Redesigning and applying the open innovation contest model to a South African financial firm

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ABSTRACT

Firms have been experimenting with various forms of innovation in order to overcome the challenges brought about by technology and the Fourth Industrial Revolution (4IR). One particular 4IR approach, Open Innovation (OI), allows firms to access a large crowd of individuals outside the firm and has recorded significant innovations in this way. OI has been used extensively, but some firms have used it differently to others. The Land Bank, for example, opted for internal rather than external OI, by tapping into the creativity of its employees. But, they were not as successful as those firms that used external OI. This is because employee innovation is not straightforward. It requires a different management style to managing external individuals or normal everyday employee working environments. Moreover, there is a lack of research on Open Innovation Contests (OICs) and innovation management practices to assist managers in navigating the complexities of employee innovation.

This study has combined these research strands to provide management practices that are best for managing employee innovation. To do this, a qualitative study was undertaken where an interview was used to investigate employee's experiences and expectations of innovation management. The interview was developed from theory on OICs and innovation management practices and eight employees of the Land Bank were interviewed. The research findings indicated that managing employees for innovation is quite challenging because employees view innovation as something that is out of the ordinary and they expect the firm to use specialized management techniques to inspire and motivate them.

Five important themes emerged from the data collected, namely a) Role of leadership in innovation, b) Role of management in innovation, c) Learning and development for innovation, d) Rewarding innovation, and e) Robust innovation process. In the eyes of employees, the leadership team has the most amount of influence and power to make changes and must use these attributes to create a culture of innovation that will encourage creativity and risk taking among employees. Managers, on the other hand, were found to also have an important role to play in innovation. Employees want them to follow a contemporary approach to managing innovation by establishing a work

environment that grants employees' flexibility, autonomy, trust, and respect. Employees are enthusiastic about learning from their mistakes in innovation because it increases their knowledge base and motivates them to continue innovating. Receiving feedback is therefore important to them but they expect to receive feedback in a form that they can understand and incorporate into future innovations. Rewarding employees for their innovation is important to them but they do not always expect to be financially rewarded, especially if firms are experiencing financial constraints.

DECLARATION

I, AMEETH SINGH, declare that this dissertation is my own unaided work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the field of Innovation Studies at the Wits Business School in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other University.

Signature: 

On this 29th day of APRIL 2021

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1 CHAPTER 1 - INTRODUCTION

1.1 INTRODUCTION

The business environment has become increasingly characterized by trends in technology breakthroughs that have replaced linear growth with exponential growth thereby allowing firms to confront the challenges of globalization, disruption and changing customer needs head-on (Schwab, 2016). Such technologies are creating seismic shifts in the business environment and it has the potential to fundamentally alter the way we live and work thereby earning the designation, the Fourth Industrial Revolution (4IR) (Schwab, 2016). Some examples of these technology breakthroughs include 3D printing, Internet of Things (IoT), Artificial Intelligence (AI), Robotics, Nanotechnology, Biotechnology, Blockchain and Augmented reality (Chen, 2017; Schwab, 2016). Already, AI is all around us, from self-driving cars and drones to virtual assistants and speech recognition (Chen, 2017; Schwab, 2016). Even 3D printing has evolved rapidly, from being able to print prototypes and small objects to now being able to print aerospace parts, organs (Panda, Tan, Gibson & Chua, 2016) ,and even houses (Sakin & Kiroglu, 2017).

These types of technology revolutions have also given rise to new and simplified business models, like the sharing economy, for example, Uber and Airbnb, and crowdfunding, for example, Kickstarter (Chen, 2017). Such trends are affecting social and economic patterns and are increasing the competitiveness between well-established firms and new entrants (Bergendahl, Magnusson & Björk, 2015; Guo, Su & Zhang, 2017; Mazur & Zaborek, 2016). Due to the affordability of technology, ease of adoption, and simplified business models, new entrants can immediately capitalize from them and pose a significant threat to incumbent firms. In this way, they are creating waves of disruptions that are quickly eroding monopolistic barriers to entry in all sectors, including those that have been well guarded for so many years.

Technology trends are also exacerbating the existing challenge of fulfilling the rapidly changing heterogeneous needs of customers who now prefer customized products over commodities (Kieżel, 2015; Prajogo & Ahmed, 2006; Silva, Vasconcellos, Murilo, Oliveira

& Spers, 2017). Successful firms are now the ones that can meet rapidly changing customer demands with products that are suitable to their unique circumstances.

Faced with a medley of technology trends, the rise of the disruptor firms and, tech-savvy customers, firms are under tremendous pressure to sustain their existence. To survive and remain competitive firms are finding themselves in a state of hyper-competitiveness as they endeavour in their pursuit of becoming the preferred provider of products and services (Hoisl, Gruber & Conti, 2016). Given the impending challenges, it has become imperative for firms to engage in business activities that facilitate faster product life cycles, quicker technology adoption, product customization, and process efficiency. In other words, firms have to become more creative and innovative.

The constructs of creativity and innovation have thus become popular buzzwords in corporate jargon, especially for firms that are trying to carve out a competitive advantage for themselves (Mai, Vu, Bui & Tuyen, 2019). Firms have moved on from debating whether or not to innovate, they have accepted innovation and have progressed to developing strategies on how to innovate (Prajogo & Ahmed, 2006). They have even embraced the ambiguity of innovation and are now directing their efforts to pursue innovative ways for achieving success (Armbruster-Domeyer, Bikfalvi, Kinkel & Lay, 2008a).

Innovation has thus become mainstream for finding quicker ways of delivering better products and processes to satisfy rapidly changing customer demands (Baregheh, Rowley & Sambrook, 2009b). The adoption of an innovative approach goes beyond just new products. In firms, it can also bring about adaptive behaviour to the firm's internal and external environment thereby changing the firm in such a way that it can improve its overall performance (Damanpour, Walker & Avellaneda, 2009).

The increasing trends in complexity and competitiveness are not confined to the private sector. The government sector is also facing numerous modern and complex socio-economic challenges, for example, urban migration and smart cities (Timeus & Gascó, 2018). Firms are applying pressure on governments to catalyse the rapid uptake of technology by taking a proactive policy reform approach to technology disruption (van Bochoven, 2016). They are also expecting that their government's legal and regulatory

systems are able to navigate the variety and ambiguity associated with the advancements and adoption of new technologies. Examples of this include the ethics of self-driving cars, cyberterrorism, and the implications of artificial intelligence (Golden, 2019). On the other hand, citizens are demanding more than just improved service delivery, job creation, and land reforms. Nowadays, they also want to collaborate and co-create services on platforms like E-Government, Open Government, Digital Government (Mergel, 2017b; Sánchez-Torres & Miles, 2017) and they want to do so in a seamless, personalized, and innovative manner (Mergel, 2017b). In addition, they want governments to take the lead role in dispelling their concerns and reimagining their experiences with the public sector.

Innovation requires many ideas to be successful and leaders need to encourage the creation of ideas which is solely dependent on individual creativity (Heye, 2016). Individual creativity is therefore a critical antecedent for generating innovative ideas which are the innovation inputs that are transformed into innovation outputs (Bergendahl *et al.*, 2015; Goffin & Mitchell, 2016; Guo *et al.*, 2017; Prajogo & Ahmed, 2006). However, as little as only one in a 1000 ideas are selected for implementation (Damanpour, 2017; Datta, Mukherjee & Jessup, 2014) and therefore, true innovation success lies in creating larger pools of ideas to select from. Leaders must create an environment where individuals are motivated to innovate and idea generation can flourish.

Until recently, the traditional and most popular form of firm innovation has been headed up by research and development (R&D) specialists (Wikhamn, 2013). The R&D approach to problem-solving follows the linear process of research, development, testing, and implementation (Callaghan, Henrich & O'Neill, 2018). However, there is much difficulty in obtaining complex knowledge, the development costs are escalating and product life cycles of competitors have become much shorter, all of which indicates that the linear R&D process is not as effective as it used to be (Remneland Wikhamn, 2013). Also, the benefits from R&D is delayed because of the long time that it takes for customers to realize the value from new products (Mai *et al.*, 2019). The resulting delays, together with the high costs were also found to endanger a firm's competitive advantage (Callaghan *et al.*, 2018; Mazzola, Acur, Piazza & Perrone, 2018). Moreover, it was found that delays in product delivery have a negative effect on revenue generation which in turn, can also threaten the survival of a firm, its employees, suppliers, and other stakeholders (Belay,

Kekäle & Helo, 2011). In addition, R&D is regarded as a specialized function involving only a limited number of employees (Mai *et al.*, 2019).

Subsequently, investment in firm-level R&D began to decrease as researchers started seeking alternate methods of problem-solving at the firm level (Schuhmacher, Gassmann, McCracken & Hinder, 2018). Researchers explored the possibility of firms bypassing their internal R&D in exchange for external sources of ideas. The underlying premise for using external resources was that the firm would have access to a larger number of people which would ultimately increase the collective creativity of the firm. In doing so firms could generate a higher number of quality ideas and could therefore improve their innovation performance at a faster rate (Lee, Fong, Barney & Hawk, 2019).As a result, the Open Innovation (OI) (Hoisl *et al.*, 2016) phenomenon emerged (Marcolin, Vezzetti & Montagna, 2017). Henry William Chesbrough (2003) introduced the concept in his book Open Innovation: The new imperative for creating and profiting from technology. Herein, his definition of OI emphasized that firms must use both internal and external sources for generating ideas. He defined OI as “a paradigm that assumes that firms can and should use *external* ideas as well as *internal* ideas, and *internal* and *external* paths to market, as the firms look to advance their technology” (Marcolin *et al.*, 2017, p. 258). The external approach has since also been described as the crowdsourcing of ideas from people that are external to the firm (Mazur & Zaborek, 2016; Mergel, 2017a). Using the option of OI to increase the number of creative ideas meant that firms needed to find ways of convincing outsiders to submit ideas, for new products or services, directly to the firm. At the same time, the internet was advancing at a rapid pace and this made it possible to create online platforms with relative ease. Firms exploited this opportunity by using these platforms to implement their OI initiatives. Extensive evidence has since emerged about several global companies that successfully implemented OI to generate useful ideas. Even before Chesbrough’s book, the Chief Executive Officer (CEO) of Procter & Gamble set the firm goal to acquire 50% of their innovations from outside the company (Marcolin *et al.*, 2017). Toyota formed the e-Palette Alliance, consisting of Uber, Amazon, Mazda, and Pizza Hut, which is an ecosystem of software and hardware support to develop a modular, and driverless vehicle (Bogers, Chesbrough, Heaton & Teece, 2019). Qualcomm, Nokia, Ericsson, Motorola, IBM, and others built a number of technology

platforms under ETSI (European Telecommunications Standards Institute)/3GPP (Third Generation Partnership Project) that fed an ecosystem that would enhance and combine proprietary core technologies (Bogers *et al.*, 2019). Firms using this approach quickly learned that in OI they only needed to pay for successful ideas which were in stark contrast to internal R&D where all selected ideas are financed (Mazzola *et al.*, 2018; Yang, Chen & Pavlou, 2009).

OI's popularity, therefore, grew resulting in the evolution of different forms of OI that could also engage the creativity of external participants. Tesla, the electric vehicle company, used the Open Patent approach by making their patents freely available to the public to cajole them into finding a creative solution for their carbon crisis. Cisco, the international information technology (IT) firm, used the Open Innovation Through Acquisition approach when they acquired all of their required technology from start-ups. Linux used the Open Sourcing method of involving thousands of programmers from around the world to collaborate on the development of an operating system (Bogers *et al.*, 2019). It was not common for firms to offer monetary rewards as a motivation for participation, but some firms did incentivize participants in this way. OI thus became known as an Open Innovation Contest (OIC) (Hofstetter, Zhang & Herrmann, 2018). Examples of this format include Google and NTT, who both offered lucrative monetary rewards for resolving their audacious challenges. Google offered a 20 Million USD winning prize to whoever was first to land a robot on the moon, move it 500 meters and then broadcast from there (LeVine, 2009). NTT recently held its Open Innovation contest with a $100 000 prize money (NTT DATA Corporation, 2019).

Chesbrough (2003) in his definition he also mentioned the use of internal employees for innovation, however, while the external approach is replete with examples of success, the use of OI internally has only received cursory attention from researchers. This is despite the recommendation that OI is capable of generating ideas from employees (Fay, Shipton, West & Patterson, 2015). One possible explanation for this is that Chesbrough (2003)does not emphasize the important role of employees in establishing the type of internal innovation that is required to be competitive (Laviolette, Redien-Collot & Teglborg, 2013). On the other hand, some researchers have identified and underlined the importance of employee involvement in innovation. For example, Høyrup (2013) observed

that employees are constantly developing new knowledge and gaining new experiences but they are often overlooked for innovation. Høyrup (2013) therefore introduced the concept of Employee-driven Innovation (EDI) to highlight the potential of employee innovation. Høyrup (2013, p. 6) defines EDI as “the generation and implementation of new and valuable ideas, products, and processes – including the everyday remaking of jobs and organizational practices – originating from the interaction of employees, who are not assigned to this task”. The definition highlights the potential of all employees to be innovative and therefore encourages their input in problem solving and decision-making activities. The potential of EDI was validated in subsequent literature that found that employee innovation benefits both the firm and the employees (Baumann & Stieglitz, 2013).

Navigating the contours of employee innovation is, however, a complex management practice. Various elements in the existing work environment must be transformed in order to convince employees that they could be more creative. According to Amabile (1998), employees require three components to be creative, i.e. expertise, creative-thinking skills, and motivation. The individual components are complex enough on their own and have been studied separately and extensively. Creativity itself once had its theory grounded in individual intelligence and was later studied under cognitive psychology as well as neurobiology and function of creatives and creative thinking (Batey & Furnham, 2006). Research on motivation is also extensive and diverse. For example, some research focuses on personal initiative for creativity (Frese, Kring, Soose & Zempel, 1996) while others focus on intrinsic and extrinsic factors as a source of motivation for creativity (Amabile, 1998; Ryan & Deci, 2000). The complexity is compounded when viewed from a Human Resource Management perspective. Here, several researchers have identified key management practices that can stimulate and improve employee innovation performance (Amabile, Conti, Coon, Lazenby & Herron, 1996; Carmona, Gomes & Costa, 2020; Foss & Laursen, 2003; Prajogo & Ahmed, 2006). Some of the elements identified include top management support, skills development, autonomy, teamwork, and challenging environments. The literature covering firm innovation management practices is therefore extensive and complex to navigate.

Firms like the Land Bank, have tried to use the OIC in its standard format but, it did not yield the expected number of ideas. Available literature points out that the current OIC design has been predominantly used with external participants and therefore it does not provide for the complexity associated with employee management (Adamczyk, Bullinger-Hoffmann & Moeslein, 2012; Bullinger-Hoffmann, Neyer, Rass & Moeslein, 2010; Callaghan *et al.*, 2018; Ebner, Leimeister & Krcmar, 2009). Therefore, if OI is to be used inside a firm, it must incorporate a set of management practices that will actually encourage employees to be creative. This is supported by Elerud-Tryde and Hooge (2014) who also found that internal and external IT platforms require different management practices but that studies of this nature are scarce. This study aims to investigate the type of management practices that can motivate and encourage employees to participate in innovation. This study is a qualitative study and is conducted on a South African firm in the government sector, namely the Land Bank.

1.2 THE LAND BANK OPERATING ENVIRONMENT

1.2.1 BACKGROUND

The Land Bank was started in 1912 with its main purpose being to transform and foster an inclusive South African agricultural sector by increasing agricultural land ownership and promoting greater participation for previously disadvantaged people. The bank is also expected to align with national and international goals and its strategy is therefore aligned to the National Development Plan (NDP) and the Sustainable Development Goals (SDGs). This enables the Land Bank to promote, facilitate and support equitable ownership of agricultural land, agrarian reform, rural development, agricultural entrepreneurship and food security. The bank's primary stakeholders are investors and the South African National Treasury.

In order to achieve their purpose, the Land Bank provides agriculturally related financial services for the purchase of land, equipment and production credit in the hope of widening the entrance and participation to the sector.

The Land Bank provides these products and services in a similar way to a traditional bank, however, it does not operate under a full banking licence. Rather, it is governed by the Land and Agricultural Development Bank Act No.15 (2002). The Act allows the bank

to generate income from providing loans for agricultural purposes, but only in South Africa. Another restriction, according to the Act, is that the bank is prohibited from generating income from other banking services, for example deposits, withdrawals, cheque accounts, business accounts, investments etc. which are normally associated with banks. This restriction is a significant disadvantage for the bank as it has to compete with commercial banks that have multiple income streams and have the added benefit of being able to operate in both national, and international markets.

The Land Bank has a dual purpose in that it provides loans (profit generating) but, in addition, because it is government owned it has a fiduciary duty to function as a Development Finance Institution (DFI) as well. As a DFI, the Bank has a broader social impact to transform the agricultural sector so that it is more inclusive of previously disadvantaged people in terms of land ownership and agricultural participation. This includes providing emerging black farmers, women and youth with financial products and services that are aligned to the full agricultural value chain. However, it has been enacted that the funding for this initiative must come from the Land Bank's revenue generating business arm which, due to challenges, has only been experiencing lacklustre performance. Moreover, most participants in these groups are classified as high risk clients due to them not having either the collateral, or the experience, that is required for practising agriculture. As a result, many of these clients businesses fail, and, in the process, they create a high number of non-performing loans. This loss is absorbed by the Land Bank, but, it pressurizes them into competing with the established banks for the modest pool of less riskier clients in order for them to overcome the losses and appease investors. In this capacity, the Land Bank is different to its competitors because their competitors do not have the same development mandate and can therefore channel their profits towards diversifying their business, both locally and internationally, instead of supporting high risk clients.

Altogether, the bank has managed to keep itself self-sustainable, however, considering the contextual challenges, it may be difficult for the bank to maintain this level or to even grow in the near future. Due to these financial difficulties and the austerity measures that have been put in place, the bank has not been able to invest in the adoption of new technologies or processes for both themselves, and their clients. As a result, the need to

find innovative ways of making business improvements became more urgent. In response to this, the Land Bank chose to use a cost effective innovation contest approach for generating relevant ideas. The innovation contest provided employees with the opportunity to participate in the bank's innovation strategy which, in itself, was innovative as it had not been done before.

The following section expands on these topics to provide a holistic view of the operating environment of the Land Bank from the perspectives of the business sector, the government sector, as well as the South African economy.

