of interviews conducted was 13.

All respondents, their roles and the organisations to which they are affiliated, can be seen in Table 3 below.

Table 3: Sample managers and organisations

Organisation	Sector	Name	Designation
Rand Merchant Bank	Financial/Information Technology	Michelle Breytenbach	Director - Back-office Systems
Vodacom	Telecommunications	Graunt Kruger	New Product Development Manager
Primedia Content	Media	Geraint Crwys-Williams	Business Development Executive
Nedbank Corporate	Financial	Candice Hendriksz	Portfolio Head: i4innovation
MultiChoice	Media	Marina Hiscock	Director of Knowledge Management

Organisation	Sector	Name	Designation
Internet Solutions	Information Technology	Hillel Shrock	Business Solutions Director
First National Bank	Financial	Len Pienaar	CEO: Mobile Banking
Virgin Money (Absa Innovation)	Financial	Vinay Padayachee	Managing Director
First National Bank	Financial	Harriett Moore	Mobile Solutions Innovation Champion
Stanlib	Financial	Rob Zagey	Equity Retail Funds Manager
MultiChoice	Media	Richard Ford	New Media Analyst
PruHealth (UK division of Discovery Health)	Insurance	Trent Rossini	GM: PruHealth Operations
Accenture	Consulting	Chris Ruscoe	Senior Manager

3.3 Qualitative research design

Research design is generally the logic that links the data to be collected to the conclusions to be drawn to test the research questions (Rowley, 2002). For the purposes of this research, which is exploratory in nature, it was decided that research questions would be formulated. The literature review shapes the context in which the exploratory research is conducted. The exploratory research is conducted through open-ended, semi-structured interviews, with the assistance of an interview guideline.

3.3.1 Developing an interview guideline

The interview guideline used to guide the open-ended interviews conducted, can be found in Appendix A.

As can be seen, the questions are open-ended and exploratory, with a view to explore the experiences and thinking of the interviewees. Prompts and trigger words were

identified when designing the interview guideline, in order to assist the researcher during the course of the interviews. A pilot study was undertaken to test the clarity and meaning of the interview guideline. The pilot study was also useful in ensuring that the questions asked were not leading, and allowed for as much detailed feedback as possible. It also allowed for overlooked concepts of importance to be identified. Feedback from the pilot study was incorporated into the interview guideline before the remainder of the interviews were conducted.

For each interview, the following demographic information was recorded:

- Name of respondent;
- Name of organisation;
- Sector or Industry of the organisation; and
- Job title.

3.4 Data collection

As the research is exploratory and qualitative in nature, the process of data collection cannot be completely separated from the analysis of the information. This is as opposed to quantitative analysis in which data collection can be seen to be completely separate from the process of data analysis (Easterby-Smith, Thorpe & Lowe, 1991).

The primary source of data collection that was used, were the in-depth, semi-structured interviews.

Reasons for choosing the interview as the method of data collection were as follows:

- Additional respondents could be suggested by interviewees, increasing the number of experts being interviewed;
- Superficial answers could be probed for further information, and specific areas of interest or knowledge of participants could be focused on;
- Non-response items are limited (unlike incomplete or unreturned questionnaires); and
- The response rate is quicker and more accurate (Zikmund, 1997).

Potential limitations of this form of data collection also need to be noted, and kept in mind by the researcher, in order to limit their potential negative impact on the research results:

- The lack of anonymity may result in respondents being less than willing to provide or disclose sensitive information;
- Due to the amount of time spent conducting interviews, and analysing the information, this research method is costly;
- It is sometimes difficult to contact the top management respondents whose input is crucial for the conduct of this type of strategic study; and
- All personal viewpoints need to be put on hold during the conducting of the interviews (Pirow, 1993).

For this research, potential respondents were contacted via e-mail, with an explanation of the purpose of the research and a request for their participation. See Appendix B for an example of this e-mail. When the respondent confirmed their willingness to participate in the research, the interview was scheduled and a confirmation e-mail sent to confirm the date and time of the appointment. See Appendix C for an example of this e-mail.

The interview guideline was used as the basis from which the comprehensive interviews were conducted. In order to provide additional context and to frame the interviews, respondents were requested to provide evidence of any new products which have been developed within the last two years, as well as information on any innovation programs currently in place, should the interviewer not have explicitly mentioned these initiatives during the course of the interview. The length of each interview was estimated as being 60 minutes, but interview lengths ranged from 25 minutes to 90 minutes.

At the outset of each interview, the purpose of the research was explained and permission to digitally record the interview was obtained. The researcher aimed to record all interviews, and transcribe the interviews within 48 hours of when the interview took place, to ensure that the interview details were remembered and transcribed correctly. In the case of recording not being possible, comprehensive notes were taken as a record of the meeting, and fleshed out within 24 hours of the interview. Only one respondent did not want to be recorded.

Confidentiality of the respondents' feedback was guaranteed. It was explained that no response would be directly linked to the respondent or organisation being interviewed, to ensure anonymity and security of sensitive information (Easterby-Smith *et al*).

3.5 Data analysis and interpretation

3.5.1 Data analysis

One of the problems with qualitative analysis, as described by Miles & Huberman (1994), is the sheer volume of data generated, and the time required to process the data.

Bearing this in mind, it was the intent of the researcher to digitally record all interviews, with the permission of the interviewees, so as to limit bias, and allow for rechecking of the facts. In addition, all interviews were transcribed and kept on file. Only one interview was not recorded at the request of the respondent. In this case, comprehensive notes were taken at the interview, and the interview summarised in detail within 24 hours of the interview.

The qualitative research analysis took the form of content analysis with the aid of cognitive maps. Leedy & Ormrod (2001) describe content analysis as "a detailed and systematic examination of the contents of a particular body of material for the purpose of identifying patterns, themes or biases."

Content analysis was conducted on the answers recorded from the interviews. A table was constructed listing the issues that were identified through the literature review, against which the respondents' answers were classified. As new concepts were identified in the interviews, those were also added to this table. These tables were used to organise the data to improve the ease of retrieval and analysis of the data, and allow for the data to be more easily integrated and synthesised.

Cognitive mapping is another analysis tool that was used during the data analysis phase of the research. Cognition refers to the mental modes or belief systems that people use to perceive, conceptualise, simplify and make sense of otherwise complex problems (Tolman, 1948). Cognitive maps are a method used by researchers to structure and store spatial knowledge (Tolman, 1948). Cossette (2002) described a

cognitive map as “a graphical representation of the researcher’s mental representation of a set of discursive representations expressed by a subject based on his or her own cognitive representations with regard to a specific object.” As a result, during the process of cognitive mapping, the researcher is not able to remove themselves completely from the process.

According to Ahmad & Ali (2003), cognitive mapping is a qualitative research technique which allows the researcher to increase a body of knowledge through “the discovery of new facts and relationships by a process of systematic enquiry.” Cognitive maps usually combine concepts and the links between those concepts. Similarly, Goodhew, Cammock & Hamilton (2004) describe cognitive mapping as “templates consisting of organised knowledge that an individual imposes on information to give it form and meaning.” Cognitive maps therefore provide a structure to otherwise abstract concepts, as well as to exploratory and data rich research methodologies. In addition, Spicer (1998) explains that cognitive maps allow researchers to more clearly understand the way individuals “think about or perceive problems, questions, concepts and physical systems”, which allows for more improved learning through research.

Cognitive mapping is an exploratory research technique that aims to gain insights into the thinking of respondents. It allows the researcher to break problem statements that are broad and complex, into smaller, more precise problem statements. In exploratory research, hypotheses seldom exist, and if they do, they are vague (Ahmad & Ali, 2003).

Cognitive mapping was therefore identified as a useful technique to use for the data analysis of this research, which aims to look at thinking around a relatively abstract concept, namely innovation. The cognitive maps have been predominantly used in this research to show the relationship between different concepts and to determine the perceived impact of each of the concepts on one another.

In this research, the cognitive maps were drawn after the interviews, using the transcribed interviews as reference. The cognitive maps were deemed useful during analysis, as it was clear which concepts were particularly important to the respondent, as well as which concepts had been omitted.

The data analysis occurred simultaneously with the collection of the data, interpretation of results and the writing of the report.

3.5.2 Data display

A database was prepared to assist with categorising, sorting, storing and retrieving data for analysis (Zikmund, 1997). In addition, the data is visually displayed and represented in the cognitive maps, which can be found in Appendix D, for each of the respondents.

3.5.3 Data interpretation

It is the job of the researcher to examine raw data using many interpretations, and must be open to new opportunities and insights throughout the evaluation and analysis process (Zikmund, 1997). As explained in section 3.5.1, using cognitive maps and content analysis to analyse the results of the research, data has to be interpreted by the researcher. This process is subject to bias. As a result, the researcher needs to be aware of the potential problem of bias throughout the research process, both during data collection and analysis.

3.6 Validity and reliability

Validity refers to the ability of the research model to measure what it is expected to measure. Reliability is the extent to which research is free from error and is able to yield consistent results (Zikmund, 1997). These will both be discussed in the following sections.

3.6.1 Quality of research

The researcher personally conducted all of the interviews so that equivalence was ensured, through the use of a semi-structured interview guideline, with open-ended questions.

3.6.2 External and Internal validity

External validity reflects whether or not findings are generalisable beyond the case (Zikmund, 1997). The individuals that were chosen as interviewees at the pre-defined organisations are at management level within the chosen organisations and are involved with innovation or strategy directly. In addition, the extensive literature review that was conducted prior to the conducting of the interviews helped to ensure both internal and external validity. As was noted in the delimitations of the research in

section 1.6.1, due to the small sample size as well as the sampling technique, the research is not generalisable.

3.6.3 Construct Validity

Construct validity requires that the researcher "use the correct measure for the concepts being studied" (Zikmund, 1997). As no standardised measures were utilised, open-ended questions were asked, and analysis done so as to limit bias.

3.6.4 Reliability

Critics of qualitative, interpretive research believe that the study of a small number of cases cannot be reliable or generalisable, and as such is only useful as an exploratory tool (Yin, 1994). For the purposes of increasing reliability, the process of research that is followed will be documented, and all collected information will be stored for review by external parties, should the need arise.

3.7 Limitations of the research

This research had two main limitations with regards to the research methodology selected. The first limitation was that the potentially sensitive and strategic information around specific innovations, or the way that managers allow for innovation, may have resulted in respondents not being as willing to share their ideas and experiences. As a result, respondents might have been vague or not answered as openly and honestly as they otherwise would have. Similarly, respondents may have censored their responses in an attempt to portray a positive process and outcome to an outsider.

The second limitation was that each manager, while having extensive experience with managing innovation within their own area of expertise or within their own divisions, might not have been fully aware of how innovation was managed in other business streams within the same organisation.

4 EVALUATION AND DISCUSSION OF RESULTS

4.1 Introduction

In this chapter, the findings of the in-depth interviews conducted with the respondents are evaluated and discussed. Comments from the interviews are occasionally quoted, verbatim, in order to provide additional insight into the thoughts of the respondents.

As this was an exploratory study, the research evaluation and discussion has been structured in a similar way to the literature review, in order to comprehensively cover all research questions thoroughly. As such the chapter begins with the evaluation of management's understanding of innovation. This is followed by a discussion of the management-identified enablers of organisational innovation. Finally, management approaches to innovation, including a discussion of specific interventions and initiatives, and an assessment of what is working and not working, is addressed.

In addition, the cognitive maps that were drawn up and used during the analysis stage of the research, and which graphically show the thinking chain of each of the respondents on innovation, are included in Appendix D at the end of the research report. These cognitive maps very clearly show the perceived relationships between each of the enabling factors of innovation by each of the respondents, and thus were very useful in the evaluation and discussion of the results that are to follow in this chapter.

4.2 Understanding of innovation

> *"I view innovation as the most important aspect of business and personal life. Without innovation, we could not have left the cave."*

All respondents whole-heartedly agreed that innovation was a critical organisational focus for their firms. Respondents indicated that their mere survival and ability to be sustainable into the future, depended on their ability to innovate continuously and ongoing.

Having said this, though, the sentiment that you "can't innovate for innovation's sake" was also clear. There was consensus amongst respondents that while innovation is business critical, it should not be pursued without clear focus. The purpose and goal of

innovation and innovation initiatives needs to be clear, so that innovation does not happen aimlessly and meaninglessly.

4.2.1 Creativity and the thinking of ideas

> *"To think is not to innovate. Even to verbalise those thoughts into an idea is not to innovate. Innovation takes commitment, discipline and effort to implement."*

While a large number of respondents indicated that innovation involves coming up with new ideas, and thinking creatively, it was clear that this was seen to be a very small part of the innovation process.

Within the business world, innovation involves being creative in your job on a daily basis. This kind of creativity involves thinking about what you do, and thinking about what you could do differently, in order to improve any aspect of what you do. It involves "looking at concepts or ideas in different ways" and involves thinking beyond the current status quo to look for new opportunities or opportunities to improve. It was understood that management should encourage this type of behaviour.

However, it was clear that thinking differently and creatively is not a natural state for all people. Consequently, initiatives to improve or change thinking and encourage creativity should be targeted at employees who show an interest and aptitude for this kind of thinking.

4.2.2 Implementation and execution

> *"Innovation is 5% ideas, 90% effort and 5% luck."*

As mentioned in section 4.2.1, innovation was seen as being more than simply the thinking of ideas. It involves the execution or implementation of those ideas. Without implementation, an idea is simply an idea which is not able to promote change, and which will not benefit anyone, not the customer, the staff or the organisation. It is therefore crucial that managers have the ability to harness their thinking and the thinking of their staff, and translate it into a business model or process that can then be put into practice.

4.2.3 Innovation is customer-focused

> *"Doing new things that customers want, or that one suggests that customers want."*

It was agreed that innovation must be customer-focused, and should always improve the value proposition to the customer, whether that happens through the introduction of a brand new product, or a process improvement. Innovation gives the customer alternatives to what already exists, in terms of end product or customer service improvement. Innovation should not only appeal to new customers, through the offer of a superior product to the market that your competition has not yet introduced, but should add more value to existing clients by doing things in a different and better way.

It should also be noted that some respondents viewed the "customer" as being either internal, as in staff, or external, as in the end consumer or client. Innovation should benefit at least one of these parties.

4.2.4 Innovation is profitable

> *"We define innovation as anything which is new or enhanced that can differentiate from the rest, in form or function, with the resultant benefit either being cost, revenue or service improvement."*

While innovation should be something that a customer wants, as discussed in section 4.2.3 above, it should also benefit the organisation in terms of the bottom line, through cost reductions, revenue creation or service improvement (which in turn should generate repeat sales). Innovation is therefore not really innovation if the organisation is not seen to benefit. It was seen to be relatively easy to create a new product that the consumer would love, but if it erodes profits and is unsustainable in the long run, it is not deemed to be true innovation. Most respondents agreed that innovation requires that an idea is taken to market, sold at a price to the customer, and improves the organisations' income statement.

It was therefore agreed that innovation involves mapping an idea into a viable opportunity that improves the organisation's bottom line. Similarly, innovation was described as "creating new commercial enterprises, entities, products and services that will generate new revenue streams, or grow existing revenue streams."

For a few respondents, innovation was seen, in addition to being a profit centre, as being a strategic tool that allows an organisation to win business and keep the competition from catching up or taking over.

4.2.5 Types of innovation

"It's all about doing things differently."

All respondents, in some way or another, made mention of the fact that innovation can take several forms. Innovation can take the form of changes to existing products or services, or the introduction of brand new products or services. Innovation could happen through the changing of a process or through the introduction of a new process, which improves the way in which a product is delivered, or which offers efficiencies that previously did not exist.

There was definite consensus in the fact that innovation means doing different things, doing things in different ways, or doing things differently than ones' competitors. In addition, there was also consensus that innovation means doing new things, or doing things in new ways, or doing new things that ones' competitors are not yet doing. As one of the respondents said, "Innovation is not only a product. It can be any idea that changes some aspect of your business, that is original or different from the way you were doing it, that leads to success in what you're doing."

In addition to the above types of innovation, innovation was also seen, on the whole, as ranging from small incremental changes, which happens slowly over time, to radical new businesses or completely reinventing existing businesses.

Respondents also acknowledged that innovation doesn't necessarily need to be something that no one else has ever done before. In fact, most respondents pointed out that often those types of innovations which are radical and that had never been done before are incredibly rare and few and far between. In fact, a few respondents commented that radical and strategically significant innovation had rarely been seen during the course of those respondents' careers. One respondent noted that most innovation involves there being a big difference in how you do something, but the need that is served remains the same. The real challenge is trying to identify a "new" need. But this is the most difficult thing to do. It often happens when you least expect it.

On the most part, it seems, innovation means changing what is being done, regardless of whether or not it has been done before by someone else. If it is new to the way the organisation has been doing things, it is innovation.

4.2.6 Innovation for the future

> *"Innovation involves taking care of the business of tomorrow while the CEO takes care of business of today."*

Another key observation by most respondents is that innovation involves thinking beyond the day-to-day business operations. It involves thinking about tomorrow, and about making the organisation sustainable going forward. It was noted that it is often easy to be caught in a trap of not having the time to focus on the future, because the issues and decisions of today are more imminent and seem to be more compelling and critical. However, not focusing on the future is a "recipe for disaster."

In addition, about half of the respondents indicated that experimental innovation, which is innovation beyond what the organisation currently does, is important because it allows management to start thinking about what the future might look like. This in itself is important, as it adds context and an extra level of perspective to the decisions that need to be made today. This kind of innovation allows an organisation to do strategic scenario planning, and allows management to pull their company towards the future being envisaged. As one respondent commented: "The key issue for corporates [sic], I think, is sustainability and facing the fact that organisations now are grappling with the fact that they might not be around forever, if they don't incorporate the idea of being a sustainable organisation."

4.3 Enabling innovation

The literature outlines eight specific organisational areas that seem to have an impact on whether or not, or to what extent, organisations are able to be innovative. In this section of this chapter, the respondents' views on each of these innovation enablers is discussed and evaluated. The complexity of each of the innovation enablers, and the inter-relationships between same, is more elegantly visible in the cognitive maps for each of the respondents, which can be found in Appendix D. An attempt is made here to analyse each enabler independently, with mention made of interlinking areas.

4.3.1 Leadership

> *"I think there's often the misconception that [the leader] has to be the smartest, or the most creative [person] in the room. They don't. They just need to be the best leader."*

Leadership is seen as a crucial enabler of innovation by each of the respondents, and can be seen as an underlying success factor of all other innovation enablers and/or initiatives. This is clearly demonstrated in all of the cognitive maps. However, the way in which leadership is seen to enable innovation differs somewhat between the respondents.

Drive from leadership

The majority of the respondents believed that the most important reason for leadership being an enabler of innovation was that innovation needs to be driven from the top down. CEO buy-in, drive and follow-through is critical. If the executive team isn't pushing innovation as being important for business success, it is unlikely to be happening on the ground by the operational teams. The leadership team is responsible for inspiring people to continuously "keep ahead of the game all the time."

In addition, the leadership must be strong, and need to be seen to lead by example, by talking about innovation, rewarding innovation, and spending time and money on innovation. Commitment to new ideas and doing things differently needs to be continuously communicated to all organisational teams and divisions, by providing resources and funding for innovative initiatives. Similarly, leaders should not be afraid to make decisions, and should continuously be seen to challenge the status quo, and in so doing, promote questioning and change within their organisations.

Leadership competencies

The literature indicated that there is no prescribed leadership style that would enable innovation more than any other leadership style. The respondents were in agreement with this, but did highlight a few leadership competencies that they felt would be important to have, in order for leadership to drive innovation from the top. The first of these is that the leader must be a role model. This is because they are intrinsically empowering the process. This is not something that can be managed, but by behaving in such a way that highlights the "desired behaviour" that the organisation wants to encourage, the leader is slowly able to build himself into a role model for the

organisation. It is important to note that this is not only the role of the CEO. It is also the role of all senior managers, middle managers and executives.

Another leadership competency that is seen to promote innovation is that leaders need to be able to put their personal viewpoints aside. As one respondent stated: “So the leadership has an impact to say I might personally not like it, but I’ll give it an opportunity, because we don’t know.” A great leader is someone who is able to divorce themselves from historical fears and personal preferences, and see possibility in the future and give it a chance. They need to be able to take risks, and not let fear prevent them from taking risks. In addition, they should not be seen to punish failure, as this would undermine the innovation culture. This is described in more detail in section 4.3.6.

Leadership that promotes innovation facilitates decision-making, even in the absence of information. This is important because with true innovation, information is not available. As one manager noted, market research is often meaningless in this context, as you can’t ask people if they would use a product that they have not been educated on or on which they do not have sufficient information or experience. Good leaders also need to understand that innovation is expensive, and failure is to be expected.

Innovation explicitly included in strategy and vision

Most respondents pointed out the importance of senior management and executive teams demonstrating their commitment to innovation, by putting it on the agenda and having it as one of their key strategies. In order for innovation to be driven by the leadership team, there must be an explicitly identified innovation strategy and charter. Having said this, it is important to note that some respondents specifically identified that vision is not something that is always dreamed up by the CEO. Vision is a fluid concept, which is subject to change based on communication in both directions. Promoting the selling of ideas upwards, as well as downwards, is key.