Challenges that the *Land Bank experiences in the business sector*

Through their full banking licences, traditional banks are allowed to provide a multitude of services to generate revenue, whereas the Land Bank is governed by The Land Bank Act and can therefore only generate interest income from the loan disbursements that they have provided. Naturally, this creates a significant barrier to the bank's ability to grow. To overcome this challenge, the bank provides competitive pricing by blending grant funding from investors with interest bearing funding from their revenue generating activities. However, due to the stringent requirements that investors attach to their funding, the success of blended financing has been mediocre at best.

The Land Bank's competitors include commercial banks as well as specialized Agricultural cooperatives. These firms are well established private firms and therefore enjoy the benefits that are associated with private firms. They attract the best talent and have advanced systems and processes in place that provide them with the intelligence that allows them to create customized products across the entire agricultural value chain. Naturally, this provides them with a strong competitive advantage over the Land Bank. While the Land Bank is still progressing towards more advanced processes and systems, the benefit realization of these initiatives are forecasted to be achieved only a few years from now. Therefore, it remains uncompetitive in this regard.

In general, the South African Agricultural sector is in decline (Land Bank, 2019). Sustained drought led to a delay in planting season and gave rise to diseases in livestock (Land Bank, 2019). Other factors contributing to the decline include the listeriotic crisis, outbreaks of foot-and-mouth disease, uncharacteristic hail and drier conditions in some

parts of the country (Land Bank, 2019). The delayed planting season led to a reduction in loan drawdowns by the Land Bank clients. The consequence of this was a reduction in interest income for the bank (Land Bank, 2019). Lower commodity prices and increased input costs worsened the situation even further (Land Bank, 2019).

Challenges that the *Land Bank experiences in the Government sector*

The Land Bank has to fulfil its development mandate by making the agricultural sector more accessible to previously disadvantaged individuals including women and youth. However, government support is limited in this regard and the bank is therefore expected to fund such activities from their modest interest income stream. In addition, previously disadvantaged individuals can be regarded as high risk clients because they usually do not have sufficient collateral and have very little formal agricultural experience. The bank can therefore only serve these clients with products that attract high interest rates thereby making them uncompetitive.

Another challenge that faces the Land Bank, as a government owned institution, is that it is often grouped together with other State Owned Enterprises (SOE"s) in the media. In this regard, the Land Bank, despite being well governed, becomes concomitant with poorly performing government institutions in media reports that have been scathing of government's poor performance and its accumulation of debt. As of September 2019, the SOE debt was more than R500 billion (Prior, 2019). Eskom ,the power generating unit, is arguably regarded as the most important SOE for economic growth (Prinsloo & Henderson, 2019) but it is unfortunately the leader of the debt crisis with a value of R440 billion of debt. Media reports of this nature arouse investor suspicion of not just Eskom but of all state enterprises, including the Land Bank. As a government owned institution, it has become impossible for the Land Bank to divorce themselves from such media reports. The result is that negative publicity leads to lower investor confidence in the Land Bank and an increase in lending rates which are inevitably passed on to the customer thereby creating another hurdle to being competitive.

Closely linked to media reports on SOE"s are media reports on the political uncertainty that is negatively affecting the economy as well as the government aligned the Land Bank (2019). A good example of this is the proposed implementation of land expropriation

without compensation which aligns to the policy agenda of the governing African National Congress (ANC) party in South Africa. The regulatory proposals for land expropriation without compensation remains a strategic risk for the Bank (Land Bank, 2019). “Land expropriation without compensation threatens the financial sustainability of the Bank as a creditor from local debt providers, capital markets and international multilateral institutions, which fund the Bank. Investors may be unwilling to continue funding or continue at an added risk premium due to perceived higher risk levels in agriculture. This poses serious risks to our business model if the rights of lenders are not protected in the execution of the expropriation policy” (Land Bank, 2019). Therefore, if land expropriation without compensation were to materialize in a manner that does not protect the Bank, it would affect investor confidence and will significantly reduce funding.

The economy of the country, which is the overarching system that controls flows into and out of the country, has an important role to play in making the South African business environment, including the Land Bank, attractive to investors. The economic status of the country has the power to either instil or reduce confidence in the Land Bank’s performance projections. The following section discusses the state of the South African economy and the impact that it has on the Land Bank.

The state of the South African Economy

The South African economy is experiencing sustained pressure. It contracted by 1, 4% in the fourth quarter of 2019, following a contraction of 0.8% (revised) in the third quarter. Transport and trade were the main drags on overall activity, according to the latest gross domestic product (GDP) figures (STATSSA, 2020). Seven of the ten industries contracted in the fourth quarter resulting in the economy sliding into its third recession since 1994 (STATSSA, 2020).

Agriculture experienced its fourth consecutive quarter of negative growth. The late rains and a heatwave affected the production of field crops. The country also produced less horticulture products in the fourth quarter of 2019. Dam levels in various parts of the country fell sharply resulting in water restrictions, reducing activity in the water supply industry and in agricultural activity (STATSSA, 2020).

The impact of all of the above has had a significant impact on South Africa's GDP and the Land Bank. Currently, the GDP is a minuscule 0.2% (South Africa's economy is in worse shape than what economists expected – so what now? 2020) and with the non-performing SOE"s continuously being bailed out with taxpayer money, it reduces investor confidence in the Land Bank even further.

The next section describes the context of the bank's operations and its innovation strategy.

Context of the Land Bank

This section provides an overview of the banks operating environment.

The Land Bank is governed by a board, which is the highest decision making body of the bank. The board includes the CEO and independent members that are selected by the Minister of Finance. The role of the board is to make decisions that are in the best interest of the bank's stakeholders and, therefore, almost all the bank's initiatives have to be approved by them. While this creates good governance for the bank, the approval process is time consuming and can therefore delay important decision making by the bank.

The bank has a central head office where most of the key business areas, like Legal, Finance, Credit and Strategy are located. They also have a sales network that is strategically located throughout the country in order to be in close proximity to their clients. Their clients are farmers, most of which live on their farms and commute to the city only when necessary.

The Land Bank has been in existence for many years, however, limited government funding and their inability to invest in technology and processes has led them to having only basic systems and outdated processes. Ironically, the high degree of governance procedures that protects them from fraud, corruption and negative media reports, also creates process inefficiencies. These inefficiencies add to their inability to compete with other banks, especially when related to policy changes and the processing of loan applications. They are also subjected to the rules of the Public Financial Management Act (PFMA) which ranks pricing higher than quality when purchasing systems. As a result,

the bank is forced to purchase rudimentary systems which do not provide them with all their requirements.

Considering all of the above, the need to innovate was urgent for the Land Bank to be sustainable.

This section described the context of the Land Bank in terms of the South African economy and the elements of the banks operations This section also illustrated that each of these elements pose their own challenges to the bank and it is imperative for them to find innovative ways of overcoming these challenges in order to be sustainable.

The Land Banks Innovation strategy

An innovative approach, which has been successful in many other firms (Dess & Picken, 2012), was used to bring in much needed improvements for the bank. While there were various options that the bank chose to include in their innovation strategy, this study will focus on their innovation contests.

1.3 RESEARCH MOTIVATION

Based on strong competition and the government's demand for higher profits, the Land Bank was under pressure to change and become more innovative. They knew that they needed a consistent flow of ideas but their R&D and product development teams were not able to generate such a large number of ideas. Similar to firms like Google and Toyota, LB considered crowding in ideas from outside the firm to increase the pool of ideas that they could select from. However, this approach was not approved because they were concerned about sharing confidential information with outsiders and, their main shareholder, the National Treasury department, would not approve of such an arrangement. At the same time, the firm's employees were actively suggesting business improvement changes but because it was being done informally in team meetings or emails to each other, they were not being implemented through a formal innovation process. Based on this, the leadership team decided that employees could actually be a good source of ideas and therefore formalize innovation by launching OICs and granting rewards for the best ideas. The OICs were duly implemented, but due to low employee participation, they were not generating a sufficient number of ideas and were therefore cancelled. A subsequent employee survey indicated that there were various aspects of

management that were not conducive to employee innovation and this is why they were not motivated to participate.

The research conducted on employee creativity management stipulates that, unlike the standard OICs where outsiders provide ideas to a firm (Antikainen, Mäkipää & Ahonen, 2010), employee OIC is a complex management undertaking (Amabile *et al.*, 1996; Carmona *et al.*, 2020; Foss & Laursen, 2003; Prajogo & Ahmed, 2006).

Despite the challenges, employees offer an untapped wealth of knowledge and experience, thereby making it imperative for firms to pursue this innovation. However, firm leaders and managers need guidance on the management practices for employee innovation. This research investigates the design of innovation management practices that will be effective for employee creativity.

1.4 PROBLEM STATEMENT

Firms are successfully using OICs to stimulate individual creativity and increase the number of ideas for new products and processes (Bergendahl *et al.*, 2015; Goffin & Mitchell, 2016; Guo *et al.*, 2017; Prajogo & Ahmed, 2006). Previously, many believed that only certain people with artistic abilities could be creative (Laruccia, 2009). Furthermore, researchers found that only individuals with certain personality traits (for example, self-confidence, proactive habits, and tolerance for ambiguity) may have the ability to think creatively. Such findings may lead one to believe that creativity is rare and serendipitous. However, contrasting research indicates that creativity is not limited to only a few individuals but is indeed a capability of all humans with some being more creative than others (Fairbank & Williams, 2001). Applying this finding in a firm infers that firms do not have to be contingent only on R&D employees for creativity. All employees can make creative contributions to firm success (Høyrup, 2013) and many firms have used this approach (Bogers *et al.*, 2019; Marcolin *et al.*, 2017).

The Land Bank, therefore, propositioned employees to submit their business improvement ideas on an OIC platform to be evaluated, selected, and implemented if found viable. However, despite the advantages of employee creativity articulated in research (Bergendahl *et al.*, 2015; Høyrup, 2013), the Land Bank did not receive the expected level of creativity from their employees. A follow-up employee survey revealed

that even though OICs were appealing, many underlying management issues prevented employees from being creative. Among them was the lack of senior management commitment, lack of innovation training, lack of task autonomy, lack of job rotation opportunities, and lack of awareness.

The Land Bank was only able to use the standard OIC design when implementing their OICs. However, the standard version of OICs does not cater to employee innovation and is therefore lacking the specific management practices for employees to be successful at innovation. Furthermore, an OIC design that also incorporates management practices for employee innovation has not yet been researched. Thus far OICs and innovation management practices have been treated as separate strands of research. OICs have been researched from the perspective of managing external participation but ignore innovation management practices for employees (Adamczyk *et al.*, 2012; Bullinger-Hoffmann *et al.*, 2010; Ebner *et al.*, 2009; Klein & Lechner, 2009; Schepers, Schnell & Vroom, 1999). On the other hand, innovation management practices have been researched from the perspective of employees but ignore how they can be used for employee OICs (Amabile *et al.*, 1996; Amabile, 1998; Foss & Laursen, 2003; Prajogo & Ahmed, 2006).

This study addresses the problem of having an insufficient amount of management practices for effectively managing internal employee creativity so that it can contribute to improving innovation performance within firms.

1.5 RESEARCH QUESTION

What combination of innovation management practices and OIC design elements will provide a new OIC design that will stimulate employee creativity for new ideas given the limitations in management practices identified as constraining?

Sub Research Questions:

Mounting evidence indicates that all employees have deep insight into the available opportunities for the firm and can therefore provide a substantial amount of ideas to take advantage of these opportunities. Managers require management practices that can promote employee innovation.

What management practices from existing organizational reports is considered important for improving employee creativity?

Firms that want to include employees in innovation can use OICs to obtain ideas from them. But, they need an appropriate OIC designed for employee innovation rather than for external participants.

What OIC design elements, which are normally used for attracting external participants, could also be regarded as good innovation management practices for managing employee innovation?

1.6 PURPOSE OF THE STUDY

The purpose of this study is to combine the OIC design elements with employee-driven innovation management practices to create a new enhanced OIC design that can stimulate employee creativity. It will be identifying the existing OIC design elements from three OIC-related studies and merging them with management practices that correlate with increasing employee creativity. The primary data for the study will be from employee interviews. The interviews will provide data, from an employee perspective, on what is good innovation management practices and will be in the design of a new OIC.

1.7 RESEARCH OBJECTIVES

The following are the research objectives:

- To investigate the management practices that stimulate employee creativity in firms.
- To identify the current OIC design elements from OIC related studies.
- To provide a new OIC design by combining management practices and design elements.

1.8 SIGNIFICANCE OF THE STUDY

The significance of the study is two-fold. It contributes to both the academic and practical aspects of employee innovation management.

In the current academic landscape, there is limited research focusing on OICs that elicit ideas from employees. The majority of research is on firms that have elicit ideas from individuals external to the firm. When research is on employee innovation, it is generally about the traditional R&D employee whose sole responsibility is to be innovative. Even

less research has been done on management practices that are specifically for OICs. With data from an employee interview, this study addresses the lack of literature on the management practices required for employee-related OICs that increases employee creativity.

The study will appeal to practising managers because it contributes to solving the dilemma of finding additional forms of innovation for firms. Thus far, firms have relied mainly on R&D and OICs for finding creative solutions to their most vexing problems. This study presents employees as an alternative to these approaches and will also prescribe management practices for stimulating employee creativity.

Additionally, the study will also gain attention from Human Resource Management (HRM) scholars investigating employees and knowledge sharing, decentralizing decision making, incentives, and knowledge dissemination. They can now use the findings of this study to establish a systematic approach to HRM for employee-driven innovation.

1.9 LIMITATIONS

The study uses only a single firm in the public financial sector and, therefore, the findings may not apply to all firms. Therefore, the findings may not apply to all firms. Furthermore, because only non-executive employees were selected for the interview, the findings cannot be generalized to all employees. To overcome these limitations, the findings from other similar research is used to validate the findings from this study.

1.10 DELIMITATIONS OF THE STUDY

The study focuses on the impact of management practices on employee innovation but does not consider other relevant aspects, for example, individual personality types. The reason for this is that the employee feedback pointed to shortcomings of management practices.

1.11 ASSUMPTIONS

An assumption was that three studies related to innovation management would lead to the derivation of management practices for employees.

There was an assumption made that a single OIC design could be from three different studies on OIC design elements.

The researcher assumed that any bad experiences from participating in previous OICs would not disillusion the participants from providing honest responses.

Interviews are extensive in deriving data for rich data analysis and thus assumed to be a sufficiently good mechanism for obtaining employee feedback.

Lastly, the responses from the selected sample are assumed to be a good representation of all the Land Bank employees.

2 CHAPTER 2 – LITERATURE REVIEW

This study is positioned within the broader context of firm innovation. Therefore the departure point of this chapter will be the definition and discussion of firm innovation. Thereafter, the remaining theoretical underpinnings of the study are sketched out according to the literature on creativity, innovation management practices and OIC design elements.

2.1 FIRM INNOVATION AND EMPLOYEE DRIVEN INNOVATION (EDI)

Firm innovation is a broad topic that encompasses various research strands, including innovation diffusion, innovation adoption, innovativeness, corporate innovation, and innovating (Damanpour, 1991; Tseng & Tseng, 2019). Hence, there is ambiguity associated with defining firm innovation (Armbruster-Domeyer, Bikfalvi, Kinkel & Lay, 2008b). In addition, firms innovation is multidimensional and can therefore be from many perspectives (Damanpour & Schneider, 2006). Nonetheless, firm innovation is adopting an idea or behaviour new to the organization (Bluedorn, Daft & Becker, 1979; Damanpour, 1991; Oerlemans, Meeus & Boekema, 1998). Firm innovation is also implementing an internally generated or borrowed idea related to a product, device, system, process, policy, program, or service, but that was new to the organization at the time of adoption. Amabile (1998) defined it simply as the implementation of creative ideas within a firm. A recent highly cited definition is from the Organisation for Economic Co-operation and Development (OECD) Oslo Manual. It has the business, or firm innovation, as “a new or improved product or business process (or a combination thereof) that differs significantly from the firm’s previous products or business processes and that has been introduced on the market or brought into use by the firm” (OECD & Eurostat, 2019).

The definitions above overlap on a few points. Firm innovation begins with ideas, must-have newness or novelty, and is not limited to a product but can also be related to a process, policy, or even people (Baregheh *et al.*, 2009b). However, novelty is a relative term and can exist at different levels, including individual, group or team, organization, industry, or the wider society (Damanpour & Schneider, 2006). Asthana, Jones and Sheaff (2019) referred to these levels as micro-level (individual), macro-level (industry), and meso-level (the firm or organization). Another point emphasized in the definitions is

that creativity will provide ideas, but true innovation is when ideas have been implemented and usable by other people (Cooper, 2008; Griffin, 1997). It reaffirms the notion that innovations begin with ideas (Bergendahl *et al.*, 2015; Goffin & Mitchell, 2016; Guo *et al.*, 2017; Prajogo & Ahmed, 2006).

Firms have used various methods to generate ideas. According to Schroll, Carlsson and Mild (2011), firms can engage in closed innovation where their only source of innovation is from internal R&D departments, or they can use Open Innovation (Hoisl *et al.*, 2016) where ideas are sourced from outside the firm. Gassmann and Enkel (2004) identified three classifications of OI based on the direction in which ideas flow in relation to the firm:

Outside-in or inbound idea flow: incorporating external parties like suppliers, customers and knowledge centers as a source of ideas (Gassmann & Enkel, 2004).

Inside-out or Outbound idea flow: the origination of innovation begins inside the firm. An example of this is the sharing of intellectual property (IP) with external parties so that they can use the IP to develop other ideas. Inside-out is usually associated with R&D driven firms (Gassmann & Enkel, 2004).

Coupled process: refers to using both Outside-In and Inside-Out to improve innovativeness of the firm. For this approach to be successful, firms need to establish long term partnerships with their stakeholders to facilitate the exchange of knowledge in both directions (Gassmann & Enkel, 2004).

The non-R&D employees are often overlooked when considering potential source of innovation. Høyrup (2013) found that non-R&D employees can also be a rich source of ideas and proposed that all employees be included in innovation activities and called this approach Employee Driven Innovation (EDI). EDI emphasizes the engagement of "ordinary workers", who are not managers or R&D personnel in innovation activities. Such employees possess valuable tacit knowledge that has been accumulated at the workplace, such as working experiences and in-depth understanding of routines which can make them valuable contributors to innovation (Miao & Ji, 2020).

In a firm, there are three ways in which employees can become active in innovation, also known as the orders of EDI. First-order EDI (truly bottom-up, self-initiated) is

where *employees* initiate and implement innovations independently, meaning that it is without manager or leader involvement. But, in First-order EDI, innovations are limited to only reconstructing work practices. In Third-order EDI innovation is initiated by the *leadership team* who become accountable for its success and purposefully include employees as part of it. In second-order EDI, there is a mixture of top-down and bottom-up innovation processes initiated by employees but overlooked by managers. Smith (2017) felt that the orders of EDI are useful, but distinguishing between employees and managers role in innovation is a narrow focus on roles and responsibilities. It should rather focus on the socio-personal relationships that constitute all work because how and to what extent employees, of all levels, participate and contribute can be more significant than their hierarchical position.

2.2 CREATIVITY

Creativity and innovation are often used interchangeably, but they are in fact not the same. Creativity is regarded as the generation of novel ideas whereas innovation is the process of distinguishing, developing and assessing the ideas in practical terms (Amabile *et al.*, 1996).

Creating ideas can be done as an individual or as a group. However, Gillier, Buffart, Liger and Piat (2017) found that the highest amount of ideas and the most creative ideas, are generated by individuals as opposed to a group. This was in contrast to Girotra, Terwiesch and Ulrich (2010) who found that groups can generate more ideas, better ideas, and can also better discern the quality of the ideas that they generate. But they also found that a popular group activity called brainstorming is actually counterproductive and that teams neither create more ideas, nor are the ideas of better quality. More recently, Guo *et al.* (2017) found that individual creativity is influenced by both personality and group diversity in that those that score high on openness to experience and extraversion perform better on creativity and, these traits encourage individual creativity when a group is heterogeneous. Furthermore, in a group setting, Social Identity Theory (SIT) and Social Categorization Theory (SCT) informs us that an individual's desire for self-esteem and self-enhancement will cause them to adapt their behaviour to the group setting based on the social identity process (Brown, Collins & Schmidt, 1988). Similarly, an individual forms

different personal and team identities in different group contexts, therefore an individual will change their group behaviour accordingly (Jonsen, Maznevski & Schneider, 2011).

It is generally believed that only certain people have the gift of creativity and that it is confined to the arts (Laruccia, 2009). Also, researchers have found that only individuals with certain personality traits (for example self-confidence, proactive habits and tolerance for ambiguity) may have unique perceptions of problems or may think differently. These attributes may enable these individuals to generate ideas that are more creative than others (Batey & Furnham, 2006). Contrary to this finding, creativity was found to be an actual human capability and therefore all people are creative but some are more creative than others (Fairbank & Williams, 2001). This is elaborated by Laruccia (2009) who further stated that creativity is what distinguishes humans from other species. Therefore, in a firm environment, employees offer great potential for innovation. In order to harness this creativity, leaders and managers must create a safe environment to submit and capture employee ideas and transform them into innovations (Fairbank & Williams, 2001). Management must therefore open the doors to the suggestions and proposals from employees, observe situations more as challenges and feel motivated to face them, and also, to lose the fear of being ridiculed (Laruccia, 2009).

In examining what influences employee creativity, Amabile *et al.* (1996) found that the social work environment has an impact on the level and frequency of creative outputs. Specifically, work environments can have a positive or negative effect on organizational creativity (Amabile *et al.*, 1996; Shalley & Gilson, 2004). Risk-taking has also been identified as a characteristic of creativity but it requires a culture that encourages risk taking and does not punish or discard new ideas. Cooper (1990) found that climate together with culture also drives innovation, especially bold innovation. Another important aspect that can influence creativity is the structure of an organization. Structures that are open to using multiple sources of information, including external parties, are regarded as being more tolerant of creativity (Shalley & Gilson, 2004). The choice between exploration and exploitation for organizations can also play a significant role in idea generation. Exploration relates to finding new knowledge and includes things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation. Exploitation includes such things as refinement, choice, production, efficiency, selection,

implementation, execution (March, 1991). More recently, it was found that organizations cannot choose between being explorative or exploitative, they have to be ambidextrous and maintain a healthy balance of both approaches in order to improve long and short term performance (Walrave, Romme, van Oorschot, Langerak & Change, 2017). More importantly, in tough economic conditions this balance requires dynamic management to enable the firm to implement one form or the other. Management must therefore be able to use exploration to outperform competition, and exploitation to manage the subsequent upswing (Walrave *et al.*, 2017).

An emerging and pervasive phenomenon that is being used in the development of creative solutions is Artificial Intelligence (AI) (Amabile, 2019). Artificial intelligence (AI), belonging to the suite of 4IR technologies (Schwab, 2016), is a manifestation of aspects of human intelligence by machines and has become a key technology that is being adopted for innovative solutions today (Rust & Huang, 2014). For example, robots for homes, health care, hotels, and restaurants have automated many parts of our lives, virtual bots turn customer service into self-service (Huang & Rust, 2018), handwriting recognition that turns natural writing into readable text, sophisticated web search engines, GPS devices that instantly track each and every move, autonomous vehicles and more (Amabile, 2019). In some instances, AI is even replacing the need for humans to do the work., for example Big data AI applications are being used to replace portfolio managers (Javelosa, 2017), and social robots such as Pepper are being used instead of human greeters to welcome customers in customer-facing services (Choudhury, 2016). The Land Bank has relationship bankers that meet with clients to assess their business requirements and to sell them relevant products. The relationship bankers also provide in depth technical information and analysis about the clients business. At this stage, a social robot may not be able to provide the technical assistance but there is a possibility that it can be developed to provide this kind of information and assistance in future. On the other hand, clients do prefer human interaction because some clients have expressed in surveys, they want to meet the banker in person rather than having detailed technical discussions over the phone or even on email.

Moreover, quantum computing may one day enable true artificial intelligence where machines; will be capable of learning and exploring for new knowledge; using this knowledge to produce novel output and can even improve the output – thereby making current AI applications rudimentary (von Krogh, 2018). An existing AI system, namely Generative Pre-trained Transformer (GPT 3), that was released for testing in August 2020 has the ability to produce apparently novel text that reads as if it was written by a human (Thiergart, Huber & Übellacker, 2021). In their experiment to determine if GPT 3 was able to respond to emails, Thiergart *et al.* (2021) found that, despite its limitations, it is indeed possible to use GPT-3 to classify emails, apply named-entity recognition and ultimately to generate emails that are grammatically correct, coherent and can even answer open-ended questions. Furthermore, if a user asks GPT-3 for a nice restaurant in a given city, not only will it be able to recommend one, but more remarkably, it will use a conversational manner to do so and will even mimic empathy (Aronsson, Lu, Strüber & Berger, 2020). An AI system like GPT 3 could be used in the Land Bank to recommend financial products to them. In the same way that it uses a variety of information to recommend restaurants, it can use financial information to understand a client's needs and recommend appropriate financial products.

Even without the full capability of quantum computing being available, advanced AI systems like GPT 3 have still been developed. The GPT 3 example illustrates that AI capabilities can be extended beyond just faster processing of mundane jobs, it can also be used for generating creative outputs, like customized email or even writing stories of betrayal (Bringsjord & Ferrucci, 2000). As a result, many view AI as a threat to human employees and believe that it will upend the workforce. Influential scientists and businessman like Stephen Hawking and Bill Gates have predicted mass unemployment due to Smart Technology, Artificial Intelligence, Robotics, and Algorithms (STARA) (Brougham & Haar, 2018). This can be attributed to the fact that AI systems can work 24 hours per day, 7 days a week, and the employer does not have to pay taxes, pensions and health benefits, all of which ratifies the viability for firms to use AI instead of humans (Brougham & Haar, 2018). Moreover, it is not only low-paid, low-skilled positions that are under threat, sophisticated algorithms are also being used in legal research, for example, the Clearwell system analysed and sorted 570,000 documents in 2 days, a job that would

have normally been conducted by lawyers and paralegals over a few years (Frey & Osborne, 2013). Even management tasks can be automated using AI (Huang & Rust, 2018).

On the other hand, a small number of scholars have predicted that, instead of replacing humans, AI and human creativity will coexist where AI will actually complement and supplement human creativity (Plastino & Purdy, 2018). Citrix teamed up with Oxford Analytica and Coleman Parkes to survey over 500 C-suite leaders and 1,000 employees on current and future workforce strategies (Citrix, 2020). A key finding from this study was in agreement that AI will not replace humans but will make humans smarter and more efficient (Citrix, 2020). The majority that were polled (77%) believe that in fifteen years AI will significantly speed up decision-making and will also make workers more productive (Citrix, 2020). AI can augment labour instead of replacing it by taking on low value-add tasks and thus enabling human employees to focus on high value tasks, for example, with the assistance of humans, the Conatix algorithm for sorting unstructured data is now able to adjust its research targets to create and update high-quality insights (Sutton & Austin, 2015). Similarly, Thiergart *et al.* (2021) opined that artificial intelligence will soon take over the time consuming administrative tasks of managers and will be able to do it faster, better, and at a lower cost. Managers have to therefore adapt to this change and focus on work that requires judgement and decision making, harnessing others creativity and also developing their own social skills (Kolbjørnsrud, Amico & Thomas, 2016). In the Land Bank, robot greeters and relationship bankers can work together to provide clients with a unique experience where robots can welcome and greet clients and relationship bankers can then take over to provide the technical product assistance.

The output of creativity or idea generation can be classified using the Degree of Innovation. The Degree of Innovation indicates if an idea is Incremental, Breakthrough or Radical in nature (Goffin & Mitchell, 2016).

Incremental innovation refers to small improvements to existing products, services and processes, targeting existing markets and enabling growth through gaining market share. Tontini, Dagostim Picolo and Silveira (2014) agree that incremental innovation: involves minor changes, does not change the essential concept of the product and firms can use

it to obtain a greater market share if they are the first to introduce good incremental innovations. Due to incremental innovation having low degrees of novelty and risk it is a preferred form of innovation for CEO's that are retiring because these kinds of innovations will have far less failures and will not ruin their reputations (Xu, Yan & Finance, 2014).

Regarding Breakthrough innovation, Qi Dong, McCarthy and Schoenmakers (2017) highlights that the power and newness of breakthrough innovation causes paradigm shifts in technological trajectories, and can lead to the creation of new customers and new markets. Radical innovation is identified as being game changing, rare and changing the competitive position of an organization. Xu *et al.* (2014) study indicates that radical innovations have the ability to fundamentally improve a firm's competitive position but is high risk and has a long payback period.

Firms can have all three types of innovations occurring at the same time, however, when this happens there is too much of uncertainty and allocating resources between them is very difficult (Goffin & Mitchell, 2016). Firms therefore need a healthy portfolio consisting of a balance between all three types of innovation. To do this managers have three challenges: determine which projects are worth doing; choosing the portfolio of projects that is best suited for the firms" needs and maintaining the commitment of their employees throughout the process (Goffin & Mitchell, 2016). When contemplating the portfolio of innovation that is best suited to a firm, Nagji and Tuff (2012) found that those firms that had the "golden ratio" of innovations, 70% Incremental, 20% Breakthrough and 10% Radical, outperformed their competitors. This ratio may not be effective for all firms but it does encourage firms to analyse their existing portfolio and determine how far from their ideal portfolio they currently are (Goffin & Mitchell, 2016).

Schumpeter established that competition has a negative relationship with innovation (Alvarez & Campusano, 2014). However, more recently, Shalley and Gilson (2004) highlighted that competition is an important trigger for creativity and idea generation, thereby making it a factor for firm ideation. Eisenberg and Thompson (2011) also found that competitive environments increase motivation, especially intrinsic motivation, as well as employee creativity. Other authors, Bullinger-Hoffmann *et al.* (2010) found that both competitive, and collaborative environments, create high quality ideas, but they also found that these environments are mutually exclusive to one another. On the other hand, Hutter, Hautz, Füller, Mueller-Seeger and Matzler (2011) found that the simultaneous

existence of collaboration and competition, a concept they describe as *communitition*, creates a favourable environment for ideation. The challenge for management in having both types of environments is that they have to compete for the same number of limited resources.

The previous section articulated that firms may choose a number of ways to improve innovation including closed innovation, open innovation (three options) or EDI (three options). In the EDI approach, employees become the provider of creative ideas and, according to HRM, employees will require a range of management practices if they are to make significant contributions to improving creativity in the firm. In order to isolate the management practices that has the highest correlation with employee creativity, the next section reviews and assimilates the findings from three separate studies that were carried out in different time periods, each of which identified such management practices. Since the literature on firm innovation is addressed from the perspectives of innovation performance and human resource, two of the studies are from the innovation performance stream of literature and one from the HRM stream. The management practices are then assimilated into a single grouping.

2.3 PERCEPTIONS OF THE WORK ENVIRONMENT STUDY

In their study, Amabile *et al.* (1996) proposed the conceptual model, Perceptions of the Work Environment, that can influence creativity in a firm. A discussion of the findings is presented below.

The first element that was identified was “Encouragement of Creativity”. This was further broken down into Organizational Encouragement, Supervisory Encouragement and Work Group Support (Amabile *et al.*, 1996). A firm must provide Organizational Encouragement through senior management support for risk taking and idea generation to increase the likelihood of producing good ideas (Amabile *et al.*, 1996). Providing a fair evaluation of ideas instead of undermining employee efforts will also spur innovation (Amabile *et al.*, 1996). In addition, employees prefer to be rewarded for their creativity over and above their normal remuneration (Amabile *et al.*, 1996). Employee collaboration and involvement in decision making were found to increase the number of ideas (Amabile *et al.*, 1996). Supervisory encouragement refers to direct supervisors providing goal clarity,

open interactions and support of a team's ideas so that there is less fear of negative criticism (Amabile *et al.*, 1996). Workgroup support entails support in the group itself through diversity, openness to ideas, shared commitment and constructive criticism of ideas (Amabile *et al.*, 1996).

Research indicates that employee autonomy is a positive attribute for employees to have because employees who work autonomously are more likely to be creative (Amabile, 1988). Furthermore, creativity increases when individuals are allowed to control their day-to-day activities and ideas (Amabile *et al.*, 1996) and individuals prefer to have a choice about how they are going to accomplish their tasks (Amabile *et al.*, 1996). Oldham and Cummings (1996) also found that creative people orientate themselves towards autonomy and perform better under conditions where they have at least a moderate degree of autonomy. However, autonomy is a double-edged sword because it spurs creativity and involvement but it can also create ambiguity, inefficiencies and chaos (Mankins & Garton, 2017).

The number of resources and the adequacy of resources can also affect creativity in individuals (Amabile *et al.*, 1996). If there is a shortage of resources or the resources are not suitable to the project it might be perceived to be an unimportant project resulting in decreased motivation (Amabile *et al.*, 1996).

Extreme workload pressure can negatively affect creativity while a small amount of pressure can improve creativity (Amabile *et al.*, 1996). However, the problem to be solved must be challenging (Amabile *et al.*, 1996). Time pressure has a positive impact on creativity provided it is not extreme time constraints (Amabile *et al.*, 1996).

Impediments to creativity in firms can be attributed to internal strife, conservatism and rigid formal management style because it is perceived to be controlling mechanisms over employees (Amabile *et al.*, 1996).

2.4 NEW HRM PRACTICES TO COMPLEMENT INNOVATION PERFORMANCE IN FIRMS

This study approached the improvement of innovation performance from the HRM practice perspective, a concept that was new at the time. Each of the practices that were identified as important for innovation performance is discussed below.

Interdisciplinary workgroups are groups of employees that work together to develop ideas (Foss & Laursen, 2003). This is consistent with the previous study where Amabile *et al.* (1996) found that team work in the form of Workgroup support is a requirement for creativity in firms.

Quality Circle is a small group of up to 10 employees who do similar work and voluntarily meet on a regular basis to identify improvements in their respective work areas by analysing and solving work related problems (Foss & Laursen, 2003). The novelty of this approach is that issues are discussed by the people who are directly confronted with them and who can resolve them (Blaga & Jozsef, 2014).

Employees enjoy a formalized way of gathering employee suggestions about both products and processes (Foss & Laursen, 2003). Using a system to capture their ideas makes employees feel like the firm is committed to innovation (Foss & Laursen, 2003).

The movement of employees between jobs in a scheduled way increases knowledge diffusion among those employees (Foss & Laursen, 2003). Job rotation within and between functional groups, is positively related to work satisfaction, involvement, commitment and business knowledge as well as personal development (Carpini & Parker, 2016).

This involves the sharing or transfer of authority to employees (Foss & Laursen, 2003). This is consistent with the previous study, Amabile *et al.* (1996), that found that employees also want to be involved in decision making and do not want senior management making all the decisions for them.

Refers to the amalgamation of two or more functions into one function so that it provides employees with the opportunity to increase their overall knowledge of the business (Foss & Laursen, 2003) all of which is needed for innovation.

Similar to Amabile *et al.* (1996) this study also found that employees want to be remunerated according to their performance. However, employees perceive their contribution to innovation as extra work and therefore believe that they should receive additional compensation for their contributions (Foss & Laursen, 2003).

Nowadays, training and development is one of the best ways to retain employees. The one-time costs associated with employee's development will have returns over the long-term and contributing to the sustainable development of the company. By providing employees with the opportunity for training and development courses, organizations are showing appreciation towards their employees and increasing their potential (Boțoc, Vătavu & Gheorghe, 2019).

2.5 LINKING INNOVATION STIMULUS, INNOVATION CAPACITY AND INNOVATION PERFORMANCE

This study conducted by (Prajogo & Ahmed, 2006) found that:

- there is a significant relationship between innovation stimulus factors and innovation capacity
- there is a significant relationship between innovation capacity and innovation performance
- the direct relationship between innovation stimulus and innovation performance is *not* supported

The study also illustrates that innovation capacity plays a mediating role between innovation stimulus and innovation performance, but only partially so (Prajogo & Ahmed, 2006). On the other hand, innovation stimulus can not only provide an adequate organizational environment for developing innovation capacity but can also produce innovation by itself (Prajogo & Ahmed, 2006). The stimuli that was identified for improving innovation was Leadership, People Management, Knowledge Management and Creativity Management (Prajogo & Ahmed, 2006).

Prajogo and Ahmed (2006) found that leadership was important for providing strategic direction for innovation. Leaders may decide on incremental or radical innovation, the latter of which requires strong leadership that can coordinate resources towards this goal (Prajogo & Ahmed, 2006). Leaders also need to ensure that the structure of the work environment, the climate and the culture produce creative outcomes (Prajogo & Ahmed, 2006). For the study by Foss and Laursen (2003), leadership support was identified as being key in facilitating “Delegation of Authority” and approving “Performance related pay”.

Management support for innovation has been highlighted as being crucial for improving innovation (Prajogo & Ahmed, 2006). This is consistent with Amabile *et al.* (1996) findings that innovation requires “Organizational Encouragement” in the form of senior management support for risk taking and fair evaluation of ideas. Prajogo and Ahmed (2006) found that, in terms of innovation, employees require empowerment and

involvement. Empowered employees feel that they have autonomy and are less constrained (Prajogo & Ahmed, 2006). Employees also need to be encouraged to provide ideas and engage in cross-departmental teamwork, all of which is consistent with the stimuli identified in the previous studies (Prajogo & Ahmed, 2006).