Clear communication of strategy, vision, values and goals

Although it was seen to be important that the leadership team includes innovation on their strategy agenda, it was deemed equally important that ownership of the improvement of innovation by the leadership team be visible to all staff within the organisation. The leadership team must communicate on a regular basis what their strategy, vision, values and goals are. The communication need not always be explicit,

but as mentioned above, can be implicitly communicated through specifically funded innovation initiatives. Clearly communicating the strategy, vision, values and goals, is seen as particularly important in an instance where the organisation is trying to change their culture, in order to become more innovative.

Create the culture

Many respondents indicated that it is the leader's imperative to create and support an innovative culture. Once again, this can be seen to be most successful if the leadership team is clearly communicating their innovation strategy and goals, and if they are seen to be funding innovation initiatives.

4.3.2 Culture and values

> *"The most important and incredibly complex thing to do is to create an innovative environment and culture."*

There was consensus amongst the majority of respondents that culture was a pivotal enabler of innovation in organisations. This can also be clearly seen through the inclusion of culture in all but three of the cognitive maps.

Innovation becomes an intrinsic capability

There was general agreement that culture is the most important factor to get right, in order to enable innovation in the long-term. Once you have an innovation culture, it is believed that innovation then becomes innate to your business and is "part of your DNA". When you have a culture of innovation, it is believed that everybody in the organisation will be naturally thinking about innovation, and be involved in innovation, without the need for explicit or external prompting. It is for this reason that innovation culture is seen as an optimal state. As one of the respondents commented: "One needs to create an environment where innovation doesn't happen in only one particular part of the business, it can happen absolutely anywhere and by everyone."

Innovation values and behaviours

Innovation culture is cultivated by "not putting restrictions on people" and by giving people enough freedom and support to ensure that the environment is conducive to "aha" moments. Organisational factors such as having an open door policy, flexibility, freedom, not punishing mistakes, facilitating and encouraging relationship building and

conversations, as well as promoting creative and lateral thinking, are seen to all contribute towards an innovative culture.

It was generally agreed that it is not constructive or feasible to try to force innovation. An environment in which there are negative connotations for not coming up with ideas, is clearly not conducive to innovation. Innovation should always be portrayed as being positive. Even in the case of a failed innovation, maintaining people's motivation and keenness to come up with new ideas and to work on those ideas, is crucial to sustain a culture of innovation.

Recognition and reward of the "right" behaviour, is deemed to be very important in building and maintaining an innovative culture. As one respondent commented: "I suppose that the culture builds heroes around innovation and getting things done quickly, and recognises people." It is therefore important to encourage behaviour that supports innovation through rewards, recognition and incentives.

It is clear from the feedback from respondents that changing the organisational culture in order to become more innovative is an incredibly difficult task, and that it can only be done by changing behaviour of both leadership and staff, through action rather than words. In the same vein, feedback loops allowing for the celebration of successful initiatives, as well as communicating explanations for and providing encouragement after failed innovation initiatives, is seen as an important management task to reinforce a culture of innovation. Feedback by management on ideas and suggestions that are offered by staff is also important to ensure that staff are continuously motivated and encouraged to think differently and challenge the existing ways of doing things. Ongoing and regular feedback was seen by almost all respondents to be an important way of reinforcing the innovation culture.

The most interesting finding from the analysis of the cognitive maps, with regards to culture and values, however, is that an innovative culture is seen to be the result of a combination of some of the other enablers of innovation, namely people and skills, support mechanisms, communication, and behaviour. So while culture is seen to be an important enabler of innovation, featuring as a desirable enabler of innovation by the majority of respondents, it is in many respects a consequence or result of the cumulative effects of some of the other enablers of innovation.

4.3.3 Strategy

> *"Innovation is one of those things that you can't just do once, you have to kind of reinvent yourself over and over and over again."*

While most respondents mentioned having strategy and communicating strategy as an important function of leadership, there wasn't as much of a focus on strategy itself, as an enabler of innovation.

Strategy is fluid

The key learning that came from the respondents is that strategy isn't only decided on once and thereafter isn't changed. Strategy is seen as a fluid notion, and needs to change as the organisation and the environment in which the organisation is conducting its business changes. One respondent explained it best as follows: "You allow people to work according to a sort of vision, as it stands right now, because we can't predict the future, and then in two months time you reset that, and you communicate that as proudly and loudly as possible, and you realign, without throwing out what people have done. But you sort of reset the priorities very gently on an ongoing basis. That's the trick to managing innovation."

Communication of strategy

It needs to be noted here that the importance of having strategic goals, in terms of enabling innovation, is somewhat diminished if they are not clearly communicated. Communication of strategy, however, doesn't need to be done explicitly by standing behind a podium and explaining the intricate strategies and plans of the organisation. Strategic goals can also be implicitly communicated through the actions of the CEO and his management team, as well as through their willingness to put money behind new initiatives.

Strategy also needs to be clearly defined so that innovation can be directed in a meaningful way, within the context of the organisation's goals and without bastardising its values and core competencies. Implementation of brand new ideas, which fall outside of what the organisation is hoping to achieve, is not considered to be true innovation.

In addition, clearly communicating the organisational strategy was deemed as important as it gives people context and meaning to the work that they're doing on a

daily basis. If people understand why their work is strategically important or why it is going to make a difference to the organisation, they are more likely to be motivated to come up with new and better ways of doing things.

Innovation strategy

Along with identifying and communicating organisational strategy, a few respondents indicated that managers needed to have a specific innovation strategy, which is explicitly defined at a leadership level and then implemented, like any other strategy or project.

Information technology staff not included in strategic conversations

Almost all managers interviewed stated that information technology staff members are not included in the strategic discussions, as technology is seen as secondary to the organisational product, and is used only to support the implementation process.

4.3.4 Structure

> *"The bigger we get, the more processes we implement, the harder it becomes to innovate."*

Contrary to what was outlined in the literature review, structure was not deemed to be particularly important with regards to enabling innovation, to the respondents of this research. Only one respondent outlined structure, and the process of restructuring, as an important factor to consider to ensure that the organisation is able to innovate. Most respondents indicated that it's possible to put structures in place to encourage and manage innovation, but more important to innovation is the "fostering of relationships and good leadership."

Innovation departments and teams

However, having said that, a large number of the managers interviewed indicated that they had specific innovation departments or teams aimed solely at promoting innovation within their organisations or divisions. These innovation departments or teams were mandated to innovate, come up with new ideas, and implement those ideas. In addition, these innovation departments or teams were tasked with analysing strategic projects thoroughly, doing feasibility studies, writing up business cases and making the all-important go/no-go decision.

Some of the innovation departments and teams that were described by the respondents are responsible for accelerating strategic ideas and incubating and growing ideas that seem to have a lot of potential. They are responsible for pushing high value projects and getting around governance, frameworks and budgets that might otherwise prevent the project from being successful, or prevent the project from being delivered within a tight timeline so as to beat off competitors and prevent loss of market share.

In addition to the teams or departments tasked solely with innovation, there was consensus that everyone within the organisation should be involved with innovation, and that operational teams were expected to innovate on top of their daily work. The types of innovation that would be pursued within these areas would mainly focus on reducing costs or improving the customer experience. As one respondent said: "We encourage people to take their areas of the business and change them, make them different, grow them." In some organisations, the respondents indicated that some operational teams even placed staff with the innovation team or department, in order to ensure that they had input into new innovations from the early stage of the product development process.

Organisational resources and funding

The main issue that was raised with regards to organisational structure was that occasionally implementation of an idea is not possible, as resources are not available within the business area or division that needs to implement the idea. It was raised that funding programmes or initiatives should be managed at an organisational level to ensure that all business units are able to implement or execute the strategic innovation initiatives or projects.

Importance of teams

Also contrary to the literature, most respondents indicated that both teamwork and individualism needed to be harnessed for innovation. It was generally understood that ideas are the domain of the individual, while the implementation of those ideas was a team sport. In addition, during implementation of a new initiative, natural team structures where the most experienced person leads the team, is understood to be the "most optimal" team structure. There are issues with this type of team structure, in that the people aspects of staff wanting to "climb the corporate ladder" and feel like they are progressing in their careers, need to be managed.

Physical structures

Another concern that was noted, which relates to structure, was that that if the structure is preventing innovation from taking place, it should be altered. The structure of the organisation should support innovation, by supporting ease of communication between teams and organisational hierarchies. That doesn't necessarily mean removing the hierarchies, but rather putting in place mechanisms through which communication can occur. While it was agreed that an informal, flat organisational structure is more conducive to innovation, it is often not feasible, and might also result in being less productive.

It was generally understood that it is more important that an organisational structure is conducive to getting things done, rather than fostering creativity, thinking or coming up with new ideas.

In conclusion, structure is not seen as an enabler of innovation. Structure is seen to impact innovation in that it allows an organisation to makes things practical, in order to drive the implementation of innovation.

4.3.5 Support mechanisms (processes and tools)

> *"I don't believe you can be innovative without a managed process."*

Different kinds of support mechanisms were the most discussed enablers of innovation by the respondents. Issues such as reward and recognition, funding ideas, managing ideas, project management, knowledge management and feedback loops were all mentioned by most of the respondents, and can be clearly seen in all of the cognitive maps. As outlined in section 4.2.2, implementation is a key part of innovation, and the support mechanisms mentioned here, all revolve around the successful implementation of innovation.

Innovation needs to be managed through support structures

It was generally agreed that without the right implementation structures and processes in place, creativity and good ideas are lost in the machine. As one respondent mentioned: "You'll just be a bunch of unbelievably creative people whose ideas go nowhere." There was agreement that innovation needed to be approached formally. "If you don't do it formally, [it] just becomes chaos."

As a result, all managers agreed that managing innovation involved managing the processes around implementation, such as idea pipeline management and project management. "Work has to be structured and supported in such a way so as to allow for innovation."

Having said this, however, there was some distinction made between new, start-up organisations and more established organisations. Start-ups are less likely to have very formal innovation systems and processes in place, simply because they usually have a small number of staff members, and also because they are usually only trying to bring one product to market. As soon as that first product has been launched into market, a whole additional set of complexities abound, and this results in the necessity of introducing more formalised support mechanisms to support innovation.

In addition, although it was agreed that innovation support mechanisms were important, there was also a slight distinction made by some of the respondents between incremental innovations and experimental innovations. Incremental innovations can more easily be driven through a formalised process, but experimental innovations can often be stifled by the rigour and inflexibility of those formalised support structures. Some managers mentioned trying to keep the truly experimental initiatives out of the formal process, "so that they're not suffocated by politics, red tape and governance." As one manager stated: "So it's formal here, but I try to allow an alternative channel that's less formal."

Reward and recognition

Reward and recognition can be seen on all of the cognitive maps to be an important support mechanism, which allows for the reinforcement of the "right" behaviour, the raising of the profile of innovation within the organisation, and, in so doing, helping to build a culture of innovation.

Once again there were two very distinct viewpoints on reward and recognition. While some managers were adamant that financial rewards for innovation were important, others mentioned that peer recognition was more important than monetary rewards.

One group of managers believed that “money talks”, and indicated that the more money allocated to reward innovation, the better, in attempting to motivate staff to become more innovative.

However, it was also mentioned that very big monetary rewards could cause problems within the organisation, resulting in a situation that is very cutthroat and competitive. That kind of behaviour can potentially undermine a collaborative innovation culture. So it is important to have controls in place to prevent foul play, and also to ensure that everyone understands how the evaluation and assessment processes work, and what the criteria of assessment is. Therefore, having significantly large monetary rewards does add an additional layer of complexity to the idea management process, and makes the process a lot more administration and resource intensive.

On the other hand, another group of managers advocated that more important than monetary or prize recognition, is public recognition amongst your peers. This group of managers believed that innovative behaviour needed to be acknowledged, but not necessarily rewarded. Recognition and acknowledgement of innovation is important from a long-term perspective. As one manager mentioned: “A reward is great, but it is fleeting and only appreciated briefly.” Recognition on a public forum builds self-esteem and confidence, allowing for those employees to continue innovating into the longer term. Additionally, public recognition builds role models of innovation within the organisation, and promotes the expectation of innovation within the organisation.

It was also mentioned that reward and recognition need not only be on an individual basis. Team goals and rewards were also seen as valuable support mechanisms to enable and encourage innovation and an innovative culture within an organisation.

Also related to reward and recognition, is that managers should have flexibility to recognise employees for their hard work and effort, and not only recognise people for their successes. This is important, as many innovations are not successful, and recognising hard work and effort prevents employees from becoming de-motivated and frustrated when their efforts are not successful.

Measuring innovation

Closely linked, but not the same as rewarding and recognising innovation, is the measurement of innovation. Measuring innovation involves including innovation in the

Key Performance Indicators (KPI's) of staff members, as well as in other performance management or performance appraisal assessment criteria. By putting performance management structures in place that are closely linked to innovation strategies and goals, innovation on a person-by-person level is more easily measured and managed.

Measuring innovation was not specifically identified in the literature as being a support mechanism that enables innovation. However, most respondents identified it as being a very useful enabler of innovation. As one responded stated: "You get what you measure."

Most respondents indicated that measuring innovation at a senior management, director and executive level is critical. If the leadership team is being measured on their contribution to innovation, they are more likely to give it the focus it needs.

Some respondents indicated that all staff should be measured during their formal performance appraisals on their innovation potential and output, in order to raise the profile or innovation in all their minds. However, this was certainly not agreed on by all respondents, as pin-pointing if someone has been innovative or not is a very difficult task, and would not add a great deal of value at the operational employee level.

Availability of resources

One respondent summarised it best when saying: "The sad thing is it all comes down to resources. If your idea doesn't get funded, doesn't have people working on it, doesn't have marketing money, it won't succeed." It was generally agreed that not resourcing one's innovation strategy sufficiently by giving people time or making money available for trying out new ideas, would dramatically impact on your organisation's ability to innovate.

Idea pipeline management

There were two very distinct viewpoints by the respondents on idea pipeline management. In most instances, the idea pipeline management process was described as ending when an idea is sent through to a project management process for implementation.

Some managers were of the opinion that idea pipeline management was a waste of energy and resources. As one manager mentioned: "I'm fortunate in that we have more

ideas than what we can do." Similarly, using resources on promoting creativity or encouraging idea submission and proposals is "less of an issue." For those managers, it was all about implementation and project management. This is discussed in the next sub-section.

In addition, most of this group of managers agreed that having systems or processes in place to try to get people to submit their ideas was contrary to the idea of innovation, which should be a more informal or open process. In these instances the managers or leaders themselves handled idea pipeline management, through a process of relationship building, negotiation and politics.

However, the majority of managers interviewed had implemented information technology systems that allowed for the automation of the idea pipeline process. These systems were used to allow employees to capture their ideas, and provided an automated workflow through which the relevant teams would be requested to assess and evaluate the ideas, and then feedback on the ideas would be provided back to the idea originator. The information technology systems were therefore used to provide a structure to allow for and facilitate the flow of ideas.

The only down-side to using an IT system to manage the idea pipeline, resulted from the fact that the idea pipeline process is often an iterative process, and the information technology systems did not support this iterative aspect to as much of an extent as some of the managers would have liked.

Most managers viewed conducting feasibility studies, building business cases and proposing business models as being a critical aspect of the idea pipeline management process. As one manager said: "If you've got too many products, you just can't manage them and financially support them." You therefore need to thoroughly evaluate all idea proposals and choose the projects that you want to fund well, so that you can fund and support them completely.

Project management

While the idea pipeline management process involves the collection and assessment of ideas, the project management process as mentioned here, is the support mechanism used to ensure that the project is implemented and taken to market. As implementation was seen to be a critical aspect of innovation by all managers, the project management

tools and processes have a high profile in enabling innovation. Nicely summarised by one of the respondents was that “99% of innovation success is not on the idea, it is on the execution.”

The project management process allows for multiple projects within an organisation to be prioritised, to ensure that the most beneficial and strategically significant products get the most resources and get the most attention until they have been implemented.
In addition, it was agreed that managing of capacity is crucial, as it is possible to lose ideas in the implementation process. Ideas or projects put on the back burner during the project management process should be regularly revisited to ensure that those ideas are reassessed and reprioritised, should changes to the environment or the organisation occur in the interim.

Another important aspect of the project management function is to structure every project so that it has an additional few hours to allow for time to assess success factors and items that could be learned from in future projects. Lessons learned should be communicated via feedback to all involved.

In summary, the project management supporting function is important, because “innovation has to be managed to ensure that the strongest, most viable and profitable ideas get resourced and implemented.”

Funding system

As mentioned previously in this chapter, an idea without funding or resources is effectively dead in the water. A funding system is therefore necessary to ensure that innovation initiatives get sufficient budget to ensure a possible implementation.

In most instances, the managers interviewed explained that budgets usually sit within each division or business unit and are managed within those areas. This is problematic from the perspective that an innovation which would strategically benefit the organisation, but which can only be implemented by an individual business unit, can sometimes not get funding, as the business unit is not able to raise funding above and beyond their existing commitments. As a result, finding budget for implementation is often a political process.

In some organisations interviewed, limited budget is specifically set aside for new product development at a strategic organisational level, in order to overcome this problem. Generally, however, each individual business unit needs to fund their changes, enhancements and new product development themselves. One manager commented: “We never shy away from doing something because it’s not in the budget. If there’s something that needs to be done […] we find a way of doing it.”

Feedback loops

Feedback loops are seen to be an important support mechanism for innovation. All respondents indicated that feedback loops allowed for the reinforcement of culture through building responsibility and trust, as well as creating credibility of the idea pipeline management system. Feedback throughout the idea generation and implementation processes is critical, as it reinforces a culture of successful innovation, where people understand what is expected of them, as well as what causes success or failure.

Providing feedback on people’s ideas is key as this sustains the innovation culture that is required to allow for the improvement of organisational processes, products or services, as well as to allow for the promotion and encouragement of getting people to think differently.

Learning through feedback loops is also crucial. It was generally agreed that looking back at innovation progress and processes on a regular basis, allows the innovation process to be self-maintaining and improve over time. Post-mortems on implementation are an important part of this process. In addition, feedback from the implementation process, as well as from the market, allows for continual improvement and modifications of the client-facing products or services.

Knowledge management

Feedback loops were seen as more important in supporting innovation management, than knowledge management. Only a few managers indicated that having a business intelligence technology platform, that allows for sharing of knowledge and allows for the company to know as much about their customers as possible, is a necessary enabler of innovation. Knowledge management was largely seen as only being important in allowing for innovation to happen within the relevant context, and so that all information is available at all times.

In addition, knowledge management, to all intents and purposes, was seen to only provide historical information, and as such, might perpetuate reasons why a specific idea or innovation should not be pursued, even though environmental or organisational contexts have changed since that knowledge was first created.

Change management

Change management was not identified in the literature as being a support mechanism that enables innovation. A large number of respondents indicated that managing innovation involved managing change ongoing. Innovation implies change, which in turn requires the management of that change. As an organisation is continuously changing, by improving or changing the way they do business, this change needs to be consciously managed. As one respondent noted "Change changes as well."

One of the most important aspects of change management identified is that managers need to have "gates of change" in place, which allows for the vision of the leader to change as the organisation and its context changes. People need to understand the need for change, and need to understand the impact of that change on their jobs. In addition, as one respondent indicated, allowing change to be routine and expected within one's environment, allows change to be easily incorporated and integrated into daily operations.

Other support mechanisms

Briefly identified by some of the respondents, is that in addition to idea pipeline and project management systems and processes, systems and processes also need to be put in place in order to manage required changes in technology, as well as to drive contracts, manage the legal environment, manage external vendors and providers, as well as managing procurement. These issues weren't discussed in great detail, but it was noted that managing these issues was also an important support mechanism of innovation.

4.3.6 Behaviour

> *"It's less about a format. It's more about how you do what you do, rather than what you do."*

While the enablers of innovation discussed in the preceding sections indicate a format, in the form of processes and structures, required for innovation, this section looks at behavioural aspects of innovation. As with culture, management needs to be aware of their impact on organisational behaviour, and understand the importance of behaviour within the innovation space.

Perceived risk and fear of repercussions

All except one respondent indicated that failure was supported within their organisations. As one respondent stated: "If you make a mistake, then we've just invested more in you, and it's not something we're going to punish you for." There was general agreement that innovation is risky, and as a result, if you are involved in truly innovative initiatives, failure is guaranteed.

The thinking that mistakes should not be punished, seems to have a caveat in that the same mistakes are not tolerated more than once. Employees should be responsible for learning from their mistakes, and making changes to what has been problematic, in order to improve on their innovation initiatives going forward.

As a manger or leader, by punishing mistakes, you are inherently discouraging people from coming up with more ideas and sharing them readily. By having a tolerance for mistakes you are encouraging "them to give their ideas into this factory that builds things."

Similarly, continuous innovation is key. When you have nothing to lose, it's easy to change things and take a risk. But once you've been successful, you're less likely to change things and risk losing what you have. It is important to work constantly at trying to change this mindset of both the management and executive teams.

Invoking trust, autonomy and responsibility

As per the findings in the literature, most respondents indicated that giving staff freedom, autonomy and ensuring that they take responsibility for their initiatives, is an important behavioural enabler of innovation. If people are not trusted with being

innovative, and are not expected to take responsibility for their initiatives, they are less likely to take chances or work hard at getting an innovation implemented.

Taking responsibility for both good and bad ideas, as well as for successful or unsuccessful implementations, allows for growth, questioning and change being pursued into the future.