Knowledge Management in a firm provides the firm with the ability to recognise, assimilate and apply external knowledge (Prajogo & Ahmed, 2006). It is also important for employees to learn from innovation initiative as it embodies new knowledge about success and failure of innovation (Prajogo & Ahmed, 2006). Employees must also be enabled with the means to communicate and share information (Prajogo & Ahmed, 2006). This becomes more important if the firm chooses an OI strategy as this approach encompasses the flow of knowledge and ideas, either inbound, outbound or both (Gassmann & Enkel, 2004). Knowledge is needed for creativity. Successful firms are those that continuously create new knowledge and are able to disseminate it across the firm. Knowledge allows firms to respond quickly to customers, create new markets, rapidly develop new products, and dominate emergent technologies (Prajogo & Ahmed, 2006). The secret to these firms' success is their unique approach to managing the creation of new knowledge. The extensive literature on organizational knowledge illustrate that there are two types of knowledge, explicit and tacit (Levitt & March, 1988). In an organization, explicit knowledge is easier to explain but this also means that it is easier to leak to competitors (Leiponen, 2006a). On the other hand, tacit knowledge is more difficult to explain and share but this creates a transferability problem when attempting to transfer knowledge amongst employees (Spender, 1996). Creating knowledge is good, but having the ability to share this knowledge in a firm is what is needed for innovation (Leiponen, 2006a). Jensen, Johnson, Lorenz and Lundvall (2007) identified two modes of firm learning, science-technology-innovation (STI) and learning by doing/using/interacting (DUI), where STI uses explicit knowledge and DUI uses tacit knowledge. Both of these modes will enable a firm to become a learning firm and share knowledge for innovation.

Management of creativity covers the different managerial practices including challenge, freedom, resources, work-group features, supervisory encouragement and organizational support (Amabile, 1998). According to some scholars (West & Anderson, 1996), the

management of creativity requires a social environment of a team and its factors such as rise of vision, participative safety, task orientation, and support for innovation.

The three studies discussed above were conducted independently and in different time periods.

The findings by Amabile *et al.* (1996) can be summarized as follows:

Table 1 Innovation management practices

Encouragement of Creativity	Org Encouragement	Licences for Risk Taking, Idea generation, value of innovation from highest to lowest management levels Fair supportive evaluation of ideas Reward and Recognition of creativity Collaborative idea flows and participative management (expose to other good ideas can improve ideas)
	Supervisory Encouragement	Provide goal clarity (proper problem definition) Open interactions between Manager and subordinates Supervisory support of a team's work and ideas
	Work Group Supports	Diverse team backgrounds Mutual openness to ideas Constructive challenge of ideas Shared commitment to the project
Autonomy or Freedom	Freedom	High autonomy in day-to-day work, ownership and control of own work (choose how to accomplish a task)
Resources	Sufficient Resources	Require sufficient number of resources
		Require resources that adequately match the requirements of the project
Pressures	Challenging Work	Urgent, intellectually challenging nature of the problem
	Workload Pressure	Time pressure as a means of control
Org Impediments to Creativity	Org Impediments	Internal Strife Conservatism Rigid, formal management structures

Adapted from Amabile et al. (1996)

The findings by Foss and Laursen (2003) can be summarized as follows:

Table 2 Innovation management practices

Systems for collection of employee proposals	Formalized way of gathering employee suggestions about both products and processes
Quality circles	Small teams of employees define and solve quality or performance related problems
Interdisciplinary workgroups	Employees with different professional backgrounds work together in teams (brainstorming
Planned job rotation	Employees are moved between jobs in a scheduled way
Delegation of responsibility	Sharing or transfer of authority to employees
Integration of functions	Amalgamation of two or more functions into one function
Performance-related pay	Employees are (partly) being paid according to their output (financial incentives for employees to develop new ideas
Training	Firm-internal training Firm-external training

Adopted from Foss and Laursen (2003)

The findings by Prajogo and Ahmed (2006) can be summarized as follows:

Table 3 Innovation management practices

Leadership	Top management support and commitment to innovation Create a fertile environment to nurture innovation
People Management	Culture (supportive) Skills development Career path Empowerment (feel like you possess a degree of autonomy, less rules) Involvement Cross-functional Team Work Provide resources and minimize constraints Recognise achievement
Knowledge Management	Recognise external information assimilate and apply Improve the knowledge of human capital and allow employees to communicate and share information
Creativity Management	Facilitating knowledge-related activities such as creation or assimilation of knowledge Transferring knowledge across the organization Allocate time and resources for generating ideas Diverse skills Non-routine work Reward and recognition for creativity

Adopted from Prajogo and Ahmed (2006)

Due to the fact that the findings in all three studies are similar to each other, the stimuli identified by Prajogo and Ahmed (2006) can be expanded to include the findings by Amabile *et al.* (1996) and Foss and Laursen (2003) and is illustrated in the Table 4.

Table 4 Summary of stimuli from three studies

STIMULI (Prajogo & Ahmed, 2006)	DESCRIPTION	STIMULI (other studies)	DESCRIPTION	AUTHOR
Leadership	Top management support and commitment to innovation Create a fertile environment to nurture innovation	Delegation of responsibility	Sharing or transfer of authority to employees	Foss and Laursen (2003)
		Performance-related pay	Employees are (partly) being paid according to their output (financial incentives for employees to develop new ideas	Foss and Laursen (2003)
		Org Encouragement	Licence for Risk Taking, Idea generation, value of innovation from highest to lowest management levels Fair supportive evaluation of ideas	Amabile *et al.* (1996)
		Sufficient Resources	Require sufficient number of resources	Amabile *et al.* (1996)
			Require resources that adequately match the requirements of the project	
People Management	Culture (supportive) Career path Empowerment (feel like you possess a degree of autonomy, less rules) Involvement Cross-functional Team Work Provide resources and minimize constraints Recognise achievement	Quality circles	Small teams of employees define and solve quality or performance related problems	Foss and Laursen (2003)
		Interdisciplinary workgroups	Employees with different professional backgrounds work together in teams (brainstorming	Foss and Laursen (2003)
		Planned job rotation	Employees are moved between jobs in a scheduled way	Foss and Laursen (2003)
		Integration of functions	Amalgamation of two or more functions into one function	Foss and Laursen (2003)
		Supervisory Encouragement	Provide goal clarity (proper problem definition) Open interactions between Manager and subordinates Supervisory support of a team's work and ideas	Amabile *et al.* (1996)
		Work Group Supports	Diverse team backgrounds Mutual openness to ideas Constructive challenge of ideas Shared commitment to the project	Amabile *et al.* (1996)
		Freedom	High autonomy in day-to-day work, ownership and control of own work (choose how to accomplish a task)	Amabile *et al.* (1996)
		Challenging Work	Urgent, intellectually challenging nature of the problem	Amabile *et al.* (1996)
		Workload Pressure	Time pressure as a means of motivation	Amabile *et al.* (1996)
		Org Impediments	Internal Strife Conservatism Rigid, formal management structures	Amabile *et al.* (1996)
Knowledge Management	Recognise external information assimilate and applyImprove the knowledge of human capital and allow employees to communicate and share information	Training	Firm-internal trainingFirm-external training	Foss and Laursen (2003)
Creativity Management	Facilitating knowledge-related activities such as creation or assimilation of knowledge Transferring knowledge across the organization Allocate time and resources for generating ideas Diverse skills Non-routine work Reward and recognition for creativity	Systems for collection of employee proposals	Formalized way of gathering employee suggestions about both products and processes	Foss and Laursen (2003)

2.6 OPEN INNOVATION CONTESTS

Innovation contests are commonly referred to as Open Innovation (OI) (Hoisl *et al.*, 2016) in current literature. Firms use OI to source ideas, from a variety of individuals, in order to solve their most vexing firm problems. These individuals can be external to the firm – customers, suppliers, specialists etc., or they can be internal to the firm – employees. OI is based on the premise that the higher the number of people involved in problem solving the greater the chance of finding a solution. OI is usually in the form of a contest with a monetary reward for the best ideas (Hofstetter *et al.*, 2018). The concept of OI was introduced by Chesbrough (2003) in his book Open Innovation: The new imperative for creating and profiting from technology where he defined OI as "a paradigm that assumes that firms can and should use *external* ideas as well as *internal* ideas, and *internal* and *external* paths to market, as the firms look to advance their technology" (Marcolin *et al.*, 2017, p. 258). Based on this definition being released in 2003, it may appear that OI is relatively new and has resulted from the rapid growth of the internet. However, OI had been widely used long before this. For example in the development of margarine (1869) (Adamczyk *et al.*, 2012), the measurement of longitude (1714), the creation of artificial alkali (1775) and the creation of the super-efficient refrigerator (1993) (Davis & Davis, 2004). The rapid growth of the internet has significantly contributed to the increased popularity of OI, which has even been adopted by many bureaucratic government institutions (Marcolin *et al.*, 2017).

Adamczyk *et al.* (2012) found that innovation contests are powerful instruments to solve severe problems and to stimulate innovations in diverse fields of application. Despite the fact that Chesbrough (2003) definition of OI underscores the point that *both* internal and external sources of ideas are required for innovation, the foci of the current literature is mainly occupied with the external form of OI. Some of the other definitions of OI contribute to this narrow view by only pointing in the direction of external participants. In this regard, Bullinger-Hoffmann *et al.* (2010) describe innovation contests as "a web-based competition of innovators who use their skills, experiences and creativity to provide a solution for a particular contest challenge formulated by an organizer". Other authors refer to it as an ideas competition but it is still based on external participation, in this case the participants were customers (Blohm, Bretschneider, Leimeister & Krcmar, 2011). In this sense, OI is the crowdsourcing of ideas from people that are external to the firm (Mergel, 2017b).

Davis and Davis (2004) identified three elements of innovation contests, however, these related only to the rewards element. Subsequently, a few authors have identified a number of design elements for consideration of open innovation contests. In Table 5 the innovation contest elements provided by Ebner *et al.* (2009), Bullinger-Hoffmann *et al.* (2010) and the additional five elements identified by (Adamczyk *et al.*, 2012) have been aligned to each other. The table is arranged such that the elements are listed with their list of possible values and, where possible, the elements have been matched to each other.

Table 5 OI design elements

Ebner *et al.* (2009)	**Bullinger-Hoffmann *et al.* (2010)**	**Adamczyk *et al.* (2012)**
Element: Organizer *Company, Public Organization, Non-profit, Individual person*	**Element:** Organizer *Company, Public Organization, Non-Profit, Individual*	
Element: Timeline *Very short (s/min) ,short (days), middle (weeks),long term(semester)*	**Element:** Contest period *Very short term, Short term, Long term, Very long term*	
Element: Evaluation *Performance-oriented, Participation-oriented*		
Element: Incentives *Money prizes, non-cash prizes*	**Element:** Reward/motivation *Monetary, Non-monetary, Mixed*	
Element: Context *Products, Processes*		

Element: Problem specification *High (specific problem), Low (general)*	**Element:** Task/Topic Specificity *Low (open task), Defined, High (specific task)*	
Element: Elaborateness *Complexity, Quality, Condition*	**Element:** Degree of elaboration *Idea, Sketch, Concept, Prototype, Solution, Evolving*	
Element: Targeted group *Qualified (by age, interests), Not qualified*	**Element:** Target Group *Specified, Unspecified*	
Element: Composition of groups *Single, Team*	**Element:** Participation as *Individual, Team, Both*	
Element: Idea reviewers committee *Specialists, Non-professionals (VIP"s)*	**Element:** Evaluation *Jury selection, Peer review, Self-assessment, Mixed*	
Element: Idea review *Person, Process, Context, Product*		
Element: Nature of competition *Online, Offline, Mixed*	**Element:** Media *Online, Mixed, Offline*	
	Element: Community Functionality (community application) *Given, Not given*	

		Element: Attraction *Web page, blog, social network, word of mouth*
		Element: Facilitation *Professional support, Peer support, Combination*
		Element: Sponsorship *Internal, External*
		Element: Contest Phases *Single round, Multiple rounds*
		Element: Replication *Annual, Biannual*

As can be seen, there are several similar elements for innovation contests. A brief examination of each characteristic is supplied below.

Organizer - The person or institution that manages the contest is referred to as the organizer (Adamczyk *et al.*, 2012).

Timeline or Contest Period - Innovation contests tend to run for a limited amount of time which is referred to as the timeline or contest period. This period can range from very short (few hours to 14 days), short term (fifteen days to six weeks), long periods (six weeks to four months) or very long periods (more than 4 months) (Adamczyk *et al.*, 2012).

Evaluation - The evaluation of an innovation contest can be based on either performance-oriented, participation-oriented or even both (Ebner *et al.*, 2009). The evaluations can be conducted by a jury, peer reviews, self-assessment or a combination of these (Bullinger-Hoffmann *et al.*, 2010). Importantly, Lee *et al.* (2019) found that evaluative pressure moderates how inconsistent organizational conditions predict experimentation. This has a notable effect on an important aspect of innovation, that being people's willingness to participate in experiments. They reported that individuals who experience high evaluative pressures tend to experiment less than those experiencing low evaluative pressure (Lee et al, 2004). It is important for organizations to be aware of these findings on evaluative pressure in order to keep participants engaged in the contest.

Incentives or Rewards – Both Maher (2014) and Padilha and Gomes (2016) found that rewards are an important element of innovation culture and can take on different formats, extrinsic (for example monetary rewards), intrinsic (for example positive feedback or a good reputation) (Adamczyk *et al.*, 2012), or intellectual (for example learning new things, improving problem solving capabilities and working autonomously) (Benbya & Van Alstyne, 2010).

Korpeoglu, Körpeoğlu and Tunç (2021) found a relationship between innovation rewards and the urgency and duration of OI contests. They show that a single reward is optimal when the organizer has moderate or high urgency for solutions, i.e. winner-take-all (in short, WTA) award scheme. More interestingly, they show that when there is a low urgency for solutions, multiple rewards is more optimal (Korpeoglu *et al.*, 2021). This is because the organizer can induce agents to exert more effort while guaranteeing their participation by simultaneously increasing the contest duration and the number of

rewards. They also show that as the organizer's urgency increases, the optimal share of the winner award increases, and the optimal number of rewards decreases (Korpeoglu *et al.*, 2021). Lastly, they show that both the optimal contest duration and the optimal total award increase with the novelty and the sophistication of solutions that the organizer want (Korpeoglu *et al.*, 2021). An alternate view by Nittala and Krishnan (2016) found a link between problem complexity and rewards such that, in an internal contest, for innovation problems characterized by high uncertainty, a low reward is optimal. For example open ended idea generation contests within companies will need to be organized with small rewards. Another key finding about rewards is that, in internal innovation contests, failure must be tolerated and rewarded in order to encourage employees to engage in exploration (Nittala & Krishnan, 2016).

Context – refers to whether the contest will be product or process related

Problem specification or Task Specificity – refers to the type of problem that requires solving, either specific or general (Adamczyk *et al.*, 2012).

Elaborateness or Degree of elaboration – refers to the level of detail required from the solution, for example short outline, sketches, concepts or prototypes (Adamczyk *et al.*, 2012).

Target group – Depending on the problem being solved, there may be a need to specify a target group or it can be open to all (Adamczyk *et al.*, 2012).

Composition of groups or Participation as - refers to the organizer allowing individuals, teams or both of these to participate (Adamczyk *et al.*, 2012).

Idea review committee or Evaluation – refers to the individual or group that will be reviewing the ideas submitted (Adamczyk *et al.*, 2012).

Idea review – refers to what the idea relates to, which can be a product, process, person or context (Adamczyk *et al.*, 2012).

Media - innovation contests can be run online (for example on an IT-based platform), offline (for example in the context of an event) or mixed mode where online and offline elements are combined (Adamczyk *et al.*, 2012).

Community functionalities - refer to functionalities for outsiders to interact with contest participants to provide feedback etc. This is considered for online contests (Adamczyk *et al.*, 2012).

Attraction - refers to how the innovation contests are marketed to participants (Adamczyk *et al.*, 2012). Attracting people to participate in the contest is important for the success of the innovation contest. Websites, blogs, e-mails or social networking sites can be used as well as word-of-mouth; or a combination of online and offline elements (Adamczyk *et al.*, 2012).

Facilitation - refers to support for the participants and the event. This can come from family, friends, colleagues, associations and industry. They can provide financial or emotional support (Adamczyk *et al.*, 2012).

Sponsorship – Generally, for internal innovation contests this can be ignored because the organization usually sponsors it, however, it can also be sponsored by investors or organizational partners (Adamczyk *et al.*, 2012).

Contest phases - The number of phases that the innovation contest will have is referred to as *contest phases* and can be one, two or more, depending on how elaborate the sponsor requires it to be (Adamczyk *et al.*, 2012).

Replication - The last design element considered relates to the number of times the contest will be repeated and is referred to as *replication*. Its values can range between low to high frequency (Adamczyk *et al.*, 2012).

2.7 THEORETICAL FRAMEWORK

The theoretical framework is structured around the themes relating to firm innovation, employee innovation, creativity, innovation management practices and open innovation contests. Figure 1 illustrates the theories in diagram form and an explanation of the theories is provided below.

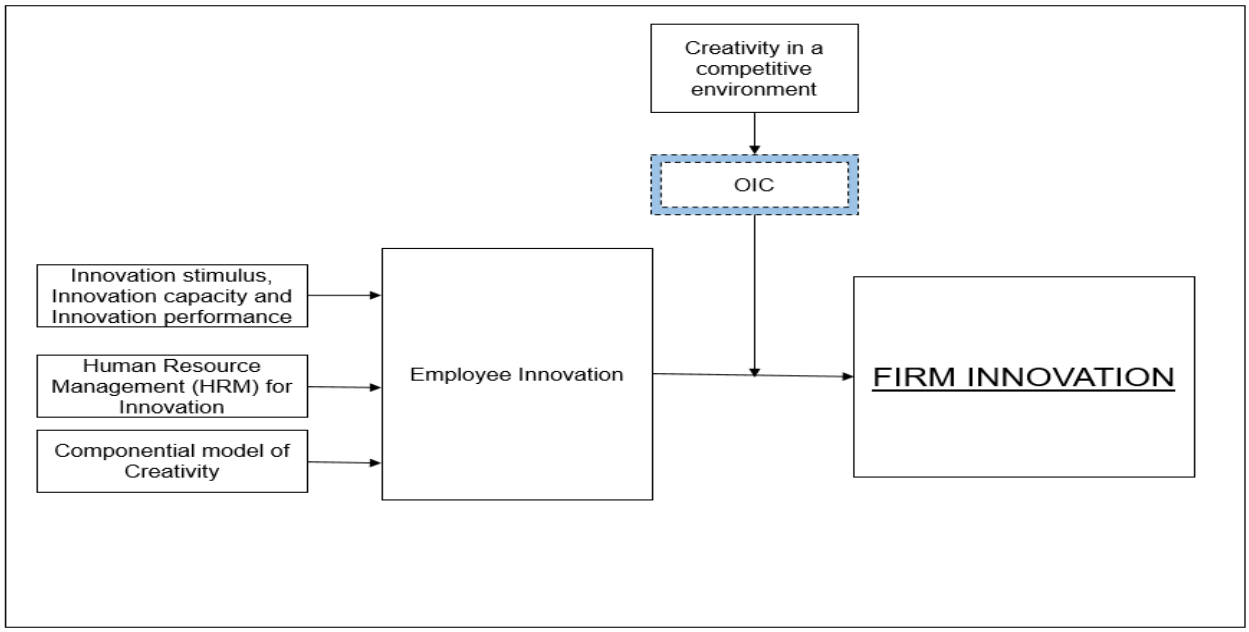

Figure 1. Theoretical framework. Researcher's own work.

Innovation can be regarded as a complex construct that encompasses many disciplines including technology, change management, creativity and organizational innovation (Damanpour, 2017). The complexity of organizational or firm innovation began with the publishing of numerous definitions on the concept of firm innovation (Bluedorn *et al.*, 1979; Damanpour, 1991; Oerlemans *et al.*, 1998). However, firm innovation basically means that the innovation is new to the adopting unit which intends to derive anticipated benefits from changes that the innovation may bring to the organization (West & Anderson, 1996).

In most firms, the "newness" factor that was commonly associated with innovation was traditionally only linked to R&D of new products. This changed when rapid advances in technology increased organizational competitiveness and organizations tried to counteract this change by developing various forms of organizational innovation. In fact,

five different forms of innovation, which are still relevant today, were created. These included new products, new production methods, new markets, new sources of supply and new forms of organization (Armbruster-Domeyer *et al.*, 2008b).

According to Goffin and Mitchell (2016) a firm's innovation response can be determine by three factors namely drivers of innovation, dimensions of innovation and degrees of innovation. The demand for firm level innovation is frequently associated with changing economic (macro and micro) factors that are forcing firms to change in order to remain competitive. However, beyond the economic factors, there are other forces that strongly influence firms to change or innovate. Goffin and Mitchell (2016) referred to these as drivers of innovation which they summarized as technological advances, changing customer needs, competition, changing business environment, the firm's strategic intent and leadership ambitions. Goffin and Mitchell (2016) describe dimensions of innovation (types) as the area in which an organization can innovate, for example business model, business processes etc. Organizations can fall into the trap of focusing on the traditional R&D driven product innovation, however, competitive advantage can originate in any dimension. Organizations must be able to extend innovation to other dimensions (processes, business models etc.). Each organization may identify a different set of dimensions within which they can innovate, even if they are in the same industry. Lastly, degrees of innovation is used to differentiate between the varying extents to which innovation can occur. It is important to note that the degree of innovation is context dependent, for example what one person may deem as incremental another person may deem to be radical. Degrees of Innovation can be either incremental innovation, breakthrough innovation or radical innovation (Goffin & Mitchell, 2016).

The literature on the innovation process for firms refers to the process as a stage-gate process (Cooper, 2008; Griffin, 1997). The original process was provided by (Cooper, 1990). The model has been improved over the years (Cooper, 2008; Cooper, Edgett & Kleinschmidt, 2002). Cooper (1990) defines this process as "both a conceptual and an operational model for moving a new product from idea to launch". The innovation process begins with the generation of many ideas followed by a selection process that reduces the number of ideas based on a set of pre-defined criteria (Björk, Boccardelli & Magnusson, 2010; Cooper, 2008; Griffin, 1997). Ideas have been deemed by many to be the most important aspect of the innovation process because ideas are eventually

transformed into products, processes, business models etc. meaning that without ideas there would be no innovation (Björk *et al.*, 2010; Rothwell, 1994; Ven, 1986). However, due to the selection process, the success rate of ideas is very low and is estimated to be as little as one in a thousand ideas that are selected for implementation (Damanpour, 2017; Datta *et al.*, 2014). Ideas come from exercising individual or team creativity. The factors that influence their desire to be creative can be explained using the Componential Model of Organizational Creativity, which was developed by Amabile (1988) and updated by Amabile (1996) and again by Amabile and Mueller (2008). The model highlights four elements that are needed for individual creativity, all of which are in the control of the firm's management practices. Three relate to the individual, i.e. *domain-relevant skills* (knowledge), *creativity-relevant skills*, and *motivation*, and one relates to the *social environment*, which in this case is the environment in which the individual works. The model suggests that by adapting these four elements, a firm would be able to be more creative and thereby, more innovative. Since creativity is dependent on these elements that are controlled by management practices, a firm must design their practices to meet the demands of their employees. What makes it more challenging is the fact that contrary to the popular narrative that only R&D employees innovate in firms, it was found that innovation can actually originate from all employees including human resource management, operations management, research and development, information technology, engineering and product design, and marketing and strategy (Baregheh, Rowley & Sambrook, 2009a).

Innovation management practices have therefore received a substantial amount of attention from researchers (Amabile *et al.*, 1996; Foss & Laursen, 2003; Prajogo & Ahmed, 2006). Some of the more prominent management practices that have been researched for improving employee innovation include HRM (Foss & Laursen, 2003; Kessler, 2013), EDI (Høyrup, 2013), Knowledge Management (Leiponen, 2006b; Nonaka, 1994; Nouri, Ghorbani & Soltani, 2017), Leadership (Salampasis, Mention & Torkkeli, 2015), and creativity (Amabile, 1988; Amabile *et al.*, 1996; Amabile, 1998; Batey & Furnham, 2006; Fairbank & Williams, 2001). The Integrated Model of Innovation that was developed by Prajogo and Ahmed (2006) encompasses many of these management practices into four broad categories of management practices called innovation stimuli, namely Leadership, People Management, Knowledge Management and Creativity Management. Additionally, this study indicates that there is a strong correlation between

these management practices and a firm's innovation capacity, defined as the firm's potential to innovate. They also found that there was a strong correlation between a firm's innovation capacity and its innovation performance in developing new products and processes. Therefore, if the proper management practices are exercised, a firm's potential to innovate increases and they can produce more products and services. Some of the management practices that have been found to create the most conducive environment for innovation include freedom or autonomy, the desire to have challenging and interesting work, having clear strategic goals and people with varied skills working together (Amabile *et al.*, 1996). In addition, Foss and Laursen (2003) found that planned job rotation, performance related pay and training, both internal and external, can serve as a source of motivation for employees.

OI, the ability to attract ideas from outside the firm, has been very successful for firms. It does not require the same amount of management practices that are needed for employees as they usually only exist for short periods of time and in most instances the external resources are not contracted to the firm. OI was initially driven by the fact that not all smart people work for the firm and that ideas from outside can be integrated within the firm (Bogers *et al.*, 2019). With the advent of OI, R&D became known as closed innovation because it uses internal resources for generating ideas (Marcolin *et al.*, 2017). Bogers *et al.* (2019) illustrated that OI for firms exist in three formats, the outside-in, inside-out and coupled approaches. The outside-in approach is characterized by the firm integrating sources of knowledge and ideas from sources that are external to the firm, whereas the inside-out approach has the firm developing ideas internally through R&D and sharing their ideas with external parties. These can take many forms like the selling of IP, joint ventures and licencing agreements. The coupled approach refers to firms using both approaches and co-developing products and services together with external parties. Another format of OI is the OIC. In this format, firms host a competition where they offer prizes for the best ideas that are submitted to them from external resources (Hofstetter, Zhang & Herrmann, 2017). Due to its success, the literature on OICs has been growing and researchers have been focusing on various relevant topics like user roles in innovation contests (Füller, Hutter, Hautz & Matzler, 2014), innovation contests as intermediaries (Juell-Skielse, Hjalmarsson, Juell-Skielse, Johannesson & Rudmark, 2014), innovation contest as a tool of change management (Klein & Lechner, 2009) implementation of OI as contest (Marcolin *et al.*, 2017) and innovation contest design

elements (Adamczyk *et al.*, 2012; Bullinger-Hoffmann *et al.*, 2010; Ebner *et al.*, 2009). When it comes to implementing OICs, the studies on the design elements for OICs offers a framework for hosting a successful OIC. The design elements include many important factors that must be considered when hosting an OIC including intrinsic and extrinsic rewards, evaluation criteria, problem definition evaluation panels and marketing. At the root of OICs is the concept of competition. In many Western industrialized societies, competition has become the preferred strategy in the workplace, sports, education, and family relations (Eisenberg & Thompson, 2011). Competition has been stated as being essential to the efficient allocation of scarce resources and for also improving creativity and innovation (Birkinshaw, 2001). In a firm, different teams compete amongst each other for a variety of reasons including resources or recognition and these competitions can result in advantages for the firm. Such advantages include improving the flexibility of the firm to adapt to the rapidly changing business environment, employees challenge the established underlying assumptions to bring in new ideas and, employees tend to work harder when they have a direct competitive threat (Birkinshaw, 2001).

Taken together, the theories presented above indicate that innovation management practices and OICs can be combined in such a way that it will provide non-R&D employees with an opportunity to make a meaningful contribution to innovation, which they were not privy to before.

2.8 CONCEPTUAL FRAMEWORK

The conceptual framework for this study is based upon three main theories: innovation management practices, HRM for innovation and OICs. Figure 3 is a diagrammatic representation of the conceptual framework discussed below.

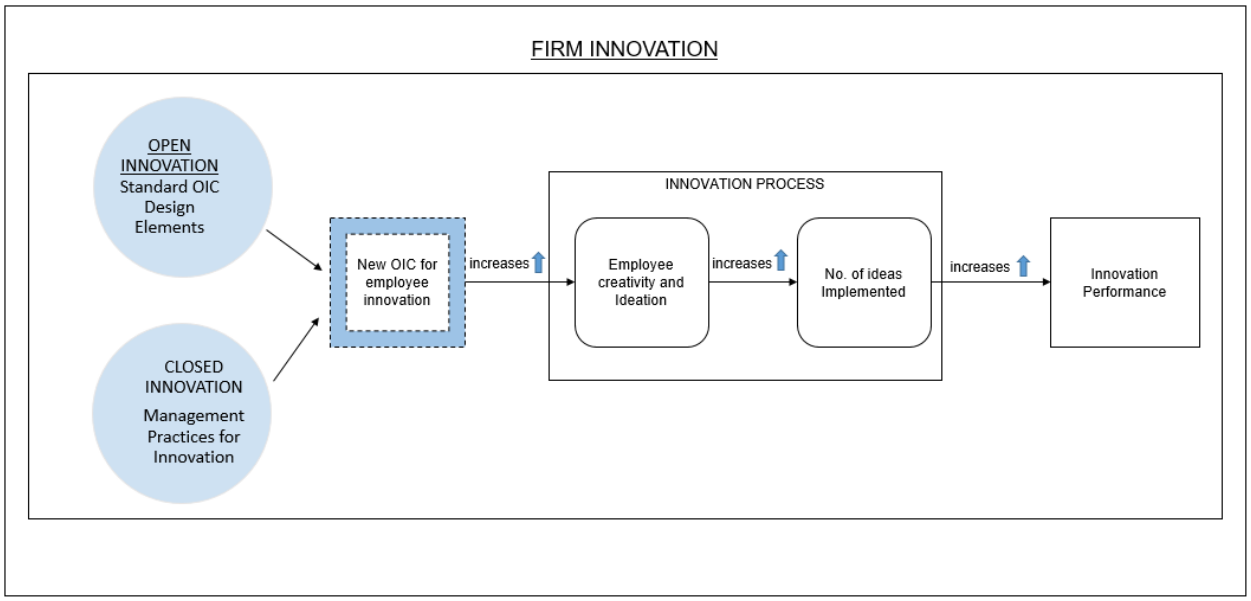

Figure 2. Conceptual framework. Researcher's own work.

Employee driven innovation (EDI) theory states that all employees, and not only those in R&D, are a rich source of ideas and that firms need to find ways of leveraging employee creativity to create new products and processes. According to Pot (2011), employee innovation has economic value for the firm in that it improves effectiveness and productivity, but it can also have a simultaneous improvement in quality of working life and job satisfaction for the employee. The purposeful use of employees in innovation is thus seen as the basis for innovation success. Hewett (2005) claims that innovation is unlikely to occur if employees are not strongly involved in problem solving activities. For EDI to be successful, it was found that, in firms, four factors must be in place, that of leader support, autonomy, cooperation and an innovative climate (Amundsen, Aasen, Gressgård & Hansen, 2014) all of which are aligned to the findings on innovation management practices by Amabile *et al.* (1996); (Foss & Laursen, 2003; Prajogo & Ahmed, 2006). Specific to firm innovation performance, it was found that, when applied correctly, innovation management practices can increase the number of ideas generated and in turn also increases innovation performance (Prajogo & Ahmed, 2006). At an early stage of innovation what is needed from managers is support and protection while at the

later stages employees need managers to provide adequate resources (Amundsen *et al.*, 2014). In addition, top management involvement represents an important form of organizational commitment to innovation effort, which is relevant for facilitating new product development (Mu, Bossink & Vinig, 2018). With the increasing focus on OIC as a form of firm internal innovation, management practices must be extended to include the management of OICs so that they can be utilized to successfully adopt ideas from both internal and external sources. OICs have proven to be a successful framework for sourcing ideas in exchange for rewards. In general, motivating people with either tangible (money or gifts) or intangible (verbal acknowledgement) incentives makes them feel appreciated and more likely to produce good results (Alhassan & Greene, 2020). To this end, OICs usually offer lucrative monetary rewards but has also been known to offer non-monetary rewards, which nowadays is considered highly valuable. For example , improving an individual's online status because they participated in an OIC can be a lucrative reward for them (Antikainen *et al.*, 2010). The flexibility in the rewards that can be offered in OICs makes them an attractive method of innovation. Also, OICs do not have to be a once off initiative as success can be achieved from successive OICs (Hofstetter *et al.*, 2017). Additional benefits of OICs include the fact that, depending on the problem at hand, it can be targeted toward certain individuals that have the appropriate skill set (Mihm & Schlapp, 2017) and OICs can lead to a variety of innovations including incremental, breakthrough or radical (Remneland Wikhamn, 2013). Thus far, OICs have been predominantly used to attract external ideas into the firm. This study proposes an OIC model that combines the benefits from both open and closed innovation to capitalize the creative abilities of employees, an often overlooked source of ideas. The model combines the open innovation method of generating ideas (OICs) with the closed innovation management practices. Such a model will allow employees to not only participate in firm innovation but to also receive the requisite management support.

3 CHAPTER 3: RESEARCH APPROACH AND METHODOLOGY

This section describes the methodology that was used for investigating the research questions as stated in Chapter One.

3.1 RESEARCH APPROACH

A single case study approach was used to investigate the research objectives.

A case study can be understood to be causal, descriptive and exploratory (Göttfert & Marketing, 2015). However, the design of this study did not address issues of cause and effect, in other words it did not isolate variables to measure the effect of one variable on another. A case study can better understand process and the "why" from the participant's perspective, but it is not intended to provide generalizable answers of cause and effect. Therefore a case study was used in this instance because the study called for the focus and exploration of a single firm and its associated processes. Moreover, case studies allow an in-depth investigation of (contemporary) phenomena in a real-life context and is particularly equipped to answer how and why questions (Alpi & Evans, 2019), which was similar to the research questions stated above. An alternate research method that could have been used was an experiment. However, experiments, in contrast to case studies, delineate and control contextual conditions whereas in case studies the contextual conditions are part of the investigation (Ridder, 2017). This case study characteristic made it appropriate for this study because the firm's organizational context was an important aspect that contributes to innovation. Case studies was also an obvious choice for researchers who are seeking to undertake a research project based only on their workplace or, the comparison of a limited number of organizations (Rowley, 2002). This reinforces the reason for using a case study approach here as it was based on a single firm. There are two dimensions to case studies which are determined by number of units and number of cases (Rowley, 2002). The number of cases can be categorized according to either a single case or multiple cases (Rowley, 2002). A single case design is flexible and can be used in the instance where a special case provides a critical test to a well-established theory, or where the case is extreme, unique, or has something special to reveal (Rowley, 2002).

Regarding the number of units, case studies can be divided into holistic or embedded studies (Rowley, 2002). Holistic studies focus on one unit, like organizational culture, whereas Embedded designs identify a number of sub-units, like roles or locations, which are explored individually, but, a summary of all results are presented together as one output (Rowley, 2002). Based on this differentiation, this study can be considered a Holistic, Single case study.

Case studies therefore allow a researcher to understand the in-depth experience of individuals. The focus of this study was to understand the management practices that were needed for employee innovation from the point of view of employees in a South African context. Therefore it required the study of employees that have participated in their firm's internal innovation contests.

The Land Bank was therefore appropriate for this case study in employee innovation because:

- It was aligned to the research topic in that the Land Bank management team had instituted OIC's to provide their employees with the opportunity to innovate. A case study of the Land Bank's employee innovations would therefore provide the necessary data for the study as it would derive the first-hand experience of the Land Bank employees when they participated in the competitions and the innovation management practices they had expected.
- The findings could be applied to similar South African government organizations
- The Land Bank's implementation of the OIC's occurred in the last 3 years. This made it appropriate for the study because the findings would be relevant to modern firms
- The "how" and "why" questions that are often associated with case studies could be used to understand the Land Bank's employee's innovation experience which would also be aligned to the requirements of a case study
- For a case study, the researcher must be able to access information as well as the individuals needed for the interviews or observations. In this instance, the researcher was also an employee of the Land bank and had already developed a rapport with many of the employees. Therefore, the researcher would be able to approach employees much more easily and would also be able to access any other necessary information.

3.2 RESEARCH METHODOLOGY

A qualitative research method was used for this study. A qualitative research method was appropriate because the study explored the understanding, experiences and views (Mays & Pope, 1995) of the innovation participants.

3.3 UNIT OF ANALYSIS

The unit of analysis is the actual object or entity being studied. The unit must be at the same level as the object of the proposition (Gerring & McDermott, 2007). The unit of analysis can also be an individual or a small group (Gerring & McDermott, 2007).

Based on the above description, the unit of study for this study was the employees of the Land Bank. Specifically, the non-executive level of management were interviewed because the OICs were implemented for non-executive employees.