While trust was seen to be important, it was seen to be important from a long-term perspective, in that it impacts on or reinforces the culture. As one respondent mentioned: “Trust won’t start the innovation process and it won’t get people involved in the whole innovation process at the start.”

Some managers who were interviewed indicated that if a staff member was identified as being an originator of a new idea, they are pulled into the project team where they are continuously consulted on their idea and included in any subsequent decisions relating to their idea. This kind of initiative certainly can be seen to grow trust and autonomy within the organisation. Similarly, by giving staff members’ autonomy, you are empowering them and allowing them to be proactive in their area of expertise.

Capacity to be creative

It was noted that the opportunity and capacity for staff to be creative is limited within an organisation, especially in terms of finding the time to think about what they’re doing on a daily basis. This being said, most managers indicated that this was something that they were aware of, and indicated that they were trying to determine the best way to improve their staff’s capacity to be creative.

Having said that, quite a number of respondents indicated that being creative is not a natural state for most employees, so managing this and growing this, and building the culture in which this is encouraged, is an important enabler of innovation within organisations. So this would be the first thing to address, before giving people capacity to be creative.

Giving people capacity to be creative also includes keeping people thinking on an ongoing basis. Not restricting people, ensuring that open channels of communication exist, giving people the time and tools for addressing their concerns and to share their

ideas without judgement, as well as promoting creative and lateral thinking, are all ways in which management can encourage innovative behaviour in their employees.

There was general belief that the information technology idea pipeline management systems improved staff members' capacity to be creative by allowing all staff to get involved, and by allowing them to communicate their ideas outside of and beyond their scope of experience or job responsibilities. This in itself was seen to allow people to feel more empowered, beyond what they have immediate control over.

Manage emotional space

Although not specifically identified in the literature, managing the emotional space of their staff was clearly seen as an important aspect of the managers' role, in terms of enabling innovation. Innovation was described by one of the respondents as being "emotionally exhausting." As a result, managers need to be very adept at managing the emotional space of their employees.

Managers need to manage the potential negative impacts of innovation. Sometimes there are job security issues, or problems relating to embracing change, and managers need to be very aware of the emotional aspects of change, and in turn, of innovation. In addition to this, managers need to understand the emotional attachment and fears that people have around innovation, as well as people's emotions and mental space and aspirations. It's a management role to try to motivate people, especially those people whose ideas keep failing or not making it through to implementation, to try again.

Similarly, often the person who comes up with an idea isn't the person who has the skills to take it to market. It is a challenge to manage this handover. Managers must manage ownership and handover of ideas, as well as any despondency that might occur as a result of ideas being dropped or implemented differently to the way they were envisioned. This is a significant and resource-intensive management function.

The management of these issues is a critical part of managing innovation. If managers don't manage this aspect of behaviour, there is the potential that the culture of the organisation, which is driven from the people perspective, will be undermined. Additionally, innovation does not just happen once. For an organisation to be truly innovative they need to innovate continuously. In order to do that, employees must be

motivated and must be kept at a “level where they are continuously innovating.” In order to achieve this, the emotional space of staff needs to be taken into account and managed.

Lead by example

It was agreed that leadership must lead by example, and behave and portray the values that they are hoping the rest of the staff will want to emulate. As one manager stated: “People will only feel confident and comfortable to be innovative in an environment in which they are supported by someone who is honest and trustworthy.” In addition, leaders must have a tolerance for mistakes and must exhibit patience in getting results.

4.3.7 Communication

“You’ve got to get innovation front of mind. That’s the key.”

All respondents indicated that communication is important in enabling innovation, specifically in terms of supporting an innovation culture. This can be clearly seen in all the cognitive maps in Appendix D.

Open communication

While hierarchies and organisational structures were seen to be relatively inconsequential, allowing for open communications across these structures, throughout the hierarchies, and between the business teams, was seen to be important to enable innovation. Having truly open communication allows for people to share their ideas and experiences, and also allows for speedy implementation and change across teams and throughout the organisation to be possible. If open communication is not encouraged, innovation is expected to happen in small pockets, but not throughout the organisation. In addition to this, making innovation part of the day-to-day conversations throughout the organisations is important. If everyone is openly talking about change, and communicating openly across structures, innovation is more likely to occur.

Communication by leaders

Communication of the organisational innovation strategies, goals and values was identified by most respondents as being a crucial enabler of innovation. An organisation that has clearly outlined and identified innovation strategies, goals and

values, but that does not allow for the communicating of same, will not easily promote innovation. This was also described in section 4.3.1.

In addition, communication of the importance of innovation, by setting up innovation rewards, communicating it ongoing through promotional campaigns, or by presenting new ideas and recognising staff members who epitomise innovation, allows for innovation to remain front of mind.

Communicating innovation initiatives and successes

Internal communication of successful innovation efforts, through channels such as road shows or campaigns, was seen as a beneficial marketing exercise. By allowing staff members who came up with a brand new idea to present their ideas to all staff members and explain how the implementation process is working, communicates to all employees the kind of thinking and behaviour that is desirable, supported and encouraged within the organisation. These types of programmes are useful in getting innovation top of mind, and getting all staff to understand that if others can do it, they can too.

A few of the respondents indicated that internal innovation campaigns should have their own brand and unique identity. They should be “in your face” and try to catch people’s attention. This is seen as particularly important when the organisation has an idea pipeline management information system, as it continuously ensures that staff members are consciously aware of the system, so that as soon as they think of a new way of doing something, they immediately access the site in order to input their idea. In addition, internal innovation awareness campaigns should be introduced to keep innovation top of mind, and to ensure that innovation is always seen as something that is fresh and exciting.

The majority of managers that were interviewed mentioned that they had conducted occasional idea generation campaigns, where a specific business problem had been identified, and all staff had been encouraged to explain how they would resolve the problem. The staff member, who had proposed the chosen solution, was then rewarded with a prize or incentive.

Communication of successes to the entire group was also identified as being an important supporter of innovation. Once again, this allows for people to be reminded

about successful innovation on an ongoing and continuous basis, so that everyone is aware of what they should be aiming for.

Communication between business areas

All organisations involved in this research acknowledged that they have different business areas responsible for different operational areas of the business. This often results in organisational silos, or business areas whose functioning is completely independent of the other business areas. In order for true innovation to be supported, these "multiple silo areas need to start crossing borders and communicating." There was agreement that this process was not easy, but was necessary, in order to enable innovation.

Only a few respondents mentioned that they had set up specific internal forums in order to improve efficiencies and communication between the separate business units or silos. Interdepartmental meetings and forums were explained as being held specifically to come up with new ideas around specific products, processes or issues. These focused interdepartmental think tanks were seen to allow organisational issues to be resolved across the organisation.

Support knowledge sharing

Knowledge sharing was not much of a focus by the respondents interviewed. While some indicated that information should be shared at all levels, and that conversations which allow for knowledge sharing should be encouraged, no specific examples were given which indicated how this could be done, or that it was being supported.

4.3.8 People and skills

> *"In my view, the only two sources of real competitive advantage now left are people (human capital) and innovation".*

People and their skills were seen as an integral part of enabling innovation within organisations. People and skills can be seen on all cognitive maps, found in Appendix D, in some form or another.

Proficiency in innovation

Unlike what was identified in the literature, the majority of managers interviewed mentioned that not everyone in an organisation is prone to innovate. As a result,

organisational attempts to improve innovation or to improve people's proficiency to innovate should be focused on select individuals. As one respondent indicated: "Not everyone in the organisation is prone to innovate. And I think you've got to focus your energies on the people that are best positioned in the organisation to be able to innovate."

Having said that, though, there seemed to be very little focus on identifying competencies or proficiency in innovation. Building proficiency in innovation seemed to be a function of building a culture in which staff members who are naturally proficient at innovation are supported and encouraged.

Proficiency in innovation is seen to depend on individuals and individual personalities and motivations. Some people like to be involved in innovation, while others just want to do their hours at work in order to earn a salary to support the rest of their lives. It is for this reason that organisations need to put parameters in place to ensure that innovation does happen ongoing.

In addition to the above, most managers identified that there were specific roles within the organisation where the staff member is expected to have innovative capabilities. It is therefore not seen to be the role of everyone in the organisation. Similar to this viewpoint, is the suggestion that an innovation champion be employed within each business area. This innovation champion should be proficient in innovation, in order to locate and drive this proficiency in others.

It was noted by several respondents that the truly innovative people are not necessarily the "creatives". People proficient at innovation are those people who are able to take an idea and map it into a meaningful business case or business model, and who are also able to manage the political process which underlies the innovation process.

Availability of resources

Availability of resources is one of the biggest challenges to innovation. People simply don't have the time to think outside of the box and come up with new ideas, as they are busy with their daily operations. In the same vein, in some organisations, the idea originator is responsible for driving their own idea through the innovation process, over and above their day-to-day jobs. This is problematic from a time perspective, and is likely to discourage innovation. All managers identified that they needed to allow

people the time to think and be creative, but this was often seen to be easier said than done.

Recruiting the "right" people

Recruiting the right type of person, to be creative and to implement ideas, was identified by most interviewed managers as being an underlying factor of building an innovative culture, as well as actually getting innovation done.

One of the managers interviewed explained that his organisation was only starting to look at improving their culture of innovation. As he said: "We're at the stage of recognising innovation as definitely something that's a business growth driver, and employing people who are creative to drive it." For him, employing the right people to innovate and to build a culture of innovation was the starting point of innovation.

If employees are expected to be innovative, it speaks to the fact that people who are more prone to be innovative, should be those that are recruited. It is important, when looking at building an innovative culture, to hire the right people who are able to take their ideas and implement them. While hiring creative people, or at least people with the capacity to be creative, is seen to be important, recruiting people with business acumen seems to be more important for innovation to be enabled.

Specific personal characteristics, such as passion, strength of convictions, self-belief, self-esteem, self-motivation and self-starters, willingness to learn, positivity, commitment, discipline, effort and willingness to try again after failure, are seen as important personal characteristics to have in employees, and should be looked for in potential staff members when recruiting.

There also seemed to be agreements amongst respondents that organisations need to recruit two types of people. On the one hand, there need to be "radical elements" within an organisation. These are people who are almost like catalysts. They drive change and are continuously seen to challenge the status quo. These people don't necessarily need to be the leaders, but they need to challenge the leaders and be able to motivate for new ways of doing things. On the other hand, an organisation also needs people who will adhere to the norm, who are team workers and who get the job done.

Training and development

Identifying the training and development needs of all staff, in order to maximise their innovation potential, is a role that falls to management. The feedback from the respondents indicated that training and development was important in order to grow and develop people in two different ways. The first of these was to build their creativity and their ability to think differently. About half of the respondents indicated that they believed that sending their staff on training which was specifically aimed at getting people to think differently (through things such as left and right brain training), improved the innovation potential of their employees.

The second of these is training staff in order to build their business acumen, in order to improve their financial skills and their ability to build business cases. As one respondent stated: "There's tons of ideas out there. To take an idea, an innovation, and map it into a business, is the real challenge." It was noted that there is definitely a skills shortage with regard to the kind of skills that are needed to map an idea to a financial business model. Training, through such programmes as a Master of Business Administration (MBA) degree, is key in trying to improve this skill set in individuals who show promise in this area. There was an indication that no innovation-specific training and development programmes seemed to be available to managers outside of the two described above.

In addition to the afore-mentioned formal training and development route, it was noted that attendance of presentations, talks, forums and conferences with external experts, as well as hand-on experience, provided an additional spectrum of options when looking at developing staff to become more innovative.

Management competencies

While most respondents used the terms leader and manager interchangeably, the researcher felt it would be more meaningful to discuss specifically identified management competencies in a separate section. One of the respondents identified that: "As a manager, I feel that you're an empowerer [sic], and a leader, and a facilitator."

"A manager needs to remove obstacles that are preventing innovation, not only at work, but at home as well." It was also noted that a manager is responsible for capitalising on his team's skills. In addition, an important management skill is knowing

when to call a project off or when to cut your losses and start with something new. Strong project management skills are also seen to be important in order to support the project management function.

Employees as customers

A few respondents pointed out that, if possible, employees need to buy and use the products that the organisation produces. Leadership can promote this by offering staff discounts or money back on usage of their products. Making employees a customer or user of the organisation's output means that employees are empowered to think around the product from a customer perspective, and come up with suggestions or ideas to improve or change the customer experience. This also promotes staff buy-in into the organisation's innovation strategy.

4.3.9 Other

Items discussed in this section were not identified in the literature and do not fall neatly into one of the other enabling factor sections.

Context

"You don't innovate in a vacuum"

The majority of respondents indicated that context is crucial for innovation.
Innovation in the business world means being innovative within boundaries. An example used by one of the respondents was that inventing a new pair of pink slippers wouldn't be meaningful in their context. As a result, "Innovation must be boundary driven."

While that sounds like a contradiction in terms, it is clear that the majority of managers interviewed agreed that it is crucial that innovation happens within a set of values or strategies, "otherwise you are in danger of diluting your brand or bastardising your values." At the end of the day your ideas need to "facilitate what your organisation is trying to do in the world."

When people have the natural intent to improve, and combine this attitude with an understanding of their job and environment, in other words their context, they are able to innovate effectively.

The importance of context was once again nicely summarised by one of the respondents, who stated: “We also believe that innovation is not out the box. Innovation is in the box. The result is out the box.”

Building relationships and managing politics

People interaction is seen to be key for innovation, not necessarily in terms of improving ideas and allowing for the communication of those ideas, but more from the perspective of building relationships in order to get things done “when it comes to the crunch.”

Managing politics and relationships internally is key to the success of the product development process. Managing the politics around a new product or new business is crucial, especially in an established business. You have to have the political insight to make sure your product gets funded and marketed. Often new products kill completely, or change the status, of old products. This political minefield needs to be understood and managed by those people who are involved in the strategy of innovation.

Innovation also can’t be consensus driven, because if you talk about things too much, it leads to very poor decision making, as well as too long to make a decision, which is problematic in the fast-moving world in which we live. As a result, not all stakeholders or managers can be consulted when an idea to be implemented is decided upon. This generates further politics, and needs to be managed consciously and with tact.

Innovation in practice

While we have discussed throughout this section the enabling factors of innovation, a few of the respondents indicated that innovation is often quite haphazard. Ideas, thoughts and opportunities are often happened upon in very strange ways, when one is not really thinking about trying to be innovative. As one respondent mentioned: “It’s less scientific than I would have thought before I first got involved. Much less scientific. A lot of it is gut feel. A lot of it is just understanding what the customer wants, what the market wants and where the market’s going.”

4.4 Approaches to innovation

4.4.1 Interventions and initiatives

Throughout the previous section, organisational factors that enable innovation were discussed. There was consensus amongst all the respondents that innovation must be managed, but that it is important that it is not over-administered, for fear of strangling it. One of the respondents described this incongruity thus: “It’s something you’ve almost got to do deliberately, while at the same time allowing it to be a fluid process.”

With this in mind, though, almost all the managers interviewed identified that they had specific interventions in place, aimed to improve and enable innovation within their organisations.

Definitely in the minority were managers of organisations where they were not trying anything specific in order to try to enable innovation. As one of those managers explained: “We’re too busy innovating to think about innovation.” Some of the interventions being used by the managers to improve innovation are outlined in this section.

Creative-thinking tools

Some organisation had either purchased or developed their own creative-thinking tools, which they had then deployed within their organisations, in order to try to bring a creative element to their problem-solving and decision-making initiatives. It was acknowledged that the deployment of creative-thinking tools and methodologies in a large, national organisation is very difficult, expensive and time-consuming. Sessions need to be facilitated and time needs to be set aside for training. It is a big investment for something which is intangible, and where success is difficult to assess.

Information system for idea generation

A large number of the organisations had implemented an information technology system that was aimed to facilitate the logging of ideas by employees. The structure and purpose of these information systems differed somewhat between the organisations. Some followed a blog format, in which people were able to comment and build on original ideas, thus creating a more interactive idea generation portal. Others just allowed for the logging of ideas and the assigning of that idea to the relevant business area, which would then be responsible for assessing and

implementing that idea. Most systems allowed for the idea originator to receive feedback on the progress of their idea, through an automated channel, in most instances via e-mail.

The main purpose of the idea generation information system seemed to be to try to generate a critical mass of ideas, from which hopefully a few strategically valuable ideas would be gained.

Idea generation competition

A small number of the organisations that were interviewed, had implemented innovation competitions, the winners of which would receive a substantial cash prize. These kinds of competitions were seen to run across the entire company, all on an annual basis. In one of those organisations, the CEO takes 2 weeks out of his calendar on a yearly basis to personally assess and meet the top 50 idea candidates. This kind of leadership commitment builds the organisational focus on the importance of innovation, and is believed to encourage the thinking that "if the big boss is willing to spend so much of his time on innovation, perhaps we should too." In a similar way to the idea generation information system, the purpose of this kind of competition is to raise the profile of innovation within the organisation, as well as to increase the critical mass of ideas within the organisation.

Innovation time-boxing

One manager identified the use of time-boxing as an instrument used to enable innovation, by forcing the organisation through regular cycles of innovation on a bi-annual basis. Time-boxing ensures that the specific innovation goals and strategies are implemented within a certain period of time. This kind of innovation intervention is seen to pull the company forward into the future, but at the same time, must be managed very carefully from a resource perspective in order to prevent burnout.

Build entrepreneurship

A small number of the organisations interviewed mentioned that they had already implemented, or were in the process of implementing, interventions that supported and encouraged entrepreneurship within the organisation, as well as by students and scholars external to the organisation.

By creating an entrepreneurship "engine", these organisations were hoping to grow and develop staff members, as well as scholars or students, who came to the organisation with new and innovative ideas. Within these entrepreneurship programmes, idea originators are assisted in transforming those ideas into commercial products. The entrepreneurship programme provides participants with the tools and skills to build a business case, market ideas, propose a business model, prototype a product and gain experience in going through a proof of concept exercise.

The main purpose of this kind of intervention is to grow the innovation skill base of employees who are seen to have high innovation potential and proficiency. While still in the early stages, managers of organisations who are implementing these interventions have high hopes for the potential to improve innovation through this mechanism.

Innovation champion

A few of the managers interviewed indicated that their organisations had a system in place whereby an innovation champion is selected for each department on an annual basis, in order to drive innovation within their specific area. In one particular organisation, the portfolio is rotated every year to give as many staff members exposure to the innovation process, and to allow them to benefit from the innovation training initiatives and meetings that are available. The organisation is also seen to benefit, as input from multiple, diverse people allows the innovation process to be improved from as many different people's perspectives and viewpoints as possible.

Friday afternoon research sessions

One particular manager had implemented a system whereby employees were encouraged to use Friday afternoons to do research or have meetings with external vendors or other people in the industry. Findings of the Friday afternoon innovation sessions were then discussed at a Monday morning meeting. The importance of this kind of initiative was that the employees' research added context to their daily work, and also provided insight into the global context, allowing for improved decision-making, problem-solving and idea generation.

Regular idea-sharing meetings

Regular meetings, which are an open forum for staff in a specific team to share ideas, are used by many of the managers interviewed to promote communication and discussion of ideas or problems. The ideas and problems discussed are then

documented and implemented by the staff members who raised them, with the support of their managers. Similarly, a few organisations had the concept of an “idea box” in place, whereby staff members were able to anonymously post ideas into the box, and those ideas would also be discussed at regular innovation meetings.

Allow for employees to play

One of the managers mentioned that they once been at an organisation in which a development “playpen” had been introduced. In this intervention, information system developers were encouraged to contribute their ideas or programs to an online area. In addition, everyone was encouraged to work on one another’s programs. This was strongly promoted, and developers were also paid if they contributed to the playpen. This was seen to be a very useful way of promoting play and innovation within that organisation.

Idea campaigns

Some of the organisations interviewed had implemented a regular process whereby specifically themed idea campaigns were publicised, in order to try to increase idea generation within the organisation within a specific sphere, in the hope of taking those ideas and turning them into marketable products or services, or in order to resolve known problems. These idea campaigns could revolve around a specific known product, or could be more exploratory in nature.

External facing idea generation system

At one of the organisations, an external facing idea generation system had been implemented, where external customers were requested to provide their ideas on improving the organisation’s products and services. In addition, workshops with interested clients were also set up, in order to gain their input. The manager concerned mentioned that this intervention was quite a challenge, as it opened up much more complex dynamics in terms of follow through and feedback, but that it was worth it, because it is for the customer that you ultimately want to be innovating.

Above and beyond the above-mentioned innovation initiatives, it should be noted that many of the respondents indicated that it is important to be able to replicate the innovation structure, initiative or intervention that is being used to improve innovation, throughout the entire organisation, so that there is consistency in the management of innovation across the organisation. This allows for a consistent and coherent

innovation message, which prevents potential confusion within the organisational culture. As many of these interventions are started in one specific division or by one specific manager, a lot of these types of interventions are often not implemented across the organisation. However, most respondents agreed that that would be the end goal.

4.4.2 What is working

Gauging whether innovation interventions have been successful is tricky. There is so much that the intervention could be impacting, in terms of factors like culture or behaviour, that success is often difficult to quantify. Where possible, participation rates in specific innovation initiatives seem to be seen as a key measure of success of an innovation initiative.