3.4 ACHIEVABILITY OF THE RESEARCH

To avoid the research being unachievable, in other words being inconvenient or impractical to achieve, this study focused on a single organization which, due to the time constraints made data collection much quicker than collecting data from multiple organizations. As this was not a complex study, the resource requirements were low and therefore only one researcher was required to conduct the research. The time that was needed for each interview was 20-30 minutes. The researcher, being an employee of the firm, was granted permission to engage with employees for data gathering. As recommended by Creswell and Poth (2016), additional data sources can be used in the form of non-confidential firm related documents like evaluation criteria and employee survey results as well as research results from other related studies. In this study the results of an employee survey on innovation was used as additional data. Based on the requirements for conducting the study being quite basic, the study was regarded as achievable.

3.5 RESEARCH POPULATION AND SAMPLING

The case site was the Land Bank and the participants were the Land Bank employees. The Land Bank was well suited for this study as it had practiced innovation through the use of innovation contests and its employees were therefore able to provide relevant feedback on the topic. As the innovation contests were held a few years ago, only employees that were in the employment of the firm at the time of the contests were

considered for the study. Also, despite the fact that only a few employees participated in the OICs, those employees who did not participate were also selected for being interviewed because their reasons for not participating were considered to be valuable to the study.

The population for the study was represented by all the employees of the Land Bank during the time when the innovation contests were held. The total population for the study was therefore approximately 295.

The sample was selected in such a way that it was able to represents as many business areas as possible in order to obtain a balanced view. Therefore, the sample participants were randomly selected from the population by using the stratified purposeful sampling method (a non-probability sampling method) where the stratification meets the objective of obtaining diverse views, and the purposeful aspect involves sampling people who can intentionally provide an understanding of the research problem (Creswell & Poth, 2016). Accordingly, application of this method involves dividing the population into different subgroups (strata) and selecting subjects from each strata in a proportionate manner. To obtain this sample, the list of all employees were divided into two separate lists according to who did and did not participate in innovation. The Random function in excel was then used to select five employees from each list to create the sample list of 10 interviewees.

Table 6 The Land Bank's OIC participation and extracted sample

PARTICIPATION	POPULATION (non-executives)	SAMPLE
Yes	25	5
No	200	5
TOTAL	225	10

3.6 DATA COLLECTION INSTRUMENT

This study used semi-structured interviews to collect data from the Land Bank's employees concerning their views on innovation, OICs and management practices for innovation. Interviews provide an in depth understanding of experiences. Ajayi and Morton (2015) also used semi structured interviews and obtained an in-depth understanding of the participants' views on the marketing innovations within their

organizations. Despite being an effective tool for in-depth data collection, using interviews poses challenges that researchers may have to resolve. One of these challenges is the researcher bias in the form of selective observation, selective recording of information, and biased data interpretation (Cypress, 2017). Another disadvantage of interviews is that data collection and interpretation is complex and time-consuming. Sutton and Austin (2015) estimated that 45 minutes of audio-recorded interview will need 8 hours to transcribe and will generate more than 20 pages of transcribed dialogue. Regardless of these disadvantages, face-to-face interviews remain one of the most common approaches of data collection in qualitative research.

The results and findings from this study were compared and contrasted to the results and findings from the Land Bank's employee innovation survey to determine if there were similarities and differences between the two sets of data that could offer further insights to this study. The comparisons are discussed under each theme in Chapter Four.

3.7 THE ANALYTICAL APPROACH

The analytical approach that was adopted for this study was a thematic analysis. Thematic analysis is a method for analysing qualitative data that entails searching across a data set to identify, analyse, and report repeated patterns (Kiger & Varpio, 2020). The objective of this study was to understand, from an employee's experience, the innovation management practices that are required for employee innovation. Thematic analysis is an appropriate and powerful method when trying to gain an understanding of people's experiences, thoughts, or behaviours (Braun & Clarke, 2012) and was therefore selected for the analysis of the data collected. This approach was also appropriate for the analysis of an employee innovation survey which was used as an additional data source in this study. The thematic approach allowed the researcher to group the large amount of conversational data into themes and the themes enabled the researcher to answer the research questions. The themes have been articulated in more detail in Chapter 4.

3.8 ARRANGING THE INTERVIEWS AND THE INTERVIEW PROTOCOL USED FOR THE STUDY

After creating the sample of 10 employees for the interviews, the researcher sent an email to them explaining the research and requesting their participation in the interviews. Only eight out of the 10 selected employees responded to the email request and agreed to participate. The remaining two participants that did not respond to the initial email, also did not respond to additional attempts by the researcher to make contact with them. The researcher then removed these two employees from the list of interviewees and used the same sampling technique explained above to select another two employees to replace them. These two employees accepted the proposal to participate in the interviews.

Due to the Covid-19 pandemic, the Land Bank employees were working from home at the time when the research was being conducted. The bank therefore allowed employees to have online meetings and implemented the use of the software application named Skype for this purpose. Therefore, the interviews were conducted using Skype in order to obtain the data for the study. The researcher wanted individual interviews and scheduled the interviews according to the participant's availability. When they confirmed their availability, the researcher sent out email meeting invites to each participant together with a link to the Skype meeting. They accepted the invite in order to confirm their attendance for the interview. To begin the interview, both the researcher and interviewee, selected the access link provided in the email and were connected to a virtual meeting room. The Skype system has a security feature that does not allow anyone else into the meeting. The Skype system has another security feature that alerts everyone when someone joins a meeting. These features ensured the interviewee that there was a sufficient amount of confidentiality.

Even though 10 employees accepted the invites to be interviewed, when the interviews began, two of the 10 employees cancelled their interviews due to their severe work constraints. By the third interview no new themes were being identified indicating that data saturation had been reached. It is suggested that interviews should continue until data saturation is reached (Ando, Cousins, & Young, 2014) or the researcher should conduct a few more interviews after saturation in order to confirm the finding (Gibbins, Bhatia, Forbes, Reid, & Care, 2012). Therefore, five more interviews were conducted all of which confirmed that no new information was being provided by the participants and

therefore no additional interviews were pursued. The researcher therefore conducted a total of 8 interviews.

To be successful at interviews it has been advised that qualitative researchers should use an interview protocol to bring about more focus, efficiency and quality to their interviews (Arsel, 2017; Castillo-Montoya, 2016). Therefore, an interview protocol was created containing a script that would provide guidance on how to introduce the purpose of the research as well as to remind the participants that the sessions would be recorded but would be confidential. The following is a representation of the interview protocol that was followed.

Interview Protocol
1 Thank the participant for their willingness to participate and check that the online connection and audio is working properly
2 Introduce researcher (if not known) and explain the purpose of the interview
3 Remind the participant that the session will be recorded, transcribed and sent to them for verification and that their information will be kept confidential.
4 Remind the participant that they can stop the interview at any time
5 Ask if they have any concerns or questions and answer accordingly
6 Request to start
7 Start asking the interview questions and make notes
8 Listen to responses without interrupting and wait for the participant to finish answering before asking any further probing questions
9 Thank the participant for their involvement and remind them that, within a few days they would be sent their interview transcriptions to verify

The interviews lasted between 20-30 minutes each. Audio recordings of the interviews were made and then transcribed into Microsoft Word. Marshall and Rossman (2016) found that member checking would limit bias in interpretation of results. Member checking involves sharing the initial analysis with the participants for them to verify and provide feedback that will improve the results (Birt, Scott, Cavers, Campbell & Walter, 2016; Guba, 1981; Harvey, 2015). The interview transcripts were thus forwarded to the participants to verify that it was captured correctly. All the participants approved their

transcriptions and one of them provided additional comments which was incorporated into the data set.

Guba (1981) argued that triangulation improves research credibility. Two sources were identified for this study, the primary data being the interviews and secondary data being the summarized results of an internal employee survey. The employee survey had a section dedicated to innovation which made it possible for comparing and contrasting the responses from the survey to the responses from the interviews in order to identify any consistent themes. However, the survey did not cover all the same aspects of innovation that the interviews did thereby limiting the analysis.

3.9 ETHICAL CONSIDERATIONS

As per the WBS ethical guidelines for research, the following have been considered to maintain the integrity of the study.

The researcher was honest regarding methods used, data and results, and will declare if any were previously published. The researcher did not create his own data or extrapolate findings unreasonably from results obtained, or do anything which could be considered as misleading.

The study was not used to obtain more information from participants than is necessary.

The data that was collected from the interviews was saved on the researcher's, personal hard drive with password protection, which only the researcher had access to. All identifiable elements of the data was also removed so that if the data was accessed by anyone else, they would not be able to identify the participants.

4 CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA

4.1 INTRODUCTION

The central question of this study pertains to the management practices that are required for improving employee driven innovation in firms. Specifically, the management practices from the literature in Chapter Two were investigated for this purpose.

Chapter Three outlined the methods and techniques that were used to collect the data for the study and Chapter Four will now discuss the various themes that were identified in the data.

It has been advised that in a qualitative case study, the researcher should use at least two sources of data collection to enhance data credibility (Yin, 2016). This study satisfies these requirements because two data sources were used in the analysis that ultimately led to the final conclusion. One source of data was the interviews that were conducted with the Land Bank's employees (primary data) and the second source of data was the results from an employee survey on the Land Bank's innovation (secondary data) that was carried out in 2018. Where possible, the exact wording that was used by the interviewees are presented here. Since the themes in the interview data and the survey data were very similar, the survey data was not allocated its own themes but was aligned to the themes that were identified in the interview responses in order to avoid any duplication and ambiguity that could easily arise from having similar data being aligned to different themes. The data from the survey has been discussed alongside the interview results for easier referencing as well as to illustrate the similarities of the two data sets.

4.2 DEMOGRAPHIC PROFILE OF THE RESPONDENTS

A total of eight employees, four males and four females representing six of the ten business areas, were interviewed for this study. The majority of the participants (five) belonged to the 30-40 age group, two belonged to the 40-50 age group and one belonged to the >50 age group. The sample has a median age of 35. The sample's average work experience was 17 years, however, the average tenure of the participants with the Land Bank was only between 3-7 years. Furthermore, only one person had a tenure with the company that was more than seven years. Only two participants had previous innovation experience in a firm environment. The highest level of education among the sample was an Honours degree (four participants), followed by a Bachelor's degree (three

participants) and one person had a Diploma. From a race perspective, there was two Black participants, one Indian participant, three Coloured and two White participants. Table eight provides a summary of the participant's profiles. To ensure that the confidentiality of the participants was maintained, each participant was assigned an alphabet from A-H in the data analysis and, from here onwards, this format will be carried forward whenever the participants are being referred to. The survey results did not include any of the participant's demographic information and it is therefore not included in this table.

Table 7 Participant demographic summary

	A	B	C	D	E	F	G	H
Gender	F	F	F	F	M	M	M	M
Race	C	C	B	I	W	W	C	B
Tenure	20	4	5	3	4	3	7	4
Work experience	25	12	15	15	20	15	25	12
Department	CDB	Risk	Risk	Audit	CDB	Procurement	Finance	HR
Age	> 50	30-40	30-40	30-40	40-50	30-40	40-50	30-40
Innovation experience	No	No	No	Yes	Yes	No	No	No
Highest Qualification	Diploma	Honors	Bachelors	Honors	Honors	Bachelors	Honors	Bachelors

4.3 DATA ANALYSIS

Triangulation refers to the collection of data from multiple sources and the convergence of the data that leads to the same finding for a common research problem (Yin, 2016). Despite the concept of Triangulation implying that there should be three data sources, two or more sources is also adequate (Yin, 2016). Triangulation has also been described as the search for information about a specific phenomenon from multiple sources or using different data gathering methods in order to add quality to data analysis (Hadi & Jose Closs, 2016). As this study incorporated results from two data sources it has fulfilled the requirements for triangulation.

Data analysis is the search for patterns in data as well as the reasons behind these patterns (Bernard & Bernard, 2013). In this regard, Yin (2016) proposed the following five-phase approach for qualitative data analysis which was the process followed in this study: (a) compile, (b) disassemble, (c) reassemble, (d) interpret, and (e) conclude.

Compile. This marks the beginning of data analysis and involves the sorting of data, collected from various sources, into a particular order and in a manner that represents the database (Yin, 2016). In this study, each interview was transcribed and coded in an individual Microsoft Word document. Further information on the detailed steps that was used for coding is provided in the next section, namely disassemble. The results from the Land Bank's employee survey was also coded, but it was done separately. The researcher ensured that the same method of coding that was used for coding the transcribed interviews was also used for coding the survey results. This was done so that the analysis would be more consistent. The codes from the employee survey were also incorporated into the full set of codes to enable the researcher to conduct a comprehensive analysis on both sets of complementary results.

Disassemble. Disassembling refers to the process of breaking down the compiled data into smaller fragments, through trial and error, and then assigning each fragment a label or code that describes the fragment (Yin, 2016). Coding includes the identification of topics, issues, similarities and differences that emerge from the participant narratives in order to understand the world from each participants perspective (Sutton & Austin, 2015).

In each of the Microsoft Word transcripts, groups of text from each of the participant's responses were highlighted and each group of highlighted text was assigned a code that represented an underlying topic. This was done after each interview. If a new code emerged in a transcript, the transcripts that had already been coded were reviewed to determine if this new code might have also existed in the already coded transcript and, where applicable, the coded transcript was updated with the new code. When all the transcripts had been coded, the total number of codes that was identified equalled to 35. The transcripts were reviewed once more and in some instances new codes were introduced while in other instances codes that were very similar in meaning were combined to create a new code. The final list of codes had a total of 24 codes.

When coding the data it was observed that as the interviews had progressed the number of new codes decreased such that after the third interview no new codes were being identified.

Table 9 illustrates the number of new codes that were identified as the interviews progressed.

Table 8 Number of new codes per participant

PARTICIPANT	NO. OF NEW CODES
A	24
B	3
C	2
D	0
E	0
F	0
G	0
H	0

Researcher's own work

The employee survey results were provided in a summarized format with its own set of codes, however, in some instances the codes were retained or deleted whilst in other instances the codes from the interview transcripts were applied. At the end of this process, the employee survey had seven unique codes.

Reassemble. Reassembling includes the rearrangement of the coded data into different groupings or themes which may even be different to the original codes (Yin, 2016). In their work, Sutton and Austin (2015) referred to theming in qualitative research as the assimilation of codes from one or more transcripts so that it can be presented in a coherent and meaningful way. To Reassemble the data the 24 codes were listed in a Microsoft Excel spreadsheet where the codes were then grouped according to their common underlying theme, of which there were five. The themes were named as follows:

- Role of Leadership for innovation
- Role of Management for innovation
- Learning and Development for Innovation
- Rewarding innovation
- Robust innovation process

On further review of the data and codes it was discovered that, in certain instances a further grouping of the codes was necessary to provide a more detailed analysis. Therefore some codes were grouped into sub-themes which were then aligned to the existing themes. The codes from the survey results were incorporated into the same spreadsheet and aligned to the relevant interview codes, themes and sub-themes.

Table 10 provides the detailed breakdown of the codes, themes and sub-themes and also indicates how many times each code appeared in each interview transcript (A-H) as well as in the survey results.

Table 9 Interview and survey codes

THEME	SUB-THEMES	CODES (interviews and survey)	A	B	C	D	E	F	G	H	SURVEY	TOTAL
ROLE OF LEADERSHIP FOR INNOVATION	Leadership involvement in innovation	Leadership commitment to innovation will motivate employee to participate	6	3	1	1	2	3	2	0	0	**18**
		Leadership have the power to influence	1	1	1	0	1	0	2	0	0	**6**
		Low staff morale negatively affects innovation participation	1	0	0	0	0	0	0	0	0	**1**
	Leadership must design organization for innovation	Org design must accommodate innovation to succeed	3	2	1	2	2	0	0	1	0	**11**
		Innovation must align to strategy	0	0	1	1	1	0	0	0	2	**5**
	Leadership must create a culture of leadership	Culture of innovation is needed to improve innovation	3	1	0	1	3	0	0	1	4	**13**
		Innovation induced collaboration	1	0	0	1	0	0	0	1	0	**3**
ROLE OF MANAGEMENT FOR INNOVATION	Contemporary Management Style for Innovation	Innovation management style to include flexibility, support, respect and equality	1	2	0	2	1	1	1	1	0	**9**
		Trust that employees are committed	1	1	1	0	0	1	1	0	0	**5**
		High daily workload negatively affects innovation participation	1	3	0	0	0	0	0	0	0	**4**
		Trust in employees to have the necessary skills	1	1	1	1	0	1	0	1	1	**7**
	Employee autonomy for innovation	Level of autonomy for innovation	1	1	1	2	1	1	2	1	1	**11**
		Daily work requires management – less autonomy	0	1	0	0	0	1	0	0	0	**2**
LEARNING AND DEVELOPMENT FOR INNOVATION	N/A	Constructive feedback and learning needed for innovation	1	1	1	1	1	1	0	0	0	**6**
		Internal information exchange needed for innovation	1	0	1	0	0	1	0	0	0	**3**
		Identifying the right problem is essential for innovation	2	1	0	1	1	0	0	0	0	**5**
		Practical learning is needed	0	0	1	0	1	0	0	0	0	**2**
		Innovation is only for intelligent people	0	1	0	0	0	0	1	0	0	**2**
REWARDING INNOVATION	N/A	Financial constraints limit innovation implementation	1	0	0	0	0	0	0	0	0	**1**

		Need to reward Innovation as a KPI	1	0	1	0	1	0	0	0	0	**3**
		Non-monetary incentives are useful incentives	1	1	1	1	0	1	1	1	0	**7**
ROBUST INNOVATION PROCESS	N/A	Efficient innovation process required	1	1	1	1	3	3	3	0	0	**13**
		Poor implementation negatively affects innovation participation	2	0	0	0	0	1	2	0	0	**5**
		Implementation: bridge the gap between executives and operational staff	0	1	0	0	0	0	0	0	0	**1**
Total			**30**	**22**	**13**	**15**	**18**	**15**	**15**	**7**	**8**	**143**

Researcher's own work

Interpret. Data interpretation is concerned with using the Reassembled data to create a new narrative that will form the key analytical positioning of your research (Yin, 2016). To this end, each theme and sub-theme has been discussed individually to provide a detailed interpretation of the results. To ensure a high quality interpretation, when analysing each interview transcript, careful consideration was given to the context associated with the answer as well as the question that was being asked. However, this approach could not be extended to the interpretation of the survey data as it was already summarized and none of the questions, demographic information or personal identifiers were provided with the data which limited the overall interpretation.