Formal process

Almost all respondents indicated that creating a framework or structure within which innovation could be encouraged and guided, was working for them, in improving innovation within their organisations. This included the implementation of idea generation information systems, as well as formal communication structures, to ensure that communication throughout the organisation is clear and unambiguous. In addition, formal systems that allow for ideas to be implemented, was seen as being successful in facilitating the process of taking an innovation to market. Using fixed methodologies for managing the project development and implementation processes were seen to be working.

Many of the managers who were interviewed had scheduled regular meetings (on a weekly or monthly basis) where people are encouraged to focus on innovation and ideas and thinking about different ways of doing things. Formalising innovation in this way is also deemed to be working well.

Innovation department or team

Having a department specifically focused on positioning the company or a specific division in the company into the future, is a key part of most of the managers' approaches to innovation, and is believed to be working for them. Keeping these innovation-specific departments away from the existing business "so that we're not affected and infected by the corporate antibodies" is also seen as a crucial success factor of these teams. Being new, and focusing on the new, it is important not to be

bogged down by the negativity of day-to-day issues or the mentality focusing on why something “can’t be done.”

Capacity to be innovative

When providing employees time to do research, to engage with others regarding new ideas or to reflect on their work, the interviewed managers noted an improvement in innovation capacity. However, it was still noted that this is one of the most difficult things to get right, especially in a corporate environment that is deadline-driven. It was generally agreed that capacity to be innovative needed to be accompanied by interactive feedback sessions, which allow staff to communicate their learning and ideas. Without this crucial step, giving staff time to think about what they do and engage with others is unlikely to take the next step toward implementation.

Performance management of innovation

The vast majority of respondents indicated that innovation and creativity, when included as part of the performance management system throughout all levels of staff, but particularly at executive, senior management and management level, was seen to be working well. If staff are not measured or managed on a person-by-person basis on their contribution to innovation, they are less likely to be proactively innovative.

Growing entrepreneurial skills

New initiatives to promote entrepreneurship and to improve the quality and standard of business proposals and business cases, as well as general entrepreneurship skills of staff members, who are seen to display the intrinsic capabilities to innovate, were mentioned by quite a number of the respondents. Understanding that innovation is more than just the idea, and that involving people in the growth of their ideas, if at all possible, is optimal. These types of initiatives, though in their early stages in most organisations, were seen to have a great deal of promise in terms of building and growing employees to reach their innovation potential.

Time-boxing

Only one manager interviewed indicated that specifying pre-identified timeframes, which were identified up-front to force the company through innovation on a bi-annual basis, had been successful in pulling the organisation into the future. There was the belief that the tight timeframes which ensured that a value proposition was given to the

market on a regular basis, had allowed the organisation to be more innovative than it otherwise would have been.

Innovation competition

At a few organisations at which the interviewed managers were working, they had introduced a competition for innovation, the winner of which gets a large cash prize. The managers interviewed were of the opinion that these initiatives had worked well in terms of getting people actively and consciously involved in innovation, as well as recognising people who were innovative, even though some had not necessarily resulted in ideas or innovations being implemented or taken to market. This was seen to be not necessarily a problem with the competition, but more with the fact that the competition was not directly tied into the project or programme management systems of the organisation. Therefore, on the whole, the innovation competitions that had been rolled out were seen to be effective.

Idea evaluation process

Having a rigorous process in place that allows for the evaluation and killing of ideas, allows as much effort as is available to be put into the really good ideas. This was seen as a critical success factor of the innovation programmes at a few of the organisations at which managers were interviewed. A great deal of time and effort had been expended to ensure that the idea evaluation process was thorough and fair, and was therefore seen as enabling innovation successfully. In addition, processes that had been put in place to apply the formalisation of business cases and business modelling, in order to adequately evaluate all ideas, were seen to be important success factors for these firms.

The researcher believes that it is important, at this junction, to note that the initiatives that have been seen to be successful or unsuccessful by each of the managers seemed to be related to their organisational age and the length of time that their innovation programmes or initiatives had been running. Organisations that had just started to implement their innovation programmes, had different success criteria and were experiencing different issues to organisations who had more established innovation programmes. An example of this is the idea evaluation process, which was causing problems for some managers, but had seen to be successful by others. Initiatives not seen to be working are discussed in the next section.

4.4.3 What is not working

All respondents interviewed were acutely aware of initiatives or processes that were not working for them, with regards to enabling innovation in their organisations. In most instances, it seemed to be small aspects within each specific initiative that were not working or needed to be changed. There didn't seem to be any initiatives which were overwhelmingly ineffectual, or that the managers were completely unhappy with. The respondents were actively addressing the issues, in order to ensure that their innovation interventions did not become a deterrent or prevention of innovation, particularly in terms of impacting on innovation culture.

Awareness of team propensity to be innovative

One manager noted that employees are not always able to be actively innovative day in and day out. It is therefore crucial that a manager is always aware of where their team is at, in terms of their receptivity and ability to be innovative. There is a right time and place for innovation. It is not feasible, effective or smart to try to force innovation out of an exhausted team or a team who has been focused on one specific implementation for weeks. It is also not likely to be successful. This particular manager clarified that this had been a lesson learned for them, and had resulted in many an ineffectual innovative initiative.

Knowledge dissemination

A few managers identified that they were not actively engaging with their staff in order to ensure that knowledge was consciously gained, and to ensure that that knowledge was disseminated, to ensure that learning at an organisational level was allowed to take place. As one manager stated: "Getting knowledge out of people is not proactively [sought]."

Similarly, knowledge management and learning from what has not worked before was seen to be "not as good as it should be" by some of the respondents. Although in most cases a knowledge database or system was in place, contributing to and using the database was not well supported or encouraged.

Managing manager-employee relationships

Innovation culture is, to a large extent, controlled through the relationships that are developed between managers and their employees. With this in mind, none of the managers could explain how this aspect of enabling innovation was being managed.

One manager noted that, as a hierarchical company, they struggled to manage and ensure that the "right" communications happened between manager and employee. This was seen to be important, as it is through this relationship that ideas need to be fostered, encouraged and shared, particularly in operational areas. Having said this though, it was acknowledged that trying to ensure that these relationships of trust and responsibility were built and fostered was a near-impossible task.

Performance management

One manager said it best when he said: "I'd like to see more of a link, personally, between the formalised performance management process, incentivisation and bonuses of innovative activity." As an organisation that was relatively new to the "formalisation" of innovation, their performance management procedures had not yet been updated to include innovation as one of the criteria of high-quality, superior performance. In addition, the inclusion of innovation within the Key Performance Indicators (KPI's) in organisations was seen to raise the profile of innovation within the workforce. When not included in the performance appraisal system, this is seen as clearly lacking.

In addition to not including innovation within the performance appraisal system, it was acknowledged that part of the problem with trying to measure people on innovation, is that it is difficult to gauge how innovative or creative another person is. As a result, often the successful implementation of an innovation is used as this measure. This is, however, not optimal, as stated previously in this discussion, as innovation success is not always guaranteed. Failure is to be expected. As a result, innovative effort, even when it resulted in a failed endeavour, needs to be included in the performance management process. This is often not the case, as stated by the majority of managers interviewed.

Problems with culture

In a few of the organisations that were included in this research, it was indicated that the managers were still experiencing issues with culture, mainly resultant of historical issues, such as previously existing autocratic management styles, punishment of mistakes, and not having sufficient appetite for risk. Changing the culture was seen to be a "long road", and due to the sheer number of factors impacting on culture, it was deemed to be difficult, albeit necessary, to change.

A few managers also indicated that some of their initiatives to try to change culture had been too isolated initially, only focusing on one or two aspects of the culture, in addition to only being targeted at a few isolated business units, departments or teams. It was agreed that any initiatives focusing specifically on changing organisational culture should target the entire workforce.

Idea generation portal not tied to implementation processes

In quite a few organisations where idea generation IT systems had been implemented, these systems had not been adequately linked to the implementation process. As a result, ideas that had been generated through the innovation portal were not guaranteed for implementation. This is important to note, because in some of the organisations where idea competitions had been launched, even the idea that won the annual "idea competition" were not guaranteed to be implemented.

It was therefore clear that having an idea generation portal that works independently of project management and funding systems and processes, does not leverage the potential of the idea management system sufficiently. This kind of disparity or mismatch between systems and programmes was seen to result in great ideas going unused or becoming stagnant or lost in the confusion.

Innovation room

One organisation had implemented an "innovation room", but expressed the concern that it was a lot of overhead for very little benefit. An innovation room cannot be static and needs to be changed on an ongoing and continuous basis, in order to accurately reflect the true nature of innovation. The most beneficial part of the room was seen to be that it created curiosity about innovation, as people are always curious to see how the room has changed. The existence and necessity of this room was currently being reviewed.

Problems with feedback

While almost all organisations noted the importance of providing staff feedback on their idea or brainchild, a few also identified that they were having problems with providing adequate and timely feedback to their staff. As feedback was seen to be an important factor which allowed for the growth of an innovation culture, problems with providing feedback is clearly a serious issue.

The main issue with providing feedback was the lack of resources devoted to this role, as well as the limitations of the IT systems that were in place which were not able to provide an adequate mechanism to provide or monitor the feedback process. Additionally, monitoring the feedback process was seen to be important, as idea generation and evaluation needs to occur across organisational business areas, and without a process to monitor feedback, business units might "slack off" in terms of providing feedback. This would in turn result in cultural repercussions where trust is undermined.

An additional problem with feedback was that some managers indicated that they were aware that they often did not communicate the reasons for failure or success widely enough. This was mainly a result of not being able to clearly define or determine when a project has come to an end, as there are always a lot of loose ends that need to be tied up and which continue long after the launch of an innovation. This means that projects are often not celebrated in good time or to a large enough extent.

Funding problems

A few managers identified that an issue existed in that the budget for innovation sits within each individual business area, and organisational budget for innovation was not explicitly allocated or available. This was seen to be an issue because if a staff member from a specific business area comes up with an idea for another business area, money needs to be provided by that area to implement the idea. A suggestion was made that the organisation as a whole has a budget for innovation, which, through tight controls, could be allocated to completely revolutionary ideas which the business units would otherwise not have the budget for, and which might be overlooked or sidelined as a result.

In addition to the above, a few managers acknowledged that their organisations needed to establish a "learning budget", which is funding that tolerates a certain degree of failure which would be specific to each organisation. As mentioned in an earlier section, organisations need to allow for the backing of ideas within a measure of risk.

Problems with financial rewards

Another issue that was identified by a few of the managers whose innovation programmes had been fairly well established, was the problem of substantial financial rewards. One issue that was identified was that sometimes only individuals or small

teams, with a limited number of members, were eligible to benefit from the financial rewards being offered. This resulted in internal issues and politics, especially considering that a large number of people from different business areas would potentially work on an innovation from inception through to implementation and support after launch. As a result, managers needed to put additional work into defining what constitutes an innovator in order to identify criteria for eligibility for the financial rewards. This issue was also seen to highlight that people not directly involved in the initial innovation, also needed to be rewarded and recognised in some way, outside of their usual performance appraisal and bonus systems.

In a similar vein, substantial financial rewards for innovation were seen to bring out the worst in people, in terms of problems like idea sabotage, idea theft, or refusal to work on projects which would not be considered as innovative in terms of the competition criteria, as well as disruptions to people's productivity as a result. These people issues need to be guarded against, particularly through tight idea pipeline controls, as well as through clearly communicated evaluation criteria. Managers would also need to consciously manage their employees' emotional space around these issues, and look for other ways to reward and recognise them. These types of issues undermine the culture of innovation, and therefore need to be strongly managed by a very aware leadership team.

In some organisations, particularly those who were relatively new to a formalised innovation process, a lack of financial rewards or incentives to innovate was seen to be a potential limiting factor on their attempts to enable and improve innovation. Steps were being put in place to introduce financial rewards for innovative behaviour.

Idea assessment criteria

Again, in the organisations where the formalised innovation process was more established, it was noted that their idea assessment, prioritisation and feedback criteria needed to be reworked and clearly documented and communicated to all staff. This was deemed necessary in order to prevent staff confusion, as well as to prevent a backlash in the culture. This is particularly crucial, because, as a manager, you don't want people to stop communicating or contributing because they feel like their idea was not fairly assessed. Where managers had introduced innovation competitions, focusing on ensuring that the idea judgement process was as fair as possible was important in order to try to combat bias. This was done through improved and clearly

communicated criteria, getting external judges in to assess ideas and rotating the judging panel so the same people are not judging ideas year on year, in order to try to tap into the diversity of the organisation and get new points of view.

Resource availability

Consensus was reached amongst all respondents that resource availability, specifically in terms of the availability of staff to spend time on innovation, was severely lacking, particularly within the corporate environment.

In the organisations in which idea champions were designated, it was indicated that this responsibility had to be addressed over and above their role. This was deemed to be an issue, and it was acknowledged that sufficient time needed to be given to these innovation leaders to actually focus on the task at hand, instead of simply trying to squeeze it in, in addition to their other work.

In organisations with idea champions, as well as in those without, managers were seen to be looking at the possibility of having dedicated innovation resources within each team, who are responsible for focusing on driving innovation initiatives and awareness within each department. This would increase resource availability allocated specifically to innovation.

Another problem relating to the lack of resource availability was the growing backlog of good ideas, generated from the idea generation mechanisms, which could not be implemented due to lack of resources, predominantly human resources.

One manager identified that a significant amount of their employees' time was being tied up in administrative functions, preventing staff from having sufficient time to think about what they were doing or how they could improve what they were doing. In order to reduce this administrative burden, this manager said that a great deal of focus within the organisation was on improving and developing technology, in order to free up their employees' time through the increased automation of the administrative functions. With the additional time that this would free up, there was the hope that this time could be spent on innovation.

In some cases, managers indicated that their staff would probably have time to innovate, but this was not globally communicated, and so staff' focus on these types of

initiatives was limited. This kind of communication needed to be ramped up, to once again raise the profile of innovation within these firms.

The problem with spending time on innovation, particularly with regards to thinking about one's daily job, is that the effects of this kind of activity are not immediately seen, in terms of revenue streams or satisfied customers. As a result, management and staff need to make a conscious effort to spend time on these innovation activities. This discrepancy and tension between the immediate pressures of business today, and the need to start thinking about tomorrow, is seen to also limit the availability of resources to be innovative, and needs to be consciously managed.

Information system for idea generation

For a few managers, even those in organisations in which an idea generation IT system had been implemented, there was some scepticism around the use of this type of system, simply because logging an idea into a machine is not how ideas really get traction within an organisation, and it's not the way that things get done. While these types of systems do allow innovation to become more front of mind, some managers believed that true innovation happens with conversations and managing politics, not by entering an idea into a computer.

Similar to this viewpoint, is that ideas are self-perpetuating, in that ideas generate additional ideas. Entering ideas into an IT system does not intuitively promote dialogue or debate, and as such, could not be as successful as having informal idea generation mechanisms.

Common understanding of innovation is lacking

A few managers expressed their concern that a common understanding of innovation is lacking within their organisations. In a lot of cases, especially where performance management systems included an innovation component, it was expressed that: "Innovation is actually not well understood. I know I must innovate, but I don't know if I'm innovating." This resulted in confusion in what the organisation was trying to achieve. In addition, "Innovation is misunderstood primarily because of the environments that people come from and the kind of business that they're driving." A common understanding of innovation and the purpose of innovation was seen to be lacking, and needed to be more adequately managed and improved.

Different innovation interventions in different teams

In some organisations, exclusive innovation initiatives had been attempted in separate areas or business units within the organisation. It was expressed that innovation can't happen in isolation, so these initiatives were not as successful as they would have been if they had targeted or engaged the entire workforce and all business areas equally. As one manager stated: "isolated ideas will always be in isolation."

Half-hearted implementation

In a few cases, innovation initiatives were seen to fail as they were implemented with the idea that "this is what we should be doing." With a lack of management buy-in and a lack of strategic focus, half-hearted implementations are unlikely to ever be successful. The message here is clear: Don't implement initiatives just because you think you should. Implement initiatives because you truly believe that they have the ability to improve things.

Leveraging of business relationships and partnerships

Another issue that one manager in particular was aware of that was not working, was that they weren't leveraging enough off of their existing business relationships and partnerships. He acknowledged that if they were able to more readily harness these capabilities, they would be more able to innovate in completely new and exciting ways.

4.5 Summary

In this chapter, the thinking of managers on innovation has been discussed. The organisational enablers of innovation, which are seen to allow for innovation to be improved or encouraged, were also discussed. Finally, the specific initiatives implemented, and approaches taken to improve innovation, as well as their reasons for being successful or not being successful, have also been evaluated and discussed. The findings of the research, based on the discussion and evaluation of results in this chapter, as well as the recommendations to management also based on this analysis, will be outlined in the final chapter of this research report.

5 CONCLUSION

5.1 Introduction

The purpose of the research, as outlined at the outset, was two-fold. Firstly, to explore what managers of information-intensive organisations in South Africa understand by innovation. Once this was understood, the second component of the research was to explore how these managers are approaching innovation. The aim was, as a result, to determine what these managers are thinking about innovation and what they are doing about innovation.

The focus of organisational literature on innovation, change management and sustainability in recent times, indicated that there might be a transformation in the way that managers were starting to look at innovation, both in terms of the importance of innovation, as well as how they were approaching innovation. It was therefore hoped that the findings from the research might help to inform managers of information-intensive organisations who are looking for ways in which to improve their innovativeness or to further enable and improve their innovation capacity.

In this chapter, the conclusions that have been drawn from the analysis of the research have been summarised in response to each of the research questions, which were asked in Chapter 2. In addition, recommendations to management in terms of managing innovation are made, and areas for further research are also outlined.

5.2 Findings from research question 1

Research question 1 posed the question: “What do managers of information-intensive organisations in South Africa understand by innovation?”

From the results presented in Chapter 4 (the evaluation and discussion of results), it was clear that managers of innovative information-intensive organisations are actively thinking about innovation and trying to promote and improve innovation within their firms. An organisation’s ability to innovate is seen as business critical, and as a result innovation must be pursued within a clear strategy and toward clearly defined goals. Due to the critical nature of innovation in the sustainability of organisations, it was clear that innovation cannot be left to chance, and must be managed.

Contrary to the “garden” school of thought, which was described in the literature review, these managers are explicitly managing the improvement of innovation within their firms, and are seen to have put systems and processes in place in order to monitor and control their ability to be innovative, and to harness their innovation potential. This was described in the literature review as being the “machine” school of thought on innovation, in which innovation is designed, built and controlled.

Having said that, though, the findings show that while innovation must be managed, creating the optimal conditions for innovation, through the use of leadership and building an innovative culture, also allows for innovation to become a more intrinsic behaviour of the firm. Innovation can be seen to be self-perpetuating in the cases in which the culture can be adequately harnessed and proliferated. This is the goal, as innovation must also be done repeatedly in order for it to become an innate organisational capability, which allows the organisation to be sustainable into the future.

Managers of information-intensive organisations are focused on innovation both in terms of solving problems ongoing and incrementally in order to meet customer needs, as well as in terms of fundamentally changing what they do or identifying new markets or creating new products. Incremental innovation, which is the continuous improvement of products and services through problem solving and identifying new opportunities within the known “sphere”, is the main focus of managers’ innovation efforts.

Strategic innovation, which is innovation existing beyond environmental and market conditions in order to find new markets and products, while a desired “ultimate” of innovation, is not really a focus of managers’ innovation efforts. Those types of innovations are seen to be incidental, seen to occur incredibly rarely, and in which chance, luck and timing are seen to play a significant role. This more elusive type of innovation cannot be managed, and conditions for this type of innovation can only be fostered, so that they might be identified and supported in the rare instances that they occur.

Another finding is that innovation can take several forms. Innovation means doing both brand new things as well as doing existing things in a different way. Often innovation is not brand new, but it is new to the organisation, in terms of how it has been doing things or what it has been doing.

Innovation goes beyond doing things that are new or different. They must be targeted at either new or existing customers, and must benefit the organisation in terms of cost improvement, increases in revenue or service improvements. In addition, innovation must be successfully implemented or taken to market in order to be termed innovation.

Being creative and the thinking of ideas is a very small, almost negligible, portion of the innovation process. Regardless of this, a large number of the interventions and approaches to innovation being used by managers are focused on improving creativity and the harnessing of ideas. On the other hand, the implementation, execution of an idea, or taking an idea to market, is the most important and most difficult portion of the innovation process. Despite this, there are fewer innovation interventions and approaches aimed at managing this aspect of the innovation process. These approaches to innovation, and the enablers of innovation seen to improve innovation are outlined in the following section.

Understanding what managers are thinking about innovation, as outlined in this section, provides a foundation for explaining how managers make decisions with regards to how they manage innovation or what they view as enabling innovation within their firms. This is covered in the following three sections, in answer to research questions 2, 3 and 4.

5.3 Findings from research question 2

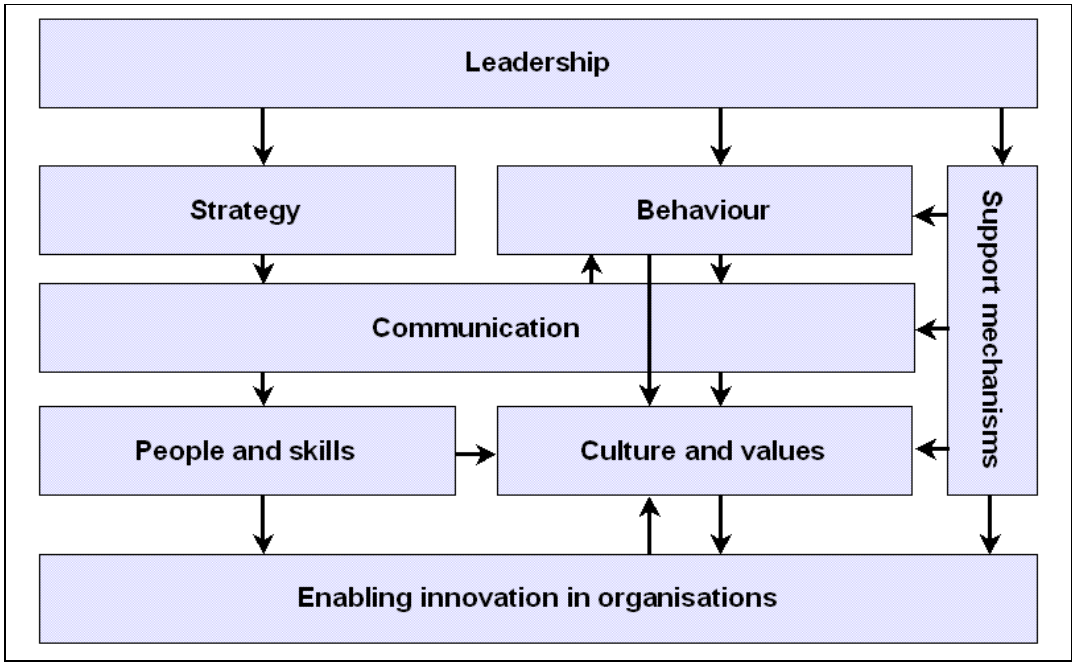
Research question 2 posed the question: “What do managers think is enabling innovation in their organisations and why?”

Figure 7, on the following page, summarises the findings of the research on the enablers of innovation, in answer to research question 2. Structure was the only factor outlined in the literature that was not seen as an enabler of innovation. As a result, structure does not appear in Figure 7.

Structure, in terms of preventing implementation, finding funding, and communication across organisational areas or the free flow of ideas, is seen to become more important as an organisation grows. It is less of a factor for start-ups or for organisations still at the start of the organisational growth curve. Organisational structural elements, such as the degree of formalisation or centralisation, are not important as long as communication can happen or is allowed to happen across the business. These issues

simply need to be managed through the other enablers of innovation, such as communication, leadership and culture. These enablers all feature prominently in Figure 7.

Figure 7: Enabling innovation in organisations



A key finding of the research was that leadership is the foundation of enabling innovation within an organisation. Leadership must have the right competencies to be able to drive innovation from the top. One of the most important leadership roles, though, in terms of enabling innovation, is their communication of organisational strategies and goals, in order to ensure that innovation happens in a meaningful way in order to achieve organisational goals. In addition, leadership is responsible for driving organisational culture. By leading by example, leadership is able to encourage the behaviour that is conducive to innovation.

Figure 7 clearly displays that support mechanisms are seen to touch on almost all of the other enablers of innovation. Of the support mechanisms discussed, rewards and recognition were the most often identified, in terms of their impact on supporting the other enabling factors of innovation. When rewards are offered for innovative behaviour, it raises the profile of innovation and ensures that employees will be more focused on innovative activity. Rewards are important in reinforcing the right type of

innovative behaviour, and thus assist in building the organisational innovative culture. Peer recognition and public recognition is important from a long-term perspective in that it builds self-esteem and fosters commitment in staff members, which in turn creates the right behaviour and builds the culture.

In addition, a finding of the research is that reward and recognition can be used as a mechanism for communicating the importance of innovation throughout the organisation. Tools such as including innovation performance in performance appraisal processes, allows for innovation to get the focus it needs, through measurement and feedback.

Feedback is another important support mechanism that enables innovation. Feedback loops need to be fostered between employees and management in both directions. Clear and open feedback, which occurs timeously, reinforces the culture by building trust and responsibility in the employees, and by building credibility in the innovation systems and processes.

The theory that no single department should be responsible for innovation, that was outlined in Chapter 2, the literature review, was not supported. It was clear that having an innovation team or department is important in attaining the necessary focus on purely innovative activity within the organisation. But at the same time, the entire organisation and all staff should be encouraged to be innovative.

Another finding of the research was that availability of resources, in terms of time and money, is necessary in order to innovate. Time was identified as one of the most difficult supporting requirements for innovation to achieve, as day-to-day activities are most likely to prevent innovation through their sheer urgency and immediacy.

Idea pipeline systems were identified as being useful, but not critical, in the enabling of innovation within firms. In addition, these systems should do more than just allow for the capturing of an idea and providing feedback on that idea. They should be used to manage ideas from ideation right through to implementation. On the whole, idea pipeline systems were seen to be useful in collecting a critical mass of ideas, but were not seen to advocate relationship building or promoting or support the natural iterative nature of innovation.

Clearly established and formal project management processes are seen to be critical support mechanisms of innovation, as they allow for an idea to be taken from just being an idea, through to implementation. And as was mentioned before, an idea without follow through, is not innovation. An effective project management process allows for innovation to be prioritised and for resources and capacity to be allocated to the most important innovations. Another factor of a successful project management process should be building in additional time into a project in order to provide time to assess ideas and to evaluate reasons for success or failure.

As per Figure 7, strategy is an important enabler of innovation in so far as it gives context, provides goals and motivates employees by adding meaning and purpose to their jobs. Context was seen to be a vital aspect of any successful innovation. A high-risk strategy, as proposed in the literature, is often not feasible. It was found that managers need to have some appetite for risk, as innovation without an element of risk is not really innovation, and that organisations should have learning budgets that allow for failure.

Similarly, it was found that the tolerance for mistakes is an important behaviour of management. This prevents fear of failure by employees and prompts them to take chances and believe in their abilities, as well as to take responsibility for their jobs. Tolerance for mistakes ensures that employees are not fearful that failed attempts might affect their job security or career development paths. As a result, managers should not punish failure, but should ensure that the right processes are put in place to ensure that learning is facilitated out of failure. Fear of failure is seen to strangle innovation, and should be avoided at all costs.

Also from a behaviour perspective, in terms of the type of behaviour that enables or fosters innovation, is that trust, autonomy and responsibility is important to ensure long-term and continuous innovation.

In a similar way to leadership, communication was seen as a significant enabler of innovation. While organisational strategy is important, communicating the strategy is even more important from an innovation management perspective. The reason for this is two-fold. It allows for innovation to be well directed and meaningful. It also allows for the building of the right type of culture through increased empowerment and commitment. Communication, particularly by leadership and through the facilitation of communication across the company and between management levels and staff, is

important, as it ensures that innovation is transparent and unambiguous. Decision-making and evaluation in the innovation process needs to be well communicated in order to prevent confusion, as well as to prevent the undermining of culture. There also needs to be openness within the organisation in order to encourage the debating of ideas, which can only be facilitated through an environment in which open communication is encouraged and opinions are challenged. Similarly, communication needs to be encouraged and facilitated between business units.

The main reason for the high profile of communication as an important enabler of innovation, is that communication supports and builds an innovation culture, and encourages behaviour that is conducive to innovation. Ultimately, open communication builds trust, adds context and provides direction in which innovation is encouraged.

Hiring the right people also enables innovation. The "right" people should have the skills that are identified as needed in order to be an effective innovator, and should also fit into an innovative culture.

Falling within the "people and skills" innovation enabler is the importance of training. Another important finding of the research was that training for innovation should focus on three main areas, namely financial skills (such as the ability to build business cases and do feasibility studies), improving creativity and diversity of thinking, and improving the technical skills needed for implementation, such as project management skills. It was clear that a person's proficiency to innovate is not their ability to be creative, but more their ability to translate or shape their ideas into viable business models. These are the skills that should be developed in the staff members that are seen to have innate innovation potential and interest in the innovation process.

Another important finding related to the enabling of innovation through people, is that management of people's emotional space, in terms of their attitudes, feelings and values, needs to be done consciously. Managers need to be aware of and sensitive to the emotional space of staff on an ongoing basis, to ensure that they remain motivated and are kept at a high level of innovation on an ongoing basis. If these people aspects are not managed, people are likely to become stagnant and to not be willing or able to fulfil their innovation potential.

Establishing an innovative culture is a long-term goal of any organisation wanting to realise their innovation potential. Culture and values are seen as the cornerstone of

innovation. If an organisation is able to reach this optimal state, of having a self-perpetuating innovation culture, innovation is likely to become a natural state for the firm, and the other enablers of innovation are seen to be less imperative if an organisation has reached this state. While this was seen to be the goal, culture was seen to be an incredibly difficult thing to change, through things like reinforcing values and increasing expectations and value placed on innovation activity. In addition, culture should be cultivated by the leadership team through their behaviour and communicated values.

As mentioned before, it was found that an organisation's age is likely to affect management's approach to innovation and the types of enablers they focus on. For example, a start-up is less likely to worry about culture and reward and recognition, but be more focused on support mechanisms in terms of project management. In addition, this type of firm is more likely to have a less formal approach to innovation. However, this was seen to not be sustainable in the long term, and over the lifetime of the organisation, the different types of innovation enablers were seen to differ in importance over time.

Another finding, not emphasised in the literature, is the importance of building relationships and managing politics throughout the life cycle of an innovation, from ideation through to implementation. This is specifically important in more established organisations where there is likely to be more than one innovation trying to get attention, funding and support within the firm.

Information technology is still very much seen as a supportive function of implementation, with a specific focus on the automation of existing functions more than changing or driving business strategies. This is contrary to the literature review, in which information technology was highlighted as an important input into the strategic discussions.

Another important aspect of managing innovation, also not touched on in the literature, is the need by managers to manage change, both in terms of strategy being re-evaluated and communicated, but also in terms of managing people's expectations and emotional space.

In addition to the above-mentioned findings, managing innovation can be very clearly seen to have two parts to it. On the one hand, managers need to be fostering and

nurturing creativity and building an innovative culture, through support mechanisms, people and behaviour. On the other hand, innovation needs to be project or business-model driven, because an idea without implementation is not innovation.

While most companies have put processes in place to improve creativity and idea generation, they all mentioned that they don't have a problem with the number of ideas they have, but have problems with developing the business cases for the ideas, predominantly in terms of determining the feasibility and business value of those ideas, as well as the implementation of those ideas, through project management and funding. The findings of this research on managers' differing approaches to innovation are discussed in the following section.

5.4 Findings from research question 3

Research question 3 posed the question: "How are managers approaching innovation, through their innovation initiatives and other interventions?"

One manager summarised it nicely when he said: "You can have twenty innovative people in an organisation, but unless you've got the right leadership, that encourages a culture of innovation, and employs a structure to allow innovation, it's not going to happen." Leaders must give direction for innovation and allow for the support and framework to enable people to be innovative. This was seen to be the main approach to innovation by managers.

Each of the enabling factors of innovation that were outlined in the previous section, are not enough on their own. There is a complex interrelationship between these factors, and this complexity is seen through the approaches to innovation taken by management. The complex relationships between the factors, and the fact that they are very clearly intertwined, makes trying to manage innovation an incredibly complex task.

Managers are seen to be managing innovation by very clearly focusing on support structures and mechanisms. By putting in place robust support structures, other enabling factors of innovation can be harnessed indirectly.

All but two of the initiatives that were identified as being implemented within the organisations to improve innovation, were based around improving creativity and the

number of ideas generated. This was despite the fact that during a discussion on innovation, this was seen to be less important than the rest of the innovation process.

Creative-thinking tools, idea generation systems and competitions, meetings for idea sharing and idea campaigns all allowed to increase the conscious focus of employees on innovation tasks and the importance of innovation within their organisations. They were seen to raise the profile of innovation, and to increase the critical mass of ideas. That seemed to be a major focus of innovation initiatives by organisations.

Time-boxing to force innovation to happen and initiatives to build entrepreneurship seemed to be more focused on the implementation side of innovation. These types of innovation-specific initiatives were clearly in the minority.

A key finding from this research question was that managers were focusing their innovation initiatives on increasing the profile of innovation within their firms and getting people to consciously think about innovation.

5.5 Findings from research question 4

Research question 4 posed the question: "What do managers think is working and not working, in their experience, in their innovation programs and initiatives and why?"

The main finding from this research question was that the success of innovation initiatives is incredibly difficult to gauge. As a result, determining which initiatives had been successful, and which had not, was quite difficult to establish. In most instances, staff involvement in innovative initiatives were seen to mark the initiative as successful, regardless of whether or not it had resulted in the implementation of a new innovation.

It was definitely identified that a formalised approach was the most successful approach to innovation. Having an innovation department is successful in that it focuses key resources on increasing the innovation capabilities of the firm, as well as increasing the innovation output of the firm, in the form of product implementation. One of the reasons that an innovation department is seen to be successful is that allowing people the capacity to be innovative, and coupling that capacity with open communication and readily accessible feedback loops, creates a structure in which innovation can thrive.

Inclusion of innovation measures in the performance appraisal processes has been seen to be a successful approach to innovation, in terms of getting employees to realise the importance of innovation within their job performance. However, once again, due to the fact that innovation is difficult to manage, this is not an easy process to implement. In addition, in most cases, performance appraisals need to have an explicit link to innovation, and in a lot of firms, they have not yet managed to get this right.

Another initiative seen to be working well, is an "innovation competition", which improves innovation by giving it a higher profile and allowing for the recognition of innovative behaviour and success. One drawback of the innovation competitions that had been rolled out was that they were sometimes not tied into the implementation process, and as a result, did not ever necessarily result in innovation being implemented.

Another important finding from research question 4, was the necessity for a robust idea evaluation process, in order to ensure that the "right" things happen, and the right projects or ideas get the attention and resources they need.

One finding, which indicated something that was not done well, and therefore was not successful in supporting innovation, was that knowledge management systems and practices were not well harnessed, even if systems were in place. There was a conscious awareness that managers needed to try to improve these initiatives in order to improve their innovativeness, in terms of adding context and knowledge to the thinking of ideas, as well as the implementation of those ideas.

While feedback was identified as an important part of the innovation process, a key finding was that a large number of the organisations often did not have enough resources allocated to providing meaningful feedback timeously. In addition, the feedback process was identified as lacking a managerial process, in that the entire feedback process should be monitored and reported on, to ensure that it happens.

While substantial financial rewards were seen to be successful in encouraging innovation, they were seen to have potential issues in terms of causing behaviour that is not conducive to innovation. There is a need to manage this potential backlash of a substantial financial reward on an ongoing basis, through clear and tight controls, and clearly communicated evaluation methods.

5.6 Recommendations to management

One of the motivations for this research was to provide guidance to managers within South African firms on enabling innovation in their organisations. There is increasing awareness by firms in South Africa of the need to become more innovative, and as such, this research was hoped to provide additional guidance to managers in managing innovation within their organisations.

As has been described throughout the previous 2 chapters, innovation management is hard work and must be done consciously. Innovation is the result of a great deal of effort by all involved, including leadership, management and staff, and is therefore expensive. In order not to squander precious resources, a formalised innovation process is necessary and is advised. However, it should be noted that innovation is complex, and as such, will not be easily "squeezed" into one innovation focus. Varying initiatives will need to target different areas of the innovation process, and all initiatives will need full leadership support and resourcing.

It is important to note at this juncture, that it is not possible to take a "plug and play" approach to innovation. All initiatives should be reviewed and adapted to your own environment, based on needs, requirements, and goals.

As discussed in chapter 4, any innovation initiatives without strong leadership support are likely to fail. It is therefore important that all innovation initiatives focused at enhancing innovation within organisations, have full leadership buy-in. In addition, leadership should clearly communicate the importance of innovation on a regular basis, by celebrating successes or highlighting organisational goals or potential problems.

Managers need to actively focus on the future. It is important that managers make a concerted effort not to get side tracked by the day-to-day operations of the organisation, and to make a conscious effort on spending time on a regular basis, preferably every day, thinking about innovation and the future.

Managers should focus on their implementation initiatives, and on improving the implementation capabilities of their staff, rather than the creativity or thinking capabilities of their staff. All training and development initiatives should be targeted at staff members who have displayed the potential in the respective innovation areas.

One of the main recommendations to management is that failure should not be punished. If failure does occur, which is likely if an organisation is truly pursuing innovation and is therefore taking risks, learning and growth should be facilitated out of failure. This is an important management function. It is important to consciously foster and grow the mindset that risk is necessary to change and be sustainable. Similarly, managing the emotional space of one's employees, especially in the face of failed initiatives or ideas that are not pursued, is key in ensuring that employees continue to innovate ongoing into the future.

Another key recommendation to management is that they should have the right support mechanisms in place to support and encourage innovation. The main of these support mechanisms is a reward and recognition strategy and process. That being said, the potential side effects of substantial financial rewards need to be consciously managed to deter unwanted behaviour and related problems. Rewards should be seen as a short-term innovation incentive, which carries with it high potential to motivate staff to be innovative in the short-term, as well as to raise the profile of innovation within the firm. Recognition, on the other hand, is seen as a longer-term support mechanism, and should be done as often as possible, and should recognise both successful attempts, as well as high levels of effort being expended on being innovative, regardless of the final result.

There is a need to make funding available at an organisational level to allow for organisational strategic initiatives to get the money they need to be implemented by the business areas concerned. Also in terms of funding, it is recommended that management tries to allocate a "learning budget" to be used for both training and development of staff, as well as prototypes or feasibility studies that would need to be conducted on high-potential new ideas.

It is also recommended to management that if idea generation systems are put in place, that those systems are linked to the implementation systems to ensure that ideas actually do get traction on the ground and are able to be implemented. Without this mechanism, many great ideas can be lost or squandered.

Another recommendation to management is that although a formal innovation process and strategy should be formulated, a separate more informal stream for truly experimental innovation should be supported, to ensure that fundamentally different or discontinuous innovations that are substantially different to the way the organisation

does business, are not strangled by the governance or other red-tape issues resultant of a more formal process.

Managers should put in place processes and teams who are able to structure ideas into formal business cases and who are able to conduct feasibility studies on them, in order to ensure that ideas are grown into a business model or business case that can actually be translated into the real world, and thus be implemented.

Yet another recommendation to management is to try to encourage employees to spend time on innovation by consciously earmarking time during the workweek where they are expected to do research. If driven consciously from the top, this kind of activity is more likely to happen than if it is left to the employee to try to eek out time to innovate.

Management should focus on implementing innovation initiatives throughout their organisations in order to ensure maximum potential benefit. This ensures that the right culture is supported throughout the organisation and is not focused on only a few small teams or business areas.

Finally, the main recommendation to management is that managers shouldn't implement innovation initiatives simply because they think they should or because they think it's the "right" thing to do, in order to improve innovation. Innovation initiatives should only be implemented when they have complete management buy-in and when they are truly expected to impact on the organisation's ability to innovate.

5.7 Areas for further research

The research presented in this report offers a broad view of innovation and innovation management. From this research, a number of areas for further research were identified.

5.7.1 Enabling innovation in other types of firms

During the course of this research being conducted, it became clear that focusing the research on only information-intensive organisations would result in a very specific set of results, focused on a very specific type of company. As a result, potential areas for further research would include investigating approaches to innovation in:

- Start-up organisations versus more established companies;
- SME's versus corporate organisations; or
- Non-information intensive organisations

5.7.2 Innovation through technology

Although all managers interviewed worked in information-intensive organisations and industries, it was obvious that innovation through technology was not a clear focus. As a result an area for future research would involve innovation in the information technology sector.

5.7.3 Measuring innovation performance

As became clear earlier in this chapter, the difficulty in measuring innovation success, specifically in terms of people's specific impact on that innovation, and the ability to include this in an organisation's performance appraisals, is seen as an area for further research. Similarly, studies on the ROI on innovation investment would allow for greater understanding of the value of these initiatives.

5.7.4 Divisional focus on innovation

Another potential area for future research involves the establishment of which divisions within an organisation are more focused on innovation, and to establish why this might be. The question about where innovation initiatives might be most valuable, and how this is playing out in the business world, has not been addressed in this research, but is a potentially valuable research area.

5.7.5 Profiling the manager for innovation and entrepreneurial mindset

Determining a trend in the profile of managers who are funding and driving innovation projects would be another area for future research. This type of research would aid the ability of an organisation in identifying human resources who have the capabilities and personality profiles most likely to improve the organisation's propensity to be innovative or entrepreneurial.

5.7.6 Additional literature to be reviewed

While a comprehensive literature review was conducted as part of this research, it has been noted that additional focus on creativity and entrepreneurial culture might add an additional dimension to innovation research. In addition, using case studies and actual innovation success stories would add additional value to the study.