Conclude. As part of the conclusion, the researcher formulates key statements about the findings of a study based on the interpretation of the reassembled codes and the emerging themes (Yin, 2016). The conclusions and recommendations of this study will be drawn in the final chapter (Chapter Six).

4.4 PRESENTATION OF DATA

From the above data related activities, five themes were identified with regards to firm innovation. These included the *Role of Leadership for Innovation, Role of Management for Innovation, Learning and Development for Innovation, Rewarding Innovation and Robust innovation process*. Sub-themes were identified under the themes of Role of Leadership for innovation and Role of Management for Innovation. A summary of the themes and sub-themes are illustrated in Table 11. The table also includes the total number of times that each theme and sub-theme occurs in both sets of data.

Table 10 Summary of themes from interviews and survey

THEME	SUB-THEMES	A	B	C	D	E	F	G	H	SURVEY	SUB-THEME TOTALS	THEME TOTALS
ROLE OF LEADERSHIP FOR INNOVATION	Leadership involvement in innovation	8	4	2	1	3	3	4	0	0	**25**	**57**
	Leadership must design organization for innovation	3	2	2	3	3	0	0	1	2	**16**	
	Leadership must create a culture of innovation	4	1	0	2	3	0	0	2	4	**16**	
ROLE OF MANAGEMENT FOR INNOVATION	Contemporary Management Style for Innovation	4	7	2	3	1	3	2	2	1	**25**	**38**
	Employee autonomy for innovation	1	2	1	2	1	2	2	1	1	**13**	
LEARNING AND DEVELOPMENT FOR INNOVATION	N/A	4	3	3	2	3	2	1	0	0	**18**	**18**
REWARDING INNOVATION	N/A	3	1	2	1	1	1	1	1	0	**11**	**11**
ROBUST INNOVATION PROCESS	N/A	3	2	1	1	3	4	5	0	0	**19**	**19**
TOTAL		**30**	**22**	**13**	**15**	**18**	**15**	**15**	**7**	**8**	**143**	**143**

Researcher's own work

4.5 RESULTS

In line with the research question, this section presents the results that were collected from interviews that were held with the Land Bank's employees. The research question being answered is "***What combination of innovation management practices and OIC design elements will provide a new OIC design that will stimulate employee creativity for new ideas given the limitations in management practices identified as constraining?"***

The five main themes and their sub-themes are discussed in this section:

1) Role of Leadership for Innovation
    a) Leadership involvement in innovation
    b) Leadership must design organization for innovation
    c) Leadership must create a culture for innovation
2) Role of Management for Innovation
    a) Contemporary management style for innovation
    b) Employee autonomy for innovation

3) Learning and Development for Innovation
4) Rewarding Innovation
5) Robust innovation process

4.5.1 PRESENTATION AND RESULTS PERTAINNG TO THEME 1: ROLE OF LEADERSHIP FOR INNOVATION

Table 11 Results pertaining to Theme 1: Role of leadership for innovation

THEME	SUB-THEMES	CODES (interviews and survey)	A	B	C	D	E	F	G	H	SURVEY	TOTAL
ROLE OF LEADERSHIP FOR INNOVATION	Leadership involvement in innovation	Leadership commitment to innovation will motivate employee to participate	6	3	1	1	2	3	2	0	0	**18**
		Leadership have the power to influence	1	1	1	0	1	0	2	0	0	**6**
		Low staff morale negatively affects innovation participation	1	0	0	0	0	0	0	0	0	**1**
	Leadership led organizational design for innovation	Org design must accommodate innovation to succeed	3	2	1	2	2	0	0	1	0	**11**
		Innovation must align to strategy	0	0	1	1	1	0	0	0	2	**5**
	Leadership led culture of innovation creation	Culture of innovation is needed to improve innovation	3	1	0	1	3	0	0	1	4	**13**
		Innovation induced collaboration	1	0	0	1	0	0	0	1	0	**3**

Researcher's own work

40% of all codes were aligned to Theme 1, half of which (50%) were related to leadership involvement in innovation where participants intimated that the firm's CEO and top leadership should be the cornerstone of innovation and the leadership team need to continuously demonstrate their genuine commitment to innovation. In this regard, participant A, who had the longest tenure with the firm among all the participants, was quite frustrated that over the years there had not been a single CEO that had given innovation its due consideration. Participant A held a firm belief that the senior leadership in a firm, particularly that of the CEO, has the *"strongest influence over their employees and must therefore take control of innovation and make it happen".* Participant A emphasized this sentiment throughout the interview. This was strongly supported by participant B who also verbalised her frustration with the executive team claiming that the *"executives are too far from what is happening at the ground level"*. Participant B also remarked a few times during the interview, that it is the CEO and other executives that

“have the responsibility to drive and establish all new things that have the potential to make a big change to the way an organization does things”. Along the same lines, participants F and G expressed that senior management must be explicit about their seriousness and passion for innovation so that all stakeholders, and not just employees, will understand that innovation is a key component of the firm. The verbatim response from participant F was that *“It is always good when the most senior person of the organization leads innovation because then employees know that it is serious and also people that are external to the organization also take it seriously, like vendors, partners, clients, National Treasury etc.”.* Furthermore, participants C, E, F and G all felt that senior management must be present in all forms of communication and marketing of innovation. Participants also felt that organizational leaders have the power to uplift employee morale through motivation and can also influence employees to participate in innovation. According to participant A, *“Leaders are the ones with the greatest influence and need to make things happen”.* The response from participant B was that *“Senior Management actually have such power to influence employees into doing things”* and participant G said that *“They are looked up to, they are able to easily influence employees to be more innovative”.* The survey responses did not contain any codes related to leadership involvement in innovation.

The participants felt that having an organizational structure that made a provision for innovation was an important factor for convincing employees that innovation was considered important by the senior management team. Evidence from the interview and survey data suggests that it is imperative that no employee is overlooked for innovation and that they must all be afforded the opportunity to innovate. The data also suggests that firm’s must have a dedicated innovation team, with their own budget, and an evaluation panel that can evaluate ideas fairly. Due to the time involved in developing ideas, participants, A,B,C and E (representing 50% of the participants), emphasized the need for having a competent evaluation panel that would assess all their ideas professionally instead of having ideas analysed and rejected by an unqualified individual.

Some of the verbatim responses include,

Participant A

“The leadership need to setup an innovation team who are dedicated to innovation and not have it as part of a larger job profile where it will be diluted”.

“I would prefer that a neutral body like an innovation team assists with the idea and gives me an opportunity to develop the idea on my own but with their guidance”

“I would be more comfortable with a committee evaluating ideas rather than an individual. A committee will have a wider view whereas an individual will have a very narrow view”.

“They also need to provide a budget for innovation which they have not done as yet.”

Participant B

“Everything else requires a panel approval so innovation should be the same. We have EXCO, board, credit committees, process committees etc. so innovation should also have a panel”.

Participant C

“I expect those who are evaluating my ideas to fully understand my idea. It would not be fair if they do not know what my idea is actually about but they turn it down”.

Participant E

“I think a competent committee made up of a diverse group of individuals would be sufficient. But they must be competent and know the business”.

In the *interview* the employees responded that there was a need for structural reforms to enable firm innovation whereas in the *survey* the employees indicated the need for innovation to be aligned to the organizations strategy instead.

“The organization is slow to respond to changes in the environment”

“Maintaining the status quo is hampering innovation”

The need for a culture for innovation appeared in both this study as well as in the results of the employee survey. The interview and survey responses on culture represented 28% of Theme 1. Consistent with the research that found that innovation culture is difficult to

explain and specify what it actually consists of (Carmeli & Tishler, 2004; van der Westhuizen, Mosoge, Swanepoel & Coetsee, 2005), the interview participants could also only make broad references to innovation culture without being able to specify exactly what they were expecting from it. The replies can be read below.

Participant A

"Also, the culture in the organization is not right for innovation"

"Even though an individual is providing the idea, management should feel a sense of responsibility towards making it happen. This is how you can build a culture of innovation"

Participant E

"The Executive team are quite a senior decision making body and they therefore have the ability to entrench a culture of innovation in the strategy"

"Innovation is a result of the culture of an organization"

Participant H

"Management needs to create a culture of innovation, employees and teams need to feel that they are part of that culture"

However, the survey results provided a little more insight into what the firm's employees actually wanted to be incorporated into the innovation culture. They asked for managers to be more encouraging of change by not holding on to the old ways of doing things and to be more flexible. They also wanted managers to encourage the development of new ideas. The following responses are from the survey.

"Its new vs old. Those that have been with the bank for many years refuse to change and impose the wrong things"

"Lack of innovation. GM"s are stuck in the old way of doing things. New ideas are not welcome."

"Inflexible and bureaucratic. People set in their old ways. We say that we will do something but the tools/policies/procedures are never put in place"

"We need to allow and nurture new ideas"

From both sets of responses it can be concluded that, while the firm had implemented OICs, they did not have a culture that supported new ideas. Managers were trying to maintain the status quo and were therefore not open to taking on the risk that is usually associated with new ideas. Employees were left discouraged and were not motivated to think creatively and generate new ideas.

4.5.2 PRESENTATION AND RESULTS PERTAINNG TO THEME 2: ROLE OF MANAGEMENT FOR INNOVATION

Table 12 Results pertaining to Theme 2: Role of management for innovation

THEME	SUB-THEMES	CODES (interviews and survey)	A	B	C	D	E	F	G	H	SURVEY	TOTAL
ROLE OF MANAGEMENT FOR INNOVATION	Contemporary Management Style for Innovation	Innovation management style to include flexibility, support, respect and equality	1	2	0	2	1	1	1	1	0	**9**
		Trust that employees are committed	1	1	1	0	0	1	1	0	0	**5**
		High daily workload negatively affects innovation participation	1	3	0	0	0	0	0	0	0	**4**
		Trust in employees to have the necessary skills	1	1	1	1	0	1	0	1	1	**7**
	Employee autonomy for innovation	Level of autonomy for innovation	1	1	1	2	1	1	2	1	1	**11**
		Daily work requires management – less autonomy	0	1	0	0	0	1	0	0	0	**2**

Researcher's own work

While the leadership team, discussed under Theme 1, is concerned with the organizational level activities like creating a future vision, mission and goals, setting of a corporate culture, developing strategies, motivating employees and finding opportunities, management is concerned with people management and operational efficiencies. Traditionally, management was about the business of the organization and getting things done through, amongst others, planning, budgeting, staffing and scheduling (Kotterman, 2006). This type of technical management style was sufficient in the past, however, the new management style is people focused and is concerned with things like being supportive, trusting employees, providing autonomy, being flexible and respectful and treating all employees as equals. Theme Two addresses the management practices that are required for improving employee innovation.

The interview participant's expect managers to adopt the new contemporary style of management that is more people focused rather than task focused, as they felt that this management style was more suited to employee innovation. This sub-theme contributed 66% to its main theme (Theme Two) and 17% to the overall results thereby indicating that, for the participants, it was quite an important aspect of employee innovation.

The participants expressed their need for managers to respect them and treat them as equals. One suggestion was for managers to provide honest feedback about their ideas instead of providing terse rejections with no further information and feedback. They also expect managers to be more engaged in their innovations and to offer them encouragement, especially when embarking on new activities like innovation. Some of the responses that support this analysis is provided below.

Participant B

"Innovation needs very forward thinking managers and not the old school type of management."

Participant C

"If they do not agree with my innovation then they must provide solid reasons why it should not be done and not just decline it in a harsh way."

Participant D

"someone who actually understands the concept of not shooting down ideas but helping to develop ideas, so it should not be a gatekeeper type of role where people would be afraid to say something"

Participant F

"Management support is critical in everything, especially innovation because it needs special attention. Even if there is no innovation contest, managers have to be open to new ideas"

Participant G

"Mainly I think I would like my manager to provide encouragement because I will be doing something different to what the others are doing"

The survey results also supported the notion of managers adopting the contemporary style of management which included being recognised, being more flexible and being more accepting of new ideas.

"Management pretending to be listening to the views of staff but doing nothing about them. This makes staff reluctant to put their ideas forward as they are not considered"

"A portion of Senior Management is inflexible and ignorant"

"Senior Management to be more flexible and open regarding to future plans"

Another aspect of the contemporary management style that was appealing to the participants is having autonomy in both their normal daily work as well as during innovation activities. The interview responses demonstrated this point of view.

Participant B

"It would be nice to be able to develop my innovation on my own to a certain point and then get others involved"

Participant C

"For innovation I would like to have complete freedom to be alone and work on my ideas"

Participant E

"I actually prefer to work on my own but I would still need the support of the organization in terms of management support for innovation"

Participant G

"A certain amount of freedom is needed so that you feel that you are in charge of something's success. It can be quite empowering"

The following verbatim responses are from the survey results.

"One is hamstrung at every corner. One is not allowed to make decisions."

"Controlling too much and not accepting other people's views" [directed at management]

In order to provide employees with autonomy for innovation, managers need to trust that employees have the necessary skills and commitment to deliver the desired results. The

participants, however, felt that their team managers did not trust that they had the desired skills and therefore used external consultants to carry out work. They also felt that they were not being trusted to complete their work without supervision. The verbatim responses include,

Participant C

"The best option is to use internal staff because they understand the business context and they know the processes and the impact of changes"

Participant D

"I think I would be best assisted by internal professionals because if we are solving a bank related problem it's generally something that's unique to the Land Bank and therefore internal people probably understand the problem much better"

Participant H

"Internally as they understand the problems better. They work closely with the systems and processes so they are best suited to provide solutions"

"Managers must not treat you as if you are trying to get away from doing your normal work and then hold it against you when it comes time for performance reviews"

"I am a specialist in my field and I therefore know a lot and do not need much supervision"

"I should not need permission to do something like this, management should be automatically on board with this arrangement"

The survey results also contained a comment regarding the use of external resources over internal employees.

"There are a number of experienced staff within the organization with great ideas but they do not make use of these staff members and choose to pay high costs for consultants"

4.5.3 PRESENTATION AND RESULTS PERTAINNG TO THEME 3: LEARNING AND DEVELOPMENT FOR INNOVATION

Table 13 Results pertaining to Theme 3: Learning and development for innovation

THEME	SUB-THEMES	CODES (interviews and survey)	A	B	C	D	E	F	G	H	SURVEY	TOTAL
LEARNING AND DEVELOPMENT FOR INNOVATION	N/A	Constructive feedback and learning needed for innovation	1	1	1	1	1	1	0	0	0	**6**
		Internal information exchange needed for innovation	1	0	1	0	0	1	0	0	0	**3**
		Identifying the right problem is essential for innovation	2	1	0	1	1	0	0	0	0	**5**
		Practical learning is needed	0	0	1	0	1	0	0	0	0	**2**
		Innovation is only for intelligent people	0	1	0	0	0	0	1	0	0	**2**

Researcher's own work

The Theme of Learning and development represented 13% of the overall responses. Under this theme, the responses indicated that the participants were not concerned about being unsuccessful at innovation but expressed a strong desire for receiving honest feedback about their ideas so that they could learn from their mistakes and make the necessary improvements for their next idea.

Participant A

"I would also like to receive constructive and full feedback so that I can learn from the experience even if my idea is not selected"

Participant B

"I would like to be in the room when my idea is being discussed so that I can see how it is being evaluated"

Participant C

"I appreciate their honest feedback but if they do not agree with my innovation then they must provide solid reasons why it should not be done and not just decline it in a harsh way."

Participant D

“There must be comprehensive feedback but it must be constructive so that I know where I went wrong and how I can improve”

Participant E

“I would like my manager to give me fair feedback and to provide me with the necessary tools and time off to work on my ideas”

Participant F

“I would not want to just receive an email to say that my idea was accepted or rejected. It would be nice if someone would actually sit with me and explain, if it was from a panel then what were their comments, what mistakes did I make and things like that.”

Another important aspect of the Learning and Development Theme was related to the ability of the firm to problem solve. While the survey results did not include feedback on this theme, the interview participants felt that far too often the exact problem is not being attended to and training in problem solving techniques could help to rectify this.

Participant A

“They still have to learn about the people and the business before they can understand the problem that needs solving”

Participant B

“In terms of specific training, some training that could be useful is training related to understanding the root cause of a problem. This might be beneficial to innovators”

Participant C

“We tend to solve the wrong problem because we want to rush into a solution without fully understanding the real problem”

“Training can be very theoretical and without proper application it can become a waste of time and money.”

Participant D

“Think this kind of problem solving training would probably be good, because if you’ve got that kind of thinking you can solve problems in a variety of situations

Participant E

Some sort of training would be helpful. Maybe Continuous Improvement training, problem solving, Six Sigma. But it must have a practical component to it, something work related. "Teams must be able to do root-cause analysis with access to reliable MIS"

4.5.4 PRESENTATION AND RESULTS PERTAINNG TO THEME 4: REWARDING INNOVATION

Table 14 Results pertaining to Theme 4: Rewarding innovation

THEME	SUB-THEMES	CODES (interviews and survey)	A	B	C	D	E	F	G	H	SURVEY	TOTAL
REWARDING INNOVATION	N/A	Financial constraints limit innovation implementation	1	0	0	0	0	0	0	0	0	**1**
		Need to reward Innovation as a KPI	1	0	1	0	1	0	0	0	0	**3**
		Non-monetary incentives are useful incentives	1	1	1	1	0	1	1	1	0	**7**

Researcher's own work

While all the participant agreed that there should be a reward for innovation, none of the participants advocated for monetary rewards. Participant F was understanding of the limited income stream of the firm which in turn also limited monetary rewards. Participant G even suggested that true innovators would not be concerned with rewards but about actually achieving something that is unique. The results from the survey did not yield any opinions on rewarding innovation.

Participant F

"But we have to be realistic, we are a very small organization and we only provide loans so we do not have any other income stream. In our environment a small amount of cash or gadgets can be a good incentive"

Participant G

"I feel that if you are a true innovator then you would not really need an expensive incentive because the most important thing is to be involved in innovation and making things happen"

Participants A and C felt that a form of reward for innovation would be to include it in annual performance reviews.

Participant A

“But we should also be recognised in our performance reviews because of the time and effort it could take to actually implement an idea”

Participant C

“Give me time off and consider it when doing performance appraisal so that spending my time on innovation will not cause me to receive a lower score on my other work”

There were also broad range of suggestions for non-monetary rewards like time-off from work, travel rewards, training, attending conferences, vouchers and technology gadgets.

Participant A

“Also getting time off would be a nice incentive.”

Participant B

“There are other things like a trip to Cape Town for 2, or dinner at a fancy restaurant or the opportunity to go for some overseas conference. Things that can really go a long way in motivating people”

Participant C

“I am not too interested in financial reward, I think technology gadgets would be more suitable for rewarding innovation”

Participant D

“Non-monetary incentives for example, getting time off, or having lunch with the CEO or getting more leave days or something like that can be very inspiring”

Participant G

“But there are other things that can work, like vouchers, lunch meals or getting Fridays off.”