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APPENDIX A – HIGH LEVEL INTERVIEW GUIDELINE

Agenda of interview

1. Thank interviewee for participation in the study
2. Description of purpose of the research
    i. Management of innovation in South African firms
3. Explanation of process to be followed
    i. There is no right or wrong answer
    ii. Just interested in your thoughts/opinions, as a manager, on innovation
    iii. Anonymity in final report
4. Permission to record interview
5. Questions
6. Thank participant for their time, and provide detail on next steps and when further contact should be expected

Questions

Opening questions

- Please tell me a bit more about your role at your organisation
- How does innovation fit into your role

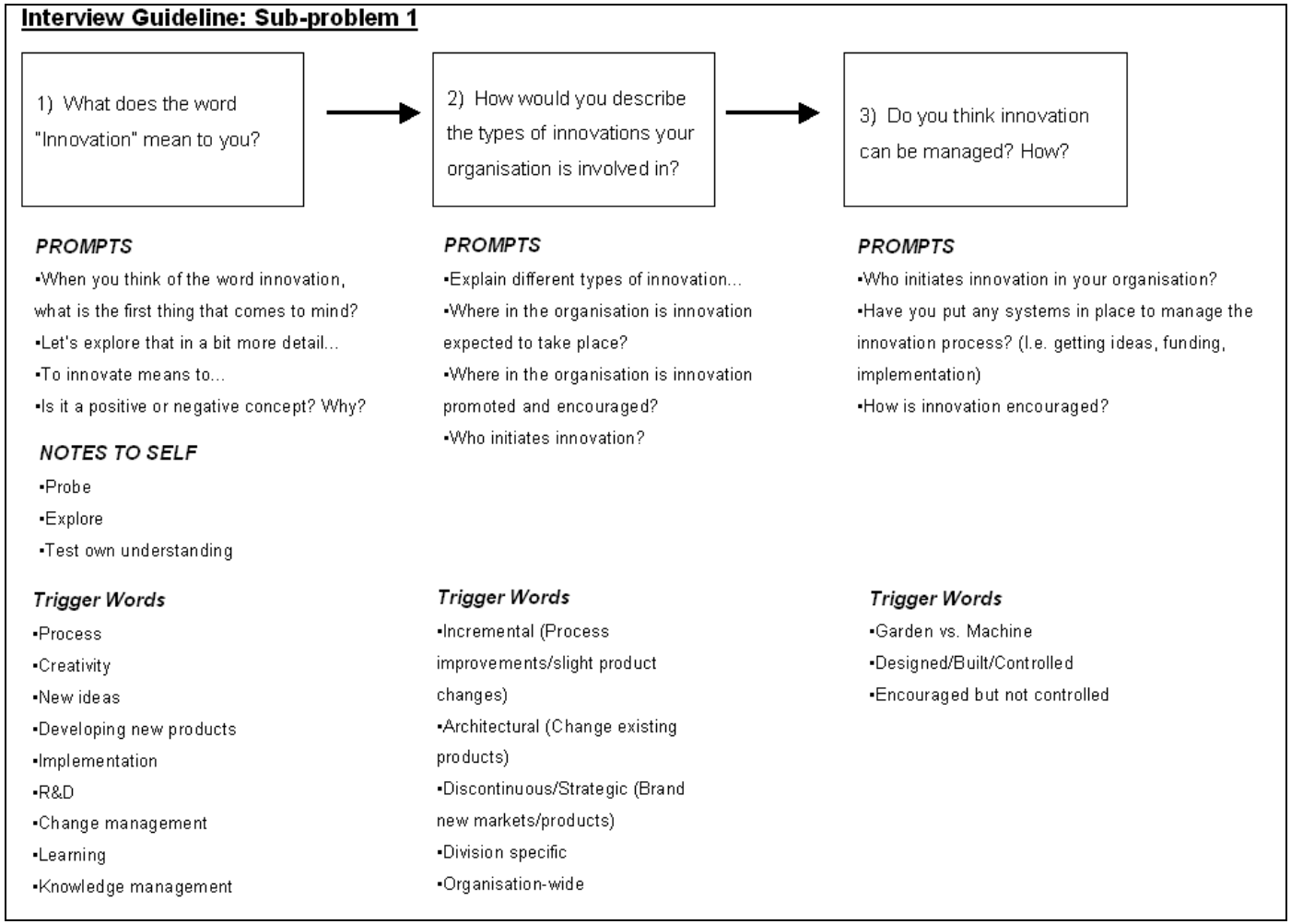
Refer to Questions for sub-problem 1

Refer to Questions for sub-problem 2

Concluding questions

- Do you have any other thoughts on this topic?
- Do you require a summary of the results of the research?

Questions on innovation (Sub-Problem 1)



Questions on enablers of innovation (Sub-Problem 2)

Interview Guideline: Sub-problem 2

1) How are you approaching innovation in your organisation? → 2) Have you tried anything specific in order to improve innovation which has worked well? Why do you think that is? → 3) Have you tried anything specific in order to improve innovation which has not worked well? Why do you think it was not effective? → 4) What do you feel is most important to do to enable innovation within your firm?

PROMPTS (What do you feel about…?)

- Do you feel that **Leadership** is important in promoting innovation? If so – in what way? If not – why not?
  - ***Trigger Words***
    - Visionary leaders
    - Innovation direction
    - Leadership style
- Do you feel that **Culture and Values** are important in promoting innovation? If so – in what way? What type of culture? What types of values? If not – why not?
  - ***Trigger Words***
    - Collaborative culture
    - Teamwork
    - People's attitudes
    - Common understanding of innovation
    - Climate for change
    - Culture of Creativity and responsibility
    - Freedom of thought and expression
- Do you feel that **Behaviour** is important in promoting innovation? If so – in what way? If not – why not?
  - ***Trigger Words***
    - Trust and Autonomy
    - Opportunity and capacity to be creative
    - Perceived risk and fear of repercussions
    - Resistance to change

PROMPTS (cont. 1)

- Do you feel that **Strategy** is important in promoting innovation? If so – in what way? If not – why not?
  - ***Trigger Words***
    - Clear focus
    - High risk
    - Shared vision
    - IT staff involved
- Do you feel that **Structure** is important in promoting innovation? If so – in what way? If not – why not?
  - ***Trigger Words***
    - Division of labour
    - Specific innovation departments
    - Organic structure
    - Centralisation
    - Formalisation
    - Business model complexity
    - Team learning
- Do you feel that **Support Mechanisms** are important in promoting innovation? If so – what types of support mechanisms?
  - ***Trigger Words***
    - Reward and recognition
    - Availability of resources

PROMPTS (cont. 2)

- Systematic approach
- Funding system
- Idea pipeline management
- Knowledge management
- Feedback loops
- Systems
- Project management

- Do you feel that **Communications** are important in promoting innovation? If so – in what way? If not – why not?
  - ***Trigger Words***
    - Open communications
    - Communication by leaders of strategy, big picture and problems
    - Support knowledge sharing
- Do you feel that **People and Skills** are important in promoting innovation? If so – in what way? If not – why not?
  - ***Trigger Words***
    - Proficient in innovation
    - Training and Development
    - Availability of resources
    - Empowerment
    - Identify competencies
    - Ability to identify new and emerging technologies

APPENDIX B – EMAIL TO POTENTIAL RESPONDENTS

Dear [First Name] [Surname]

I am an MBA student at the University of the Witwatersrand, currently conducting research on Innovation Management in South Africa. The research explores manager's perceptions on innovation in the workplace. The results from the research will prove valuable to the development of innovation theory within South Africa as well as abroad.

{To this end, [name] at [organisation] has recommended that I speak to you about the possibility that you might be able to contribute to the research, given your expertise in the area.}

{To this end, given the nature of your role at [organisation], I was hoping that you would consider contributing to my research.}

The research I am conducting explores what managers understand by innovation, and how they are approaching innovation within their organisations. The research is based on in-depth interviews with key players and experts in this field.

I would very much welcome the opportunity to discuss these issues with you. The discussion will take about an hour of your time. Your contributions will be anonymous. Neither your name nor company will be linked to any statements or comments made.

If you are willing to participate in the research, please advise of dates and times that you will be available to meet with me.

Should you have any queries regarding the authenticity of my research, please don't hesitate to contact my research supervisor, Mr Antony Soicher on (011) 717-3608.

Kind Regards,

Robyn Randall
MBA Student
Wits Business School
Tel +27 (0) 11 289 3447
Fax +27 (0) 11 289 5333
Mobile +27 (0) 82 551 1711
Email: robyn.randall@multichoice.co.za

APPENDIX C – CONFIRMATION EMAIL TO RESPONDENTS

Dear [First Name] [Surname]

Thank you for agreeing to contribute to the research study "The management of innovation in information-intensive organisations in South Africa".

This email serves to confirm the following interview details:

Date: [Date]
Time: [Time]
Venue: [Venue]

Please note that your contributions will be anonymous. Neither your name nor company will be linked to any statements or comments made. Furthermore, the interview will be recorded to ensure that findings are based on an accurate and reliable account of the interview. In the event that you do not wish the interview to be recorded, please contact me as soon as possible, so that an alternative recording mechanism can be arranged.

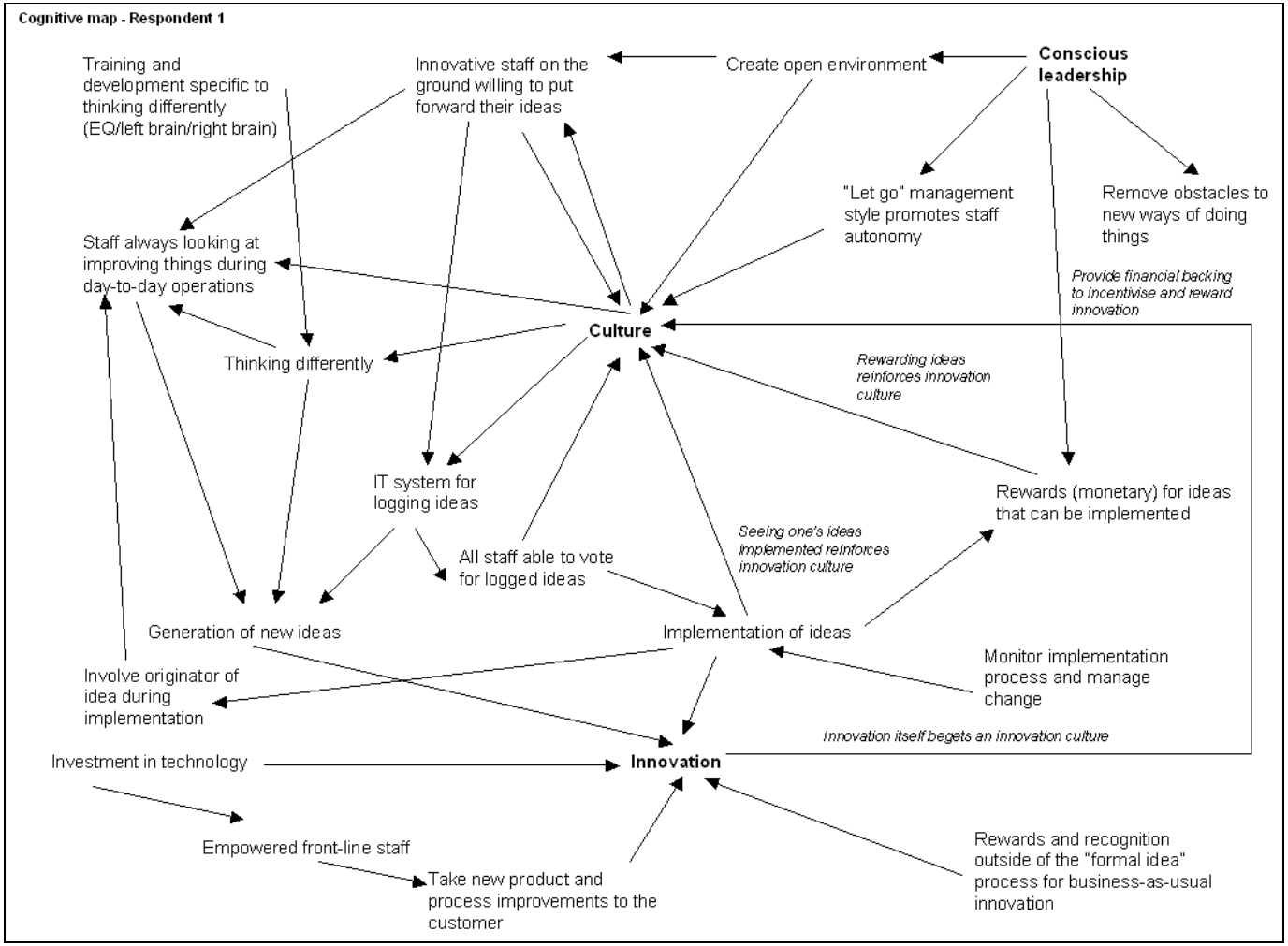
In addition, if you are able to bring evidence of innovation and/or innovation programs in your team/organisation (in the form of documentation or any other), this would assist in providing context for the interview. Please note that no details specific to any innovations will be utilised in the research.

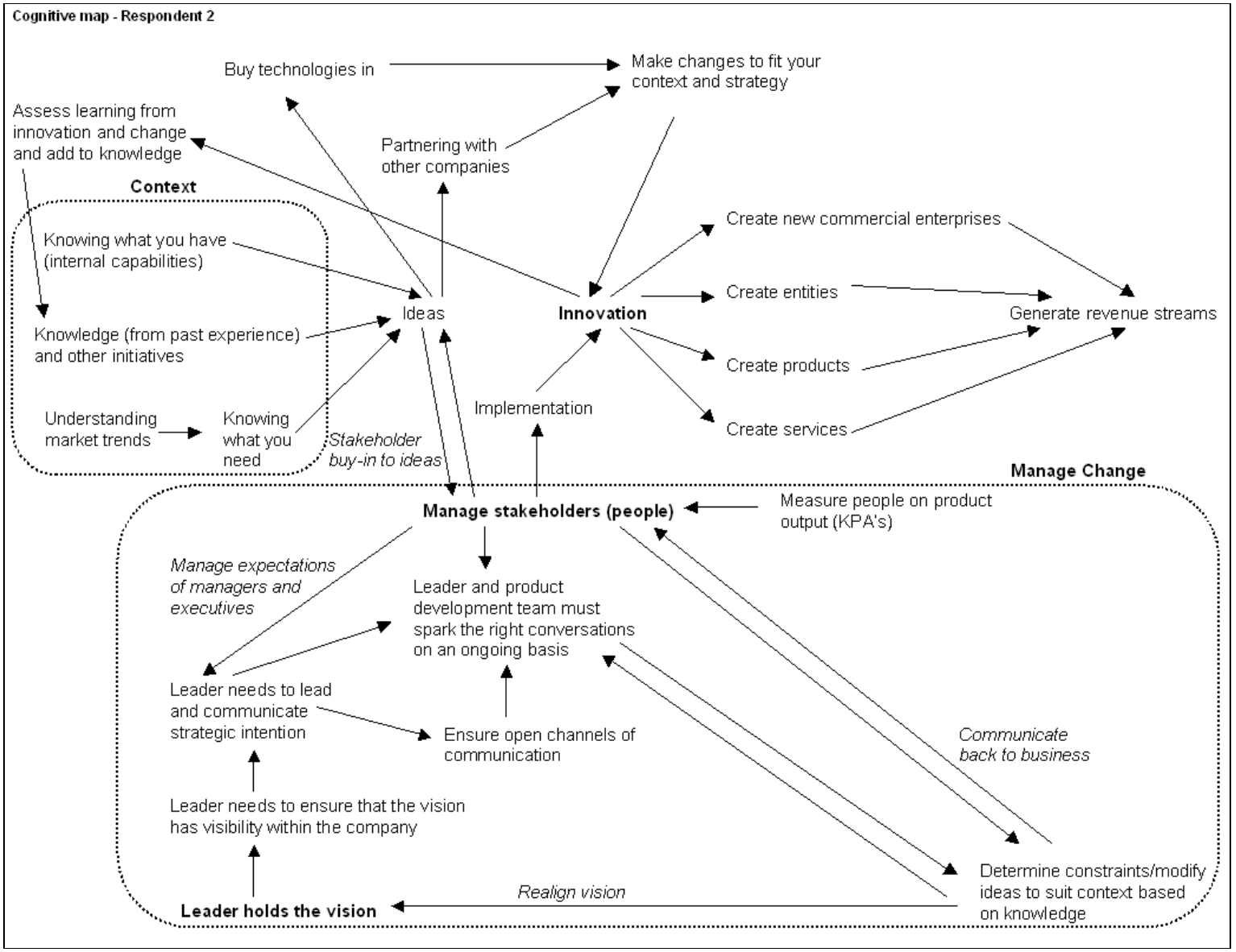
If you require any further information, or have any queries, please do not hesitate in contacting me.

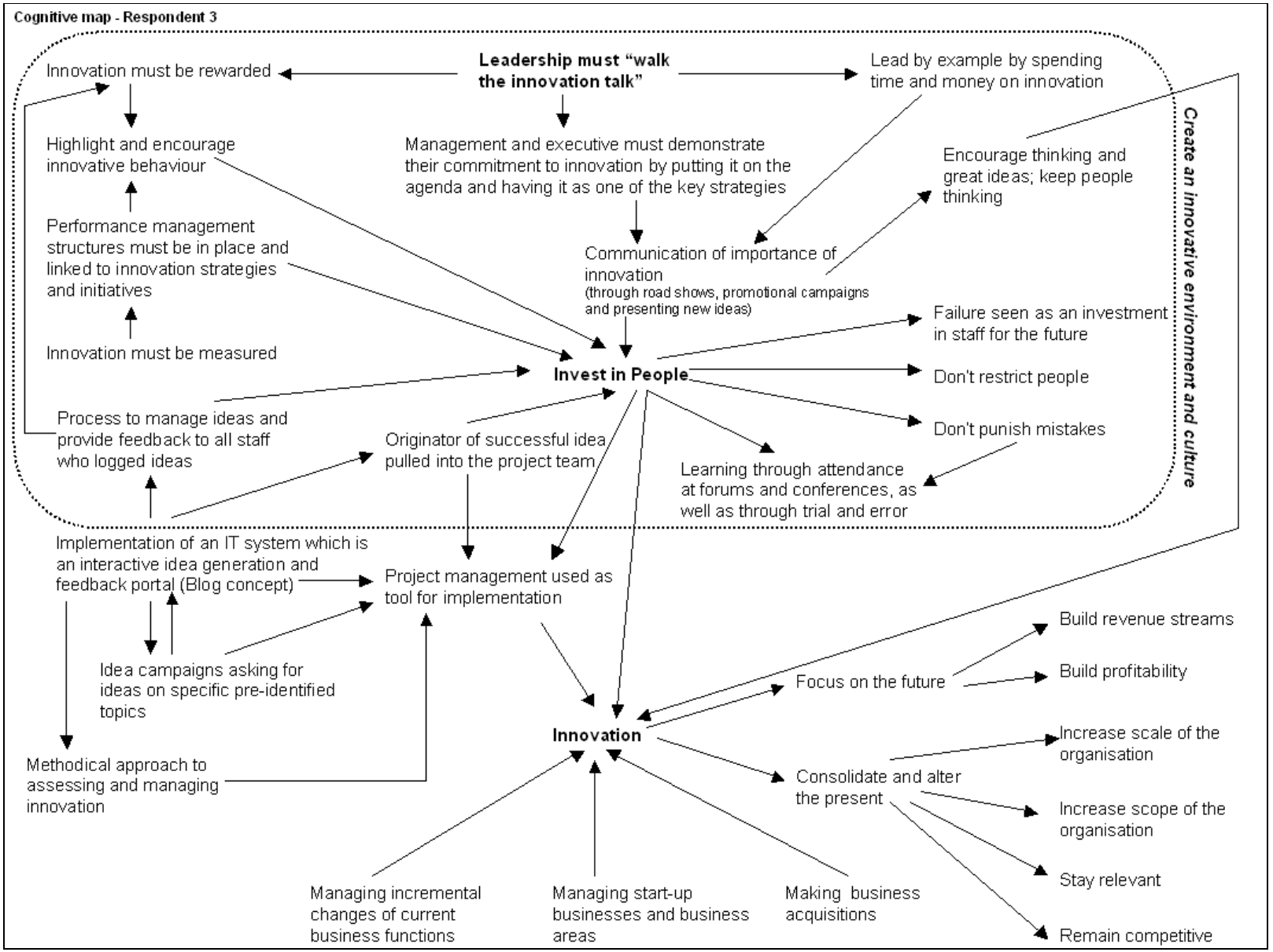
Kind Regards,

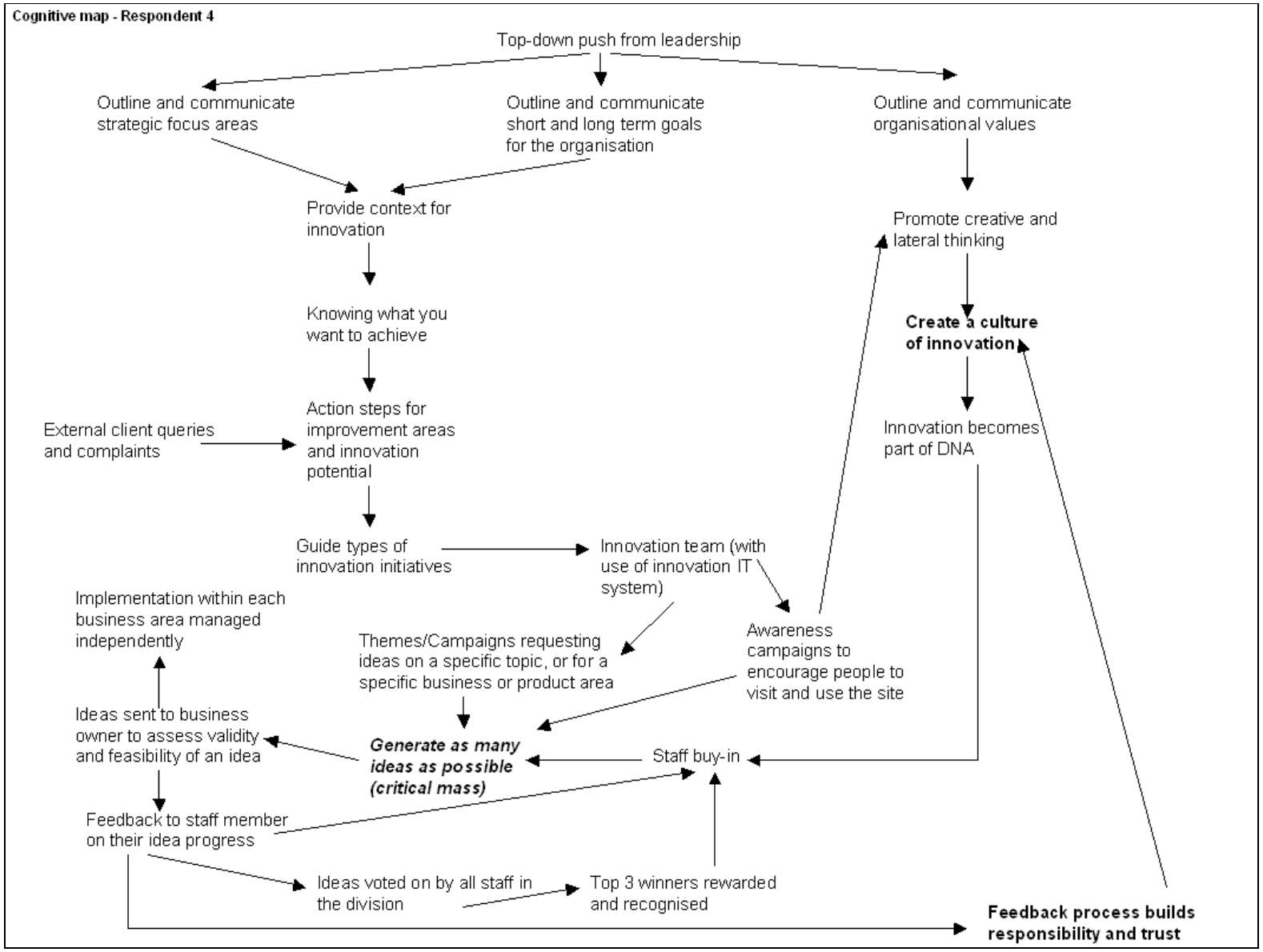
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Wits Business School
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Fax +27 (0) 11 289 5333
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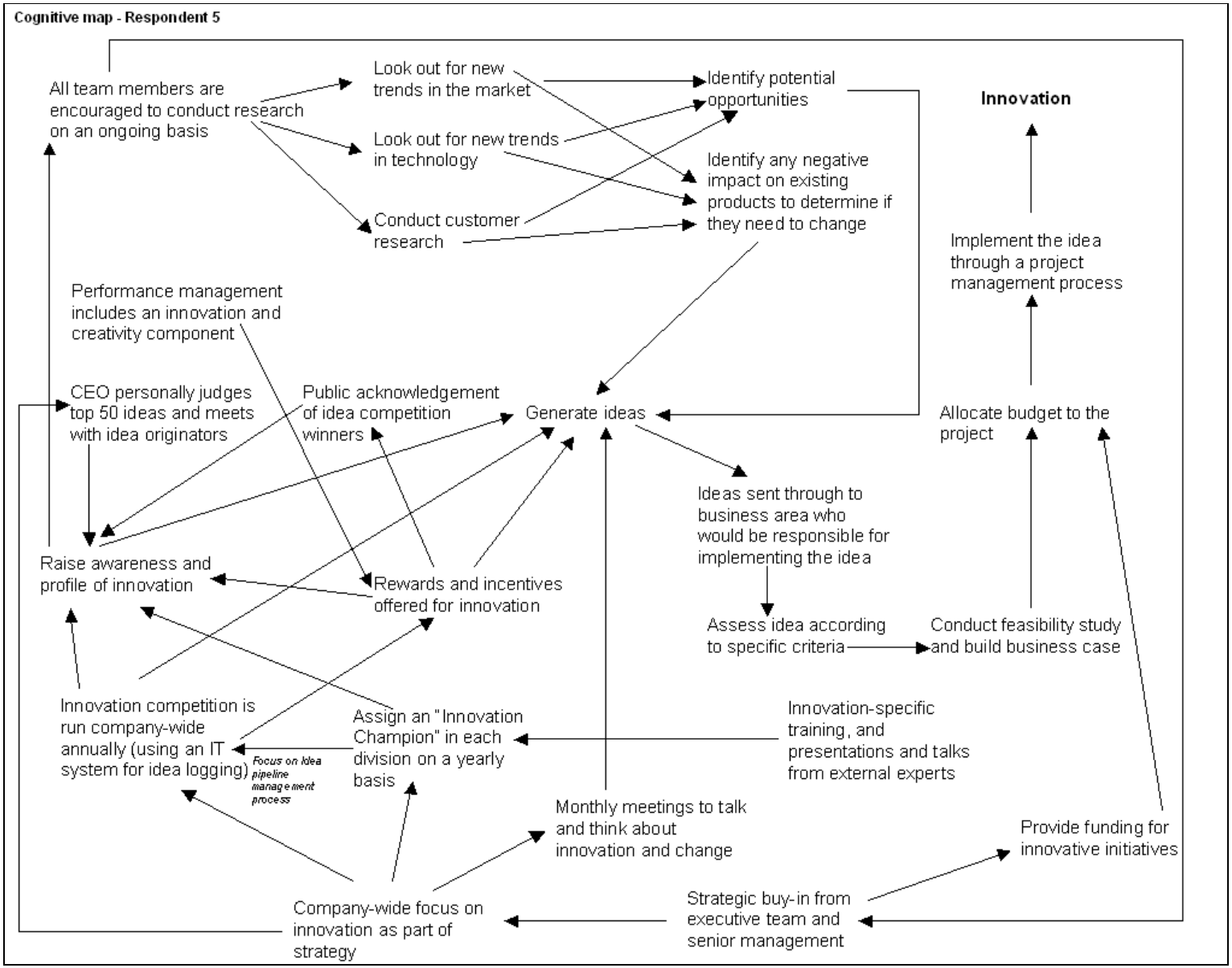
APPENDIX D – COGNITIVE MAPS

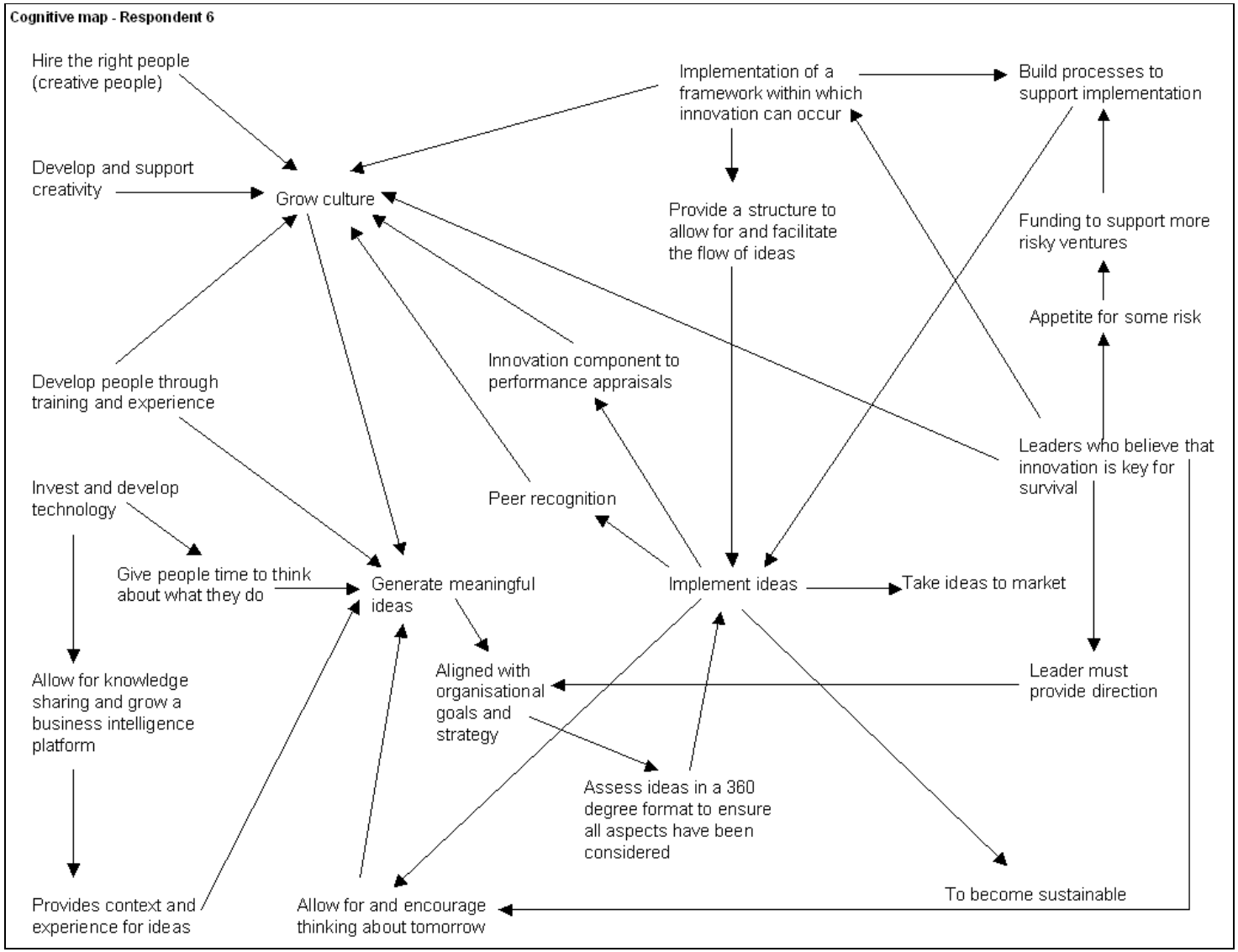


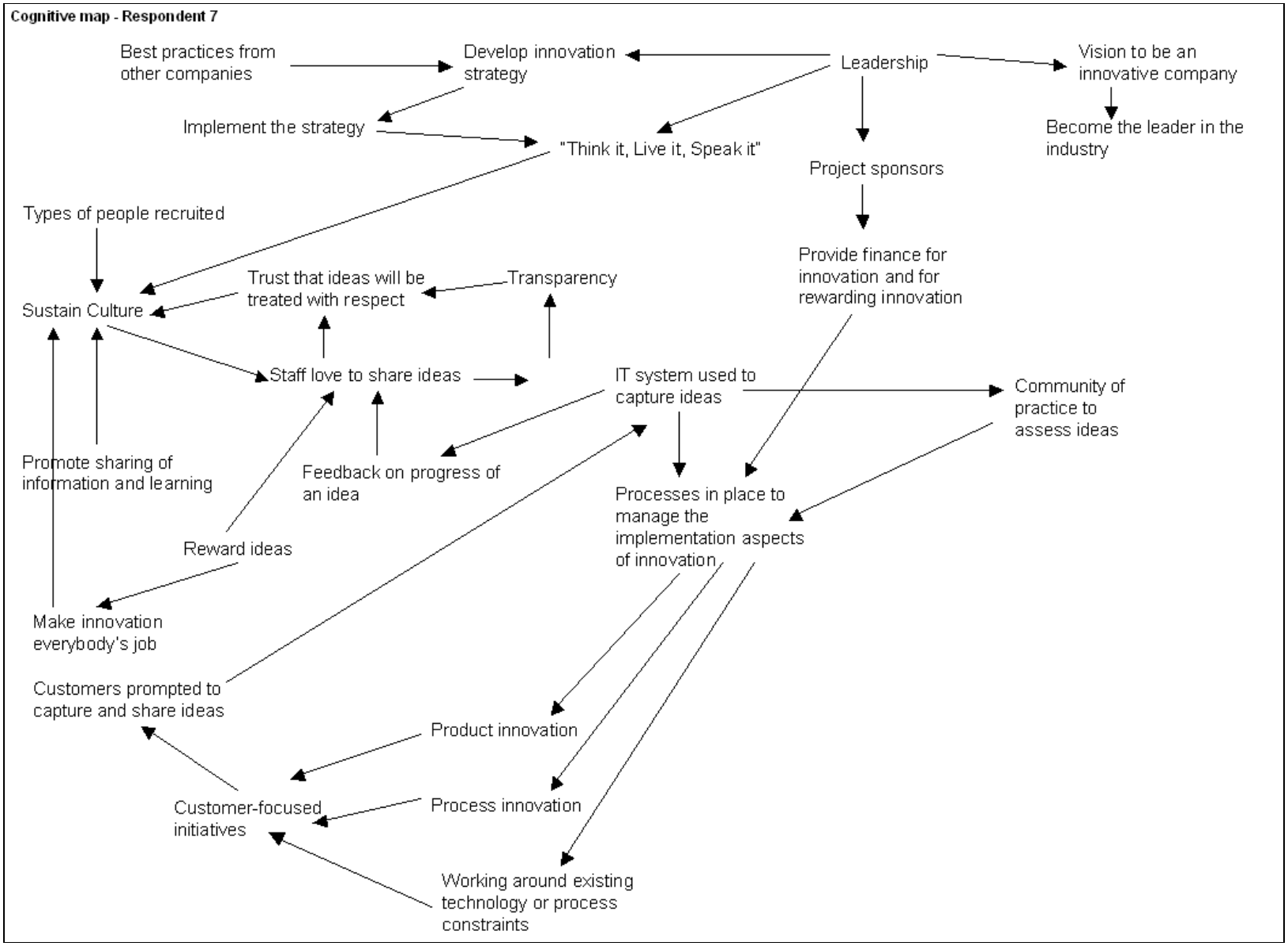

Cognitive map - Respondent 2
Buy technologies in
Make changes to fit your context and strategy
Assess learning from innovation and change and add to knowledge
Partnering with other companies
Context
Knowing what you have (internal capabilities)
Create new commercial enterprises
Create entities
Ideas
Innovation
Generate revenue streams
Knowledge (from past experience) and other initiatives
Create products
Understanding market trends
Knowing what you need
Stakeholder buy-in to ideas
Implementation
Create services
Manage Change
Manage stakeholders (people)
Measure people on product output (KPA's)
Manage expectations of managers and executives
Leader and product development team must spark the right conversations on an ongoing basis
Leader needs to lead and communicate strategic intention
Ensure open channels of communication
Communicate back to business
Leader needs to ensure that the vision has visibility within the company
Determine constraints/modify ideas to suit context based on knowledge
Realign vision
Leader holds the vision

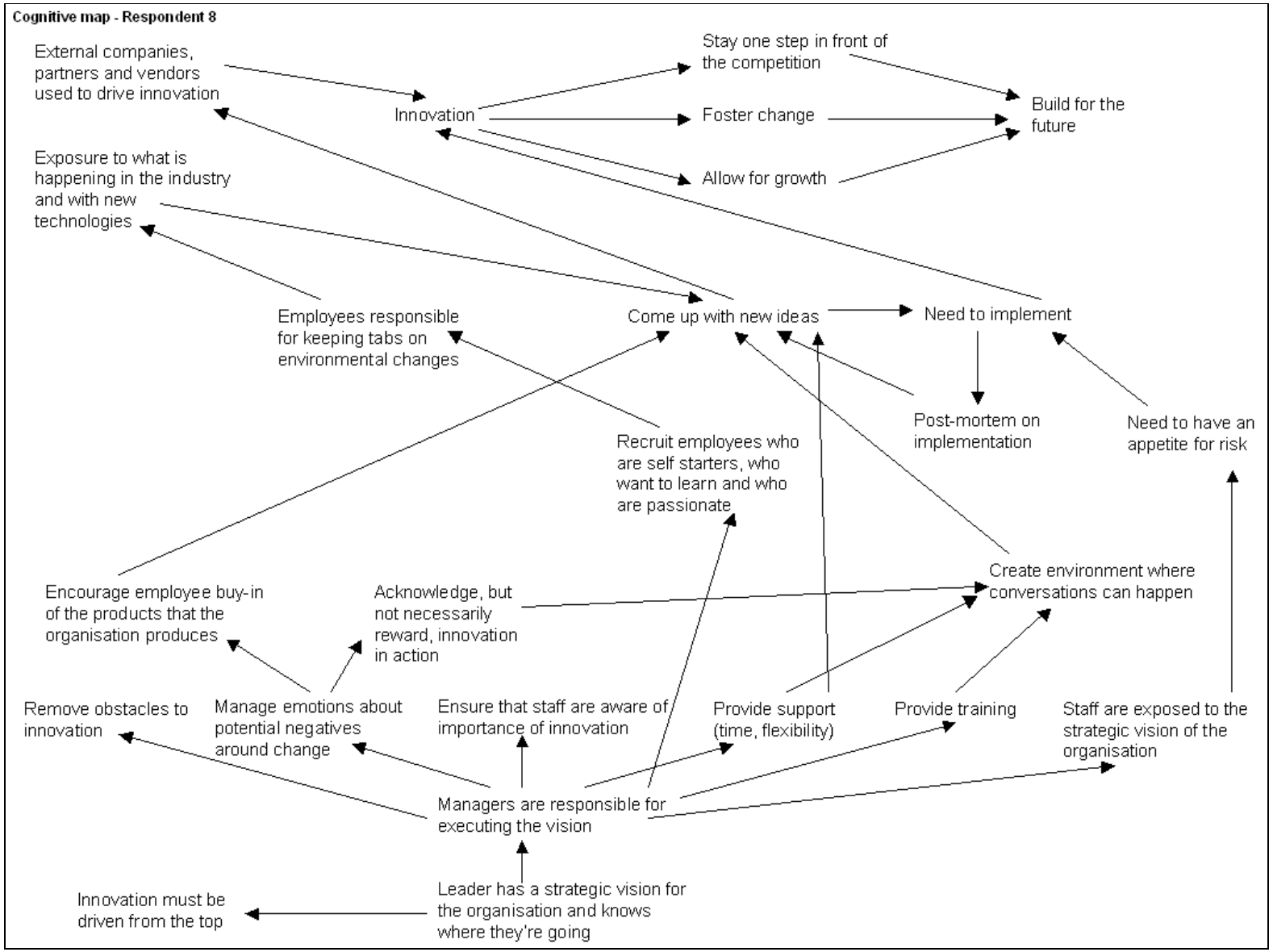

Cognitive map - Respondent 3
Leadership must "walk the innovation talk"
Innovation must be rewarded
Lead by example by spending time and money on innovation
Highlight and encourage innovative behaviour
Management and executive must demonstrate their commitment to innovation by putting it on the agenda and having it as one of the key strategies
Encourage thinking and great ideas; keep people thinking
Performance management structures must be in place and linked to innovation strategies and initiatives
Communication of importance of innovation
(through road shows, promotional campaigns and presenting new ideas)
Create an innovative environment and culture
Innovation must be measured
Failure seen as an investment in staff for the future
Invest in People
Don't restrict people
Don't punish mistakes
Process to manage ideas and provide feedback to all staff who logged ideas
Originator of successful idea pulled into the project team
Learning through attendance at forums and conferences, as well as through trial and error
Implementation of an IT system which is an interactive idea generation and feedback portal (Blog concept)
Project management used as tool for implementation
Build revenue streams
Build profitability
Idea campaigns asking for ideas on specific pre-identified topics
Focus on the future
Innovation
Increase scale of the organisation
Methodical approach to assessing and managing innovation
Consolidate and alter the present
Increase scope of the organisation
Stay relevant
Remain competitive
Managing incremental changes of current business functions
Managing start-up businesses and business areas
Making business acquisitions

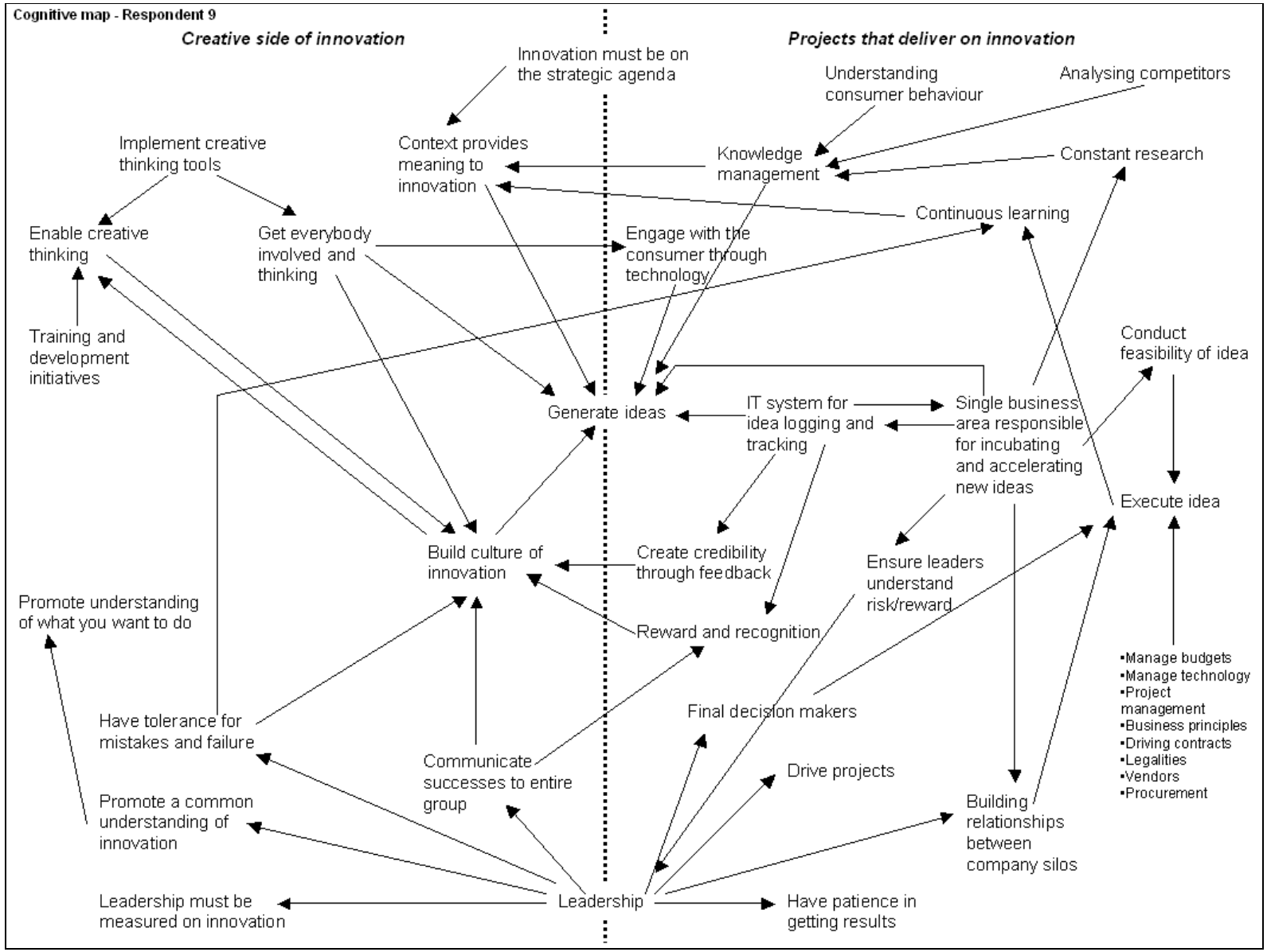

Cognitive map - Respondent 4
Top-down push from leadership
Outline and communicate strategic focus areas
Outline and communicate short and long term goals for the organisation
Outline and communicate organisational values
Provide context for innovation
Promote creative and lateral thinking
Knowing what you want to achieve
Create a culture of innovation
External client queries and complaints
Action steps for improvement areas and innovation potential
Innovation becomes part of DNA
Guide types of innovation initiatives
Innovation team (with use of innovation IT system)
Implementation within each business area managed independently
Themes/Campaigns requesting ideas on a specific topic, or for a specific business or product area
Awareness campaigns to encourage people to visit and use the site
Ideas sent to business owner to assess validity and feasibility of an idea
Generate as many ideas as possible (critical mass)
Staff buy-in
Feedback to staff member on their idea progress
Ideas voted on by all staff in the division
Top 3 winners rewarded and recognised
Feedback process builds responsibility and trust

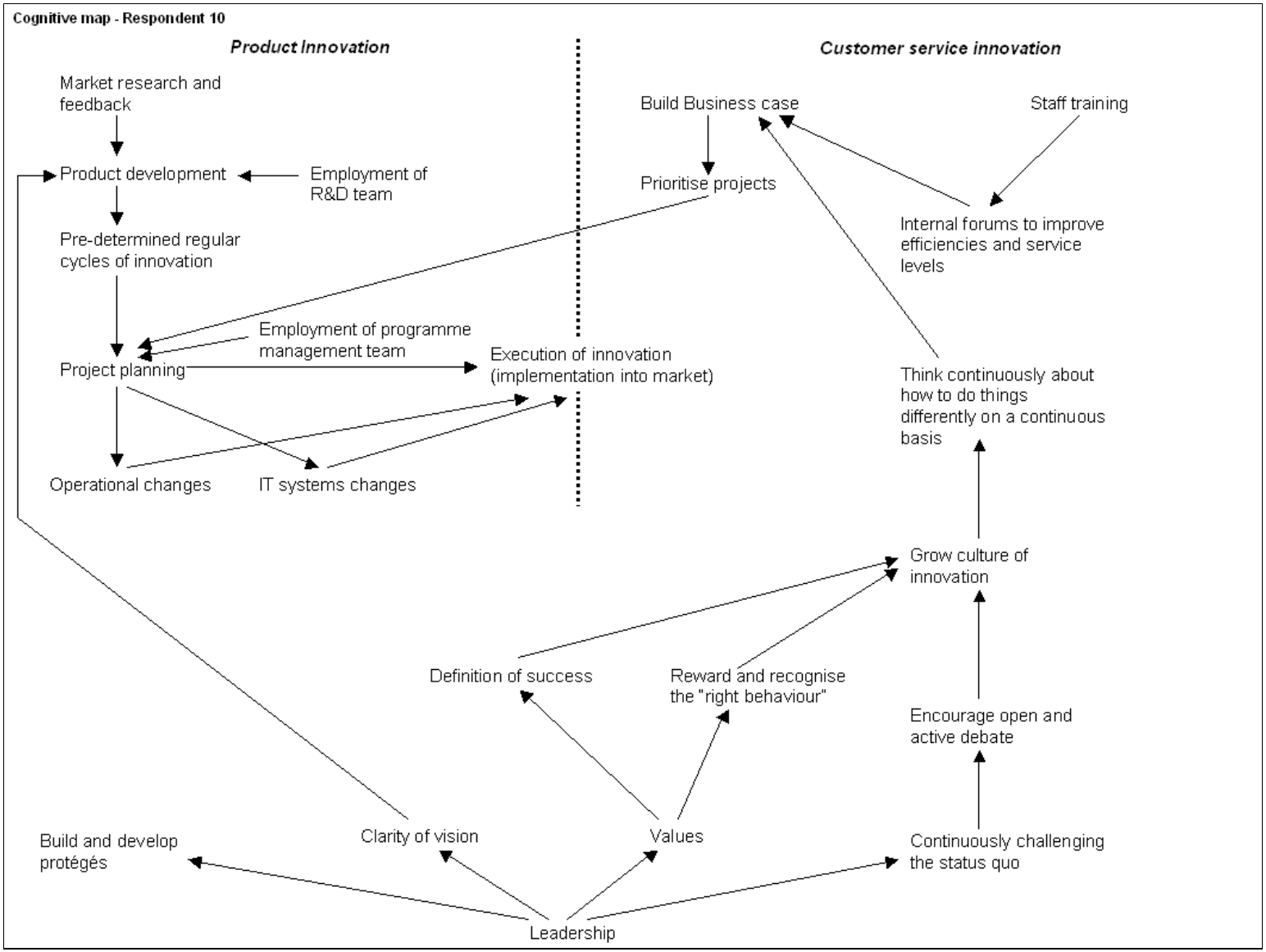

Cognitive map - Respondent 5
All team members are encouraged to conduct research on an ongoing basis
Look out for new trends in the market
Look out for new trends in technology
Conduct customer research
Identify potential opportunities
Identify any negative impact on existing products to determine if they need to change
Innovation
Implement the idea through a project management process
Performance management includes an innovation and creativity component
CEO personally judges top 50 ideas and meets with idea originators
Public acknowledgement of idea competition winners
Generate ideas
Allocate budget to the project
Ideas sent through to business area who would be responsible for implementing the idea
Raise awareness and profile of innovation
Rewards and incentives offered for innovation
Assess idea according to specific criteria
Conduct feasibility study and build business case
Innovation competition is run company-wide annually (using an IT system for idea logging)
Focus on Idea pipeline management process
Assign an "Innovation Champion" in each division on a yearly basis
Innovation-specific training, and presentations and talks from external experts
Monthly meetings to talk and think about innovation and change
Provide funding for innovative initiatives
Company-wide focus on innovation as part of strategy
Strategic buy-in from executive team and senior management

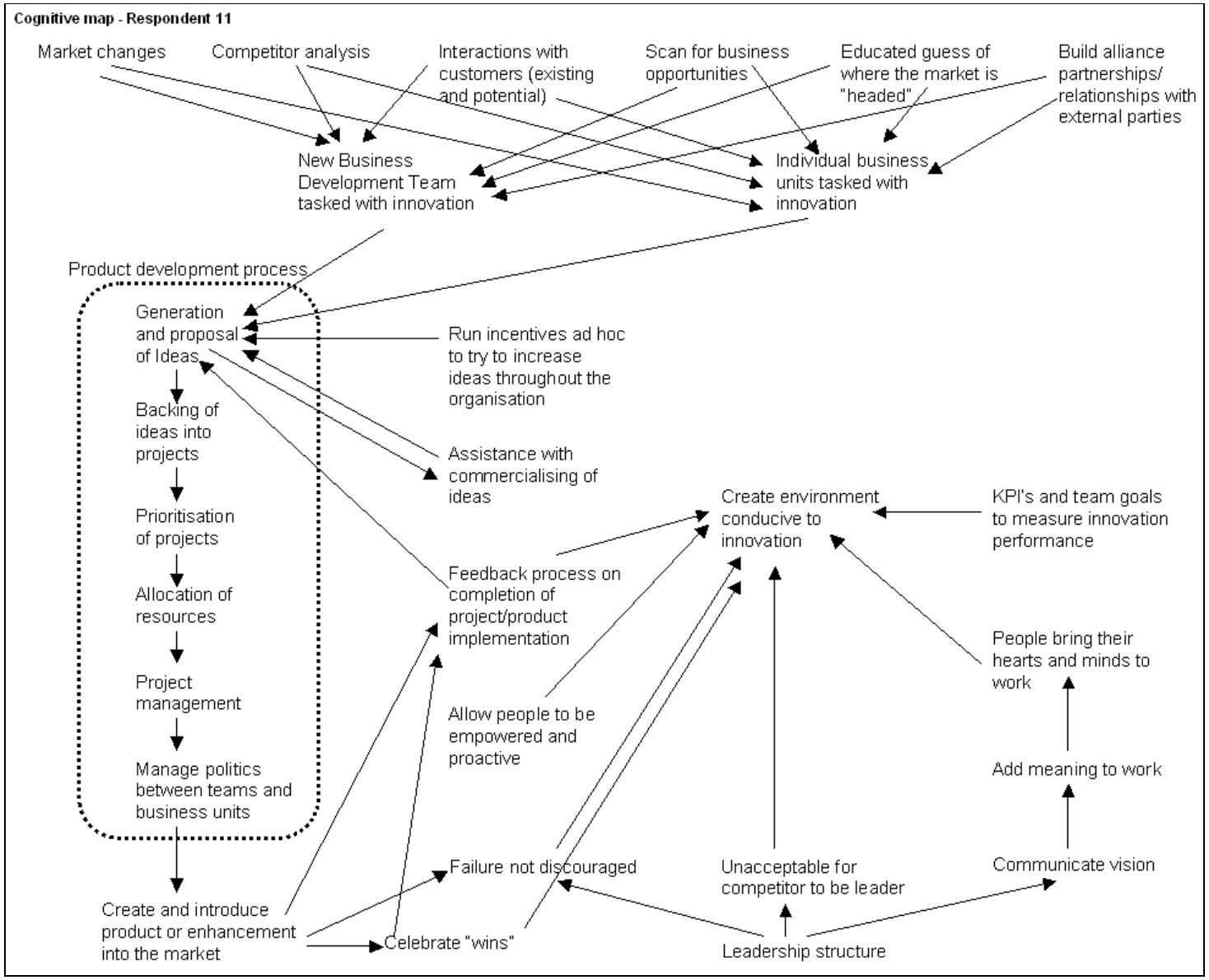

Cognitive map - Respondent 6
Hire the right people (creative people)
Develop and support creativity
Grow culture
Develop people through training and experience
Invest and develop technology
Give people time to think about what they do
Allow for knowledge sharing and grow a business intelligence platform
Provides context and experience for ideas
Generate meaningful ideas
Allow for and encourage thinking about tomorrow
Implementation of a framework within which innovation can occur
Provide a structure to allow for and facilitate the flow of ideas
Innovation component to performance appraisals
Peer recognition
Aligned with organisational goals and strategy
Assess ideas in a 360 degree format to ensure all aspects have been considered
Implement ideas
Take ideas to market
Build processes to support implementation
Funding to support more risky ventures
Appetite for some risk
Leaders who believe that innovation is key for survival
Leader must provide direction
To become sustainable

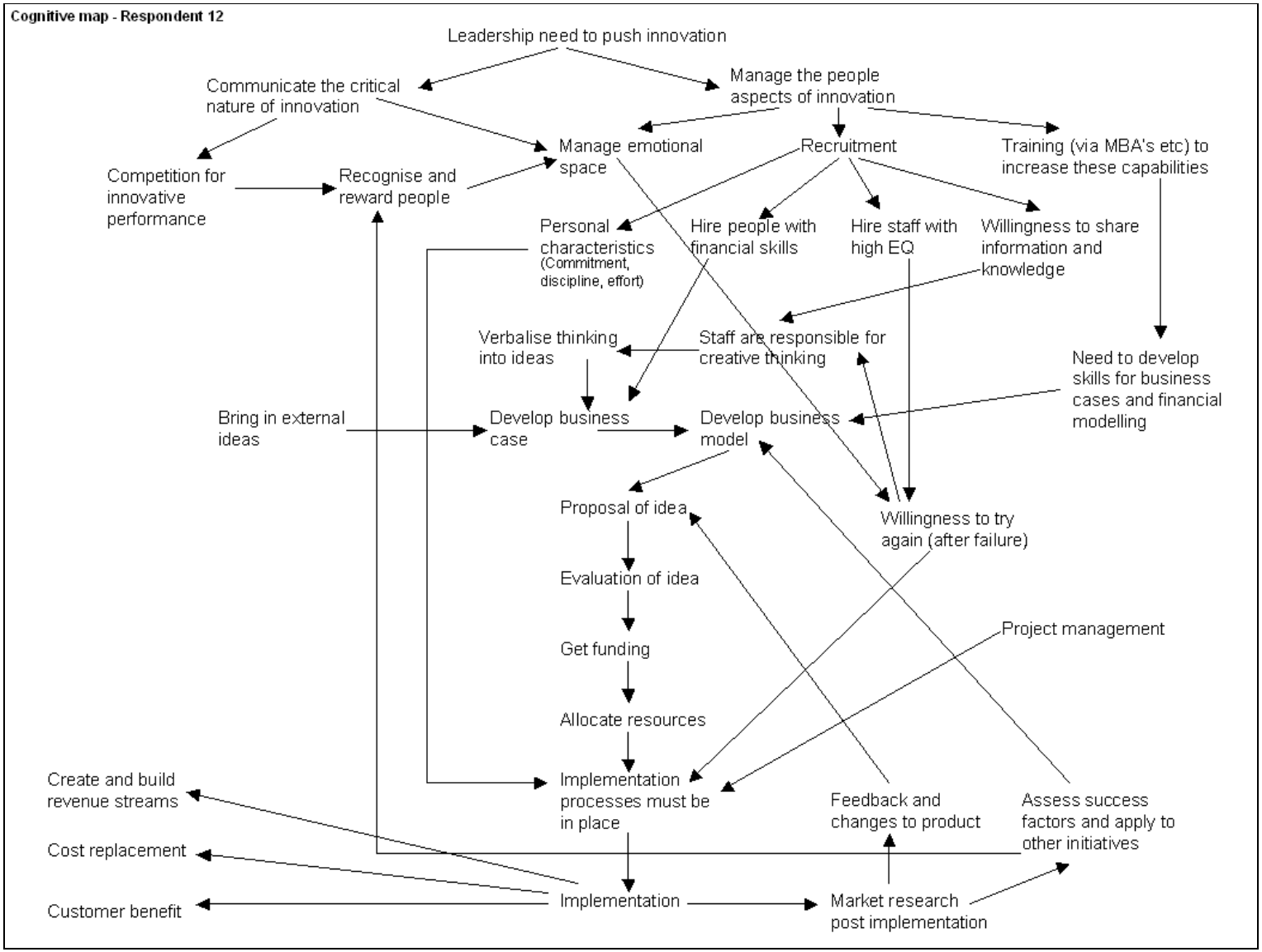

Cognitive map - Respondent 7
Best practices from other companies
Develop innovation strategy
Leadership
Vision to be an innovative company
Implement the strategy
"Think it, Live it, Speak it"
Become the leader in the industry
Project sponsors
Types of people recruited
Provide finance for innovation and for rewarding innovation
Trust that ideas will be treated with respect
Transparency
Sustain Culture
Staff love to share ideas
IT system used to capture ideas
Community of practice to assess ideas
Promote sharing of information and learning
Feedback on progress of an idea
Processes in place to manage the implementation aspects of innovation
Reward ideas
Make innovation everybody's job
Customers prompted to capture and share ideas
Product innovation
Customer-focused initiatives
Process innovation
Working around existing technology or process constraints


Cognitive map - Respondent 8
External companies, partners and vendors used to drive innovation
Innovation
Stay one step in front of the competition
Foster change
Allow for growth
Build for the future
Exposure to what is happening in the industry and with new technologies
Employees responsible for keeping tabs on environmental changes
Come up with new ideas
Need to implement
Post-mortem on implementation
Need to have an appetite for risk
Recruit employees who are self starters, who want to learn and who are passionate
Encourage employee buy-in of the products that the organisation produces
Acknowledge, but not necessarily reward, innovation in action
Create environment where conversations can happen
Remove obstacles to innovation
Manage emotions about potential negatives around change
Ensure that staff are aware of importance of innovation
Provide support (time, flexibility)
Provide training
Staff are exposed to the strategic vision of the organisation
Managers are responsible for executing the vision
Innovation must be driven from the top
Leader has a strategic vision for the organisation and knows where they're going


Cognitive map - Respondent 9
Creative side of innovation
Projects that deliver on innovation
Innovation must be on the strategic agenda
Understanding consumer behaviour
Analysing competitors
Implement creative thinking tools
Context provides meaning to innovation
Knowledge management
Constant research
Continuous learning
Enable creative thinking
Get everybody involved and thinking
Engage with the consumer through technology
Training and development initiatives
Conduct feasibility of idea
Generate ideas
IT system for idea logging and tracking
Single business area responsible for incubating and accelerating new ideas
Execute idea
Build culture of innovation
Create credibility through feedback
Ensure leaders understand risk/reward
Promote understanding of what you want to do
Reward and recognition
•Manage budgets
•Manage technology
•Project management
•Business principles
•Driving contracts
•Legalities
•Vendors
•Procurement
Final decision makers
Have tolerance for mistakes and failure
Communicate successes to entire group
Drive projects
Promote a common understanding of innovation
Building relationships between company silos
Leadership must be measured on innovation
Leadership
Have patience in getting results


Cognitive map - Respondent 10
Product Innovation
Customer service innovation
Market research and feedback
Product development
Employment of R&D team
Pre-determined regular cycles of innovation
Employment of programme management team
Project planning
Execution of innovation (implementation into market)
Operational changes
IT systems changes
Build Business case
Staff training
Prioritise projects
Internal forums to improve efficiencies and service levels
Think continuously about how to do things differently on a continuous basis
Grow culture of innovation
Definition of success
Reward and recognise the "right behaviour"
Encourage open and active debate
Build and develop protégés
Clarity of vision
Values
Continuously challenging the status quo
Leadership


Cognitive map - Respondent 11
Market changes
Competitor analysis
Interactions with customers (existing and potential)
Scan for business opportunities
Educated guess of where the market is "headed"
Build alliance partnerships/ relationships with external parties
New Business Development Team tasked with innovation
Individual business units tasked with innovation
Product development process
Generation and proposal of Ideas
Run incentives ad hoc to try to increase ideas throughout the organisation
Backing of ideas into projects
Assistance with commercialising of ideas
Prioritisation of projects
Allocation of resources
Project management
Manage politics between teams and business units
Create environment conducive to innovation
KPI's and team goals to measure innovation performance
Feedback process on completion of project/product implementation
People bring their hearts and minds to work
Allow people to be empowered and proactive
Add meaning to work
Failure not discouraged
Unacceptable for competitor to be leader
Communicate vision
Create and introduce product or enhancement into the market
Celebrate "wins"
Leadership structure


Cognitive map - Respondent 12
Leadership need to push innovation
Communicate the critical nature of innovation
Manage the people aspects of innovation
Competition for innovative performance
Recognise and reward people
Manage emotional space
Recruitment
Training (via MBA's etc) to increase these capabilities
Personal characteristics (Commitment, discipline, effort)
Hire people with financial skills
Hire staff with high EQ
Willingness to share information and knowledge
Verbalise thinking into ideas
Staff are responsible for creative thinking
Need to develop skills for business cases and financial modelling
Bring in external ideas
Develop business case
Develop business model
Proposal of idea
Willingness to try again (after failure)
Evaluation of idea
Project management
Get funding
Allocate resources
Create and build revenue streams
Implementation processes must be in place
Feedback and changes to product
Assess success factors and apply to other initiatives
Cost replacement
Customer benefit
Implementation
Market research post implementation

Cognitive map - Respondent 13