4.5.5 PRESENTATION AND RESULTS PERTAINNG TO THEME 5: ROBUST INNOVATION PROCESS

Table 15 Results pertaining to Theme 5: Robust innovation process

THEME	SUB-THEMES	CODES (interviews and survey)	A	B	C	D	E	F	G	H	SURVEY	TOTAL
ROBUST INNOVATION PROCESS	N/A	Efficient innovation process required	1	1	1	1	3	3	3	0	0	**13**
		Poor implementation negatively affects innovation participation	2	0	0	0	0	1	2	0	0	**5**
		Implementation: bridge the gap between executives and operational staff	0	1	0	0	0	0	0	0	0	**1**

Researcher's own work

Theme Five contributed 13% of the overall results. The bulk of which (68%) represented the participant's fondness for innovation processes. Participants were in favour of having a formal innovation process with the necessary attributes. In other words, they wanted a process that is supported by senior managers, has a central platform to submit their ideas and a set of criteria that would provide a fair evaluation of ideas. Lastly, the participants were satisfied that there was a sufficient number of ideas being generated, however, because the firm had a reputation of not implementing ideas, they were very concerned about submitting ideas but not having them implemented. According to Participants A, B, E and G, far too often good ideas were not being implemented and this is a source of frustration for them. The survey results also contained a response that was related to implementation and is included below.

Participant A

"Another thing is that we get ideas from staff all the time but it very rarely gets implemented and that can frustrate staff and prevent them from participating"

Participant B

"Too many good ideas are not implemented and even if they are they are not implemented properly"

Participant D

"The OIC was more formal and appealing"

Participant E

“It is important that implementation is managed and followed through”

“A structured approach gave me confidence that my idea would go through proper processes”

Participant G

“Too many ideas get stuck and forgotten about”

The survey response was as follows,

“Employees are a rich source of ideas but they are being ignored”

Some of the participants felt quite strongly about having a panel to evaluate ideas and that the panel must be made up of competent internal staff. Participant D and E felt that an evaluation done by more than one person, like a panel, would give ideas a fair chance of being selected when compared to leaving it to an individual like a manager who may only have a narrow view of the idea. Participant F raised the concern that employees may not feel important enough if a panel of senior managers did not evaluate the ideas.

Participant D

“There would be a panel that would consider my ideas for viability instead of informal where it can be turned down immediately”

Participant E

“Improvements are formulated and mechanisms are in place to evaluate these is the best option”

Participant F

“A fair assessment of ideas by a panel or EXCO is extremely important if you want people to know that you are taking them seriously. If they are not given the proper air time then people will feel like they wasted their time and effort”

5 CHAPTER 5: DISCUSSION

This study is concerned with investigating what type of management practices can influence employees of a firm to increase their participation in innovation. By creating a conceptual framework from the assimilation of literature (Chapter Two) and conducting an interview customized to capture employee innovation experiences (Chapter Three), this study was able to uncover various insights into employee's beliefs and ideas on innovation (Chapter Four).

In this chapter, the results from the previous chapter are discussed in relation to the research question, the literature review and the resulting conceptual framework. The framework employs both the standard OIC design elements and the innovation management practices applied to employee innovation. The OIC design elements are from three related research articles (Adamczyk *et al.*, 2012; Bullinger-Hoffmann *et al.*, 2010; Ebner *et al.*, 2009), while the innovation management practices are from separate streams of innovation management literature (Amabile *et al.*, 1996; Foss & Laursen, 2003; Prajogo & Ahmed, 2006). Specifically, the innovation management practices that are imperative for innovation include encouragement of creativity, autonomy, and resources (Amabile *et al.*, 1996), collaboration, job rotation, delegation of responsibility and training (Foss & Laursen, 2003) as well as leadership, people management, knowledge management and creativity management (Prajogo & Ahmed, 2006). Based on the abovementioned studies relating to OICs and innovation management practices, this study's conceptual framework combines OIC design elements with relevant innovation management practices to possibly create a new OIC that is designed for internal innovation.

The abovementioned studies were referenced when formulating the interview questions. The subsequent themes that emerged from the interviews can be stated as follows:

- Role of Leadership for innovation
- Role of Management for innovation
- Learning and Development for Innovation
- Rewarding innovation
- Robust innovation process

Some researchers may argue that, in practice, many managers perform the role of leaders, and many leaders perform the role of managers (Toor & Ofori, 2008), but in this study, leadership and management are separate themes. If the study followed Toor and Ofori (2008), it would mean that the two themes mentioned above, namely the Role of Leadership for innovation and the Role of Management for innovation, should have been combined because of the overlap of their underlying activities. However, evidence from the interview responses indicated that the participants related differently to the two groups of senior employees. They referred to one group of senior employees as *"leaders", "executives", "CEO" and "senior leadership"* and associate them with activities like developing a vision, creating a culture for innovation and crafting a strategy. On the other hand, they referred to another group of senior employees *as "managers", "senior managers" and "line manager"* and associated them with activities like managing workloads and providing support in daily work functions. In addition, they also stated that leaders are the most senior employees of the firm and are responsible for organization wide decision making and managers have to therefore adhere to their decisions.

The distinction between the two views is consistent with research that found that because leaders and managers have their own set of unique characteristics they should be discussed separately (Gordon & Yukl, 2004). According to the research, creating the distinction is important because both of these roles are necessary for success, but, they can only be measured, tested, hired and promoted for when they are treated as separate entities. The different behaviours associated with each role has also been conveyed in various studies which found that managers tend to have a narrow purpose, maintain order, stabilize work and organize resources whereas leaders look far into the future and want to transform the organization by finding new goals (Ali, 2013). Similarly, other studies have found that managers are seen to be continuously solving operational problems while leaders undertake the job of inspiring and motivating employees (Ali, 2013; Kotterman, 2006). Furthermore, managers aim for consistency, predictability and order while leaders, through their advanced abilities in defining a vision and crafting a strategy, seek opportunities for dramatic change and chaos (Ali, 2013; Kotterman, 2006).

The responses that were received from the interviews were similar to the analysis and interpretation of the data collected from the interviews that outlined leadership and management as having unique characteristics. Therefore, in this study, they are assessed

as separate themes, namely the Role of Leadership for innovation and the Role of Management for innovation.

5.1 ROLE OF LEADERSHIP FOR INNOVATION

The results under this theme are congruent with the literature in Chapter Two (Amabile *et al.*, 1996; Prajogo & Ahmed, 2006) specifically around the benefits associated with leadership teams driving innovation. For example, these studies have shown that, because of their ability to influence, the policies formulated by leadership teams for employee innovation improves the firm's innovation performance (Prajogo & Ahmed, 2006). More specifically, Amabile *et al.* (1996) found that employees are more likely to generate useful ideas if leadership policies were used to encourage risk taking at all levels. Similarly, the participants displayed a steadfast belief that if executives wanted to establish such behaviour norms they could "*easily influence employees to participate in innovation"*. This is similar to Prajogo and Ahmed (2006) who measured the impact of leadership in increasing innovation performance and found that leadership played a significant role in establishing a fertile environment for innovation. The participants felt that executives must make their commitment to innovation visible "*by participating in all forms of innovation communication and marketing"* so that, not only would it go a long way in convincing employees that innovation is important to them, but it would also convince all other stakeholders including "*clients and suppliers"*. The importance of leadership involvement in innovation communication was similarly raised in the single case study done by Engen and Magnusson (2015) who found that top management must constantly communicate the success of innovation activities if they wanted to motivate employees. This point of view is also echoed by Nagji and Tuff (2012) who strongly opined that it is the responsibility of the leadership team to communicate clearly and relentlessly about innovation goals and processes. This is because open commitments and clear messaging goes a long toward ensuring that the entire firm knows what decisions are being taken, by whom and why, and how those decisions will benefit the firm (Nagji & Tuff, 2012).

In general, the participants believed that executive management must drive innovation. However, a small number of the participants believed that the Chief Executive Officer (*CEO)* must be the specific executive that leads this innovation drive. This finding is aligned to Høyrup (2013) who also studied employees as a source of innovation. In his

study, one of the options presented was the use of a top-down approach to innovation, also referred to as Third-Order EDI. In this approach, top management initiates and invites employees to participate in innovation, similar to what the participants expressed as their expectation of the CEO. However, the EDI study did not focus on the role of the CEO specifically but made a broad reference to top-management. The actual focus of the EDI study was on the benefits of using employees for innovation, however, the CEO plays a crucial role and studies of this nature need to be extended to include the impact of the role of the CEO in innovation.

The majority of the participants espoused that for innovation to be taken seriously it must be formally mandated to the leadership team who must then be held accountable for implementing structural reforms that would improve employee innovation. To establish such structural changes, employees firstly believed that innovation must not be an ad hoc initiative but must rather form "*part of the firm's strategy*" in order to show the long term commitment of its executive team. The findings coincide with the literature on this view offered by Prajogo and Ahmed (2006) who stated that top management support is crucial for innovation success because it requires a level of learning and change that is often disruptive, risky and costly. Furthermore, when radical innovation is being pursued, the literature indicates that an even stronger association between leadership and innovation is required because it requires more resources and power which is controlled by top management (Prajogo & Ahmed, 2006). However, this study did not investigate radical innovation and therefore cannot confirm that the findings align to the study by Prajogo and Ahmed (2006).

The participants also opined that the firm must have a "*dedicated and well financed innovation team"* that would be "*included in the overall structure of the organization"* and must be able to dedicate time to assisting them with aspects of innovation including "*resourcing and refining of ideas"* which is congruent to literature highlighting the importance of having the right number and level of experienced resources for supporting employee creativity (Hutter *et al.*, 2011). By having this in place, employees will not feel like they have to face innovation alone but that they have the dedicated support of a team.

The participants vocalised their need for an easily understandable innovation process that would encompass the stages of "*submission, evaluation and implementation"*. This finding aligns to existing literature that has also investigated innovation processes in firms

and identified similar stages of innovation including ideation, evaluation and implementation (Björk *et al.*, 2010; Cooper *et al.*, 2002). Goffin and Mitchell (2016) have taken this a step further and aligned the stages of ideation, evaluation and implementation with strategy, people and the organization to create the Pentathlon Framework. The participants also felt that innovation must be aligned to the firm's business strategy because it motivates employees to participate in innovation.

When it came to evaluating their ideas, the participants had a high expectation of evaluation panels, stating that they must be composed of "*knowledgeable and experienced employees"* that can provide a "*fair evaluation"* of their ideas and provide "*constructive feedback"*. Similarly, existing research that investigated factors affecting employee attitude to innovation also indicated that it was important for idea evaluators to be competent, by possessing their own creative and problem solving skills, so that they do not negatively affect employee attitudes (Basadur & Basadur, 2010).

The majority of the participants emphasized their belief that executives and managers must "*create a culture of innovation"* that encourages "*risk taking"* and bringing in new ideas, if they wanted to convince employees to involve themselves in innovation. The literature also supports a culture of risk taking for innovation because risk taking promotes creativity and will ensure that new ideas are not punished or discarded (Amabile, 1988). Furthermore, the literature indicates that a culture of risk taking in firms is associated with an explorative management approach rather than an exploitative management approach (Walrave *et al.*, 2017). This study did not discuss the dynamics of the explorative versus exploitative management approaches in detail but, in literature, the explorative approach is stated as one that encourages creativity, flexibility and discovery and firms should therefore explore how to adopt such an approach for managing innovation (Jansen, Van Den Bosch & Volberda, 2006; March, 1991; Walrave *et al.*, 2017).

Regarding innovation culture, the majority of the participants agreed that all employees had to "*be open to doing things differently"* instead of being tied to the "*old ways of working"*. Existing literature stipulates that new ways of working include; interdisciplinary workgroups for increasing collaboration, job rotation for increasing knowledge sharing and transferring of some authority to increase autonomy (Foss & Laursen, 2003). The participants specifically mentioned that giving them autonomy will mean that they are being trusted by management to work unsupervised and this would motivate them to

increase their performance. This is similar to the study on individual creativity which found that creative employees prefer autonomous working conditions (Oldham & Cummings, 1996). The participant's desire for job rotation aligned with a study which found that job rotation increases employee job satisfaction, involvement and commitment (Carpini & Parker, 2016).

5.2 ROLE OF MANAGEMENT FOR INNOVATION

The participants expressed the need for their managers to be more "*people focused*" rather than "*task focused"*. Specifically, they expect their managers to be "*flexible, supportive and trusting"*. This is aligned to the evidence in literature that states that this style of management can encourage creativity. For instance, in terms of a flexible management style, it was argued that this type of management style actually encourages innovation among employees (Wikhamn, Armbrecht & Remneland Wikhamn, 2018). A flexible management style opens up the pathways for employees to bring in new ideas instead of maintaining the status quo. Managers can boost employee morale by being flexible which can include asking individuals to perform a wider variety of tasks and mobilizing organizational resources (El-Said, 2014). The participants felt that managers needed to be more open to new ideas and new ways of working, for example implementing job rotation because it improves collaboration. This is supported by Martins and Terblanche (2003) who found that rotating employees between different projects and positions within a firm increases flexibility, freedom and cooperative teamwork which in turn promotes creativity and innovation.

The participants stated that if managers would support them they would feel more encouraged to increase their commitment and involvement in innovation. This kind of exchange is also advocated by Social Exchange Theory (SET) which states that when employees perceive a high level of organizational support, they will feel an obligation to pay back the organization by having a positive attitude and committed behaviour (Arasli, Arici & Kole, 2020). Similarly, employees tend to be loyal and committed to organizations when institutional support is clear and pervasive and their morale is high (El-Said, 2014). Furthermore, it was found that management support was actually a form of emotional support for employees during the generation and implementation of creative ideas (Madjar, Oldham & Pratt, 2002; Oldham & Cummings, 1996) and in this study the participants also felt that managers must allay their fears and provide necessary

encouragement to pursue new ideas. The participants also stressed that the one way that managers could display supportive and encouraging behaviour was to not reject their ideas without due consideration. The participants felt that if ideas were rejected too quickly employees would perceive risk taking and creativity as being an unacceptable work practice and this would adversely affect employee participation. This is aligned to a study that found that management support of creativity is a good indicator to employees that generating, communicating, and implementing creative ideas is a socially acceptable action and even has the possibility of being rewarded (Baer & Oldham, 2006).

"Management's lack of trust" in employee's knowledge and skills was of great concern to the participants because, on many occasions, managers have opted for the "*services of consultants*, *even for basic work"*, instead of capitalizing on the skills of employees. By expressing these types of concerns, the participants are implying that managers actually sustain their careers and keep them relevant when they allocate work to them, but if they continue to use external resources it will make them feel vulnerable and insecure about their jobs. Studies have similarly found that employees do feel vulnerable when they have to rely on managers for work assignments, performance evaluations, and promotions (Knoll & Gill, 2011; Wells & Kipnis, 2001). Another similar threat to job security is the increasing use of AI. AI is quickly replacing the mundane tasks that are carried out by humans (Mankins & Garton, 2017) and, in future, it could even be enhanced to solve problems (Huang & Rust, 2018). This threatens the traditional career path for human employees (from entry level mundane tasks to experienced professional) because if AI takes over the mundane tasks of younger employees, they will be forced to compete with experienced professionals, with very little chance of success and therefore very few employment opportunities (Dirks & Ferrin, 2002). The participants expressed concerns about job security with the use of consultants and will therefore also have similar job security fears if AI or other 4IR technologies start to take over their work.

The participants also expressed that managers needed to trust them so that they would feel comfortable with taking risks for innovation. The study by Ellonen, Blomqvist and Puumalainen (2008) also concluded that high levels of trust between managers and employees has a positive effect on innovation. On the other hand, other studies have found that managers also feel vulnerable because they have to rely on their employees

to complete tasks (Dirks & Ferrin, 2002; Schoorman, Mayer & Davis, 2007) but this view was not investigated.

Under the sub-theme Employee autonomy for innovation the participants expressed a strong preference for being granted a "*reasonable amount of autonomy"* so that they could work on their ideas "*independently"* rather than being "*told what to do by managers"*. In the literature, granting autonomy to employees is framed as a constructive management practice because employees who work autonomously are more likely to be creative (Amabile, 1988). This finding is also consistent with Oldham and Cummings (1996) who found that creative people orientate themselves towards autonomy and perform better under conditions where they have at least a moderate degree of autonomy. However, autonomy can be described as a double-edged sword because it is effective in spurring creativity and involvement but if left unchecked autonomy can create ambiguity, inefficiencies and chaos (Mankins & Garton, 2017). The participants were aligned to this position because they did not demand complete autonomy and were actually willing to accept a reasonable amount of autonomy. While autonomy has been linked to many benefits, Self-determination theory (SDT) suggests that, in addition to autonomy, people need competence (skill mastery), and relatedness (connecting with others) in order to experience psychological growth and development and can then motivate themselves instead of depending on others to do so (Ryan & Deci, 2000). Similarly, the participants felt that using their skills and "*collaborating on ideas"* with other employees would motivate them to be more innovative.

5.3 LEARNING AND DEVELOPMENT FOR INNOVATION

It is important for employees to learn from their innovation activities as it embodies new knowledge about the successes and failures in innovation (Prajogo & Ahmed, 2006). This principle was supported by the participants because they expressed a strong affinity for "*receiving feedback"* on their ideas, specifically for the purposes of "*learning and making future improvements"*. This finding can be associated with the finding in Theme 1 where employees wanted the innovation process to have an evaluation stage so that they could receive professional feedback even though it might delay the process. However, research informs us that not all employees are comfortable with receiving feedback. In fact, of the three types of employees that were identified by VandeWalle (1997), namely mastery oriented, performance-prove and performance-avoid, it is only "mastery oriented"

employees that are keen to receive feedback. An individual who is oriented toward Mastery is concerned with acquiring new skills, mastering new situations and is open to receiving feedback, all of which is akin to being innovative. On the other hand, Jansen *et al.* (2006) found that being performance oriented is actually not related to being innovative in a job. Lastly, the performance-avoid orientation is when an individual strives to hide any lack of competence and strongly opposes negative feedback on their performance. This means that the performance-avoid oriented employees are more exploitative in nature and show a low innovation activity (VandeWalle, 1997). The majority of the participants in this study expressed that they were in "*favour of receiving feedback"* and can therefore be classified as mastery-oriented. However, this study did not determine which of the remaining participants were orientated toward "performance-prove" or "performance-avoid" and therefore could not associate either of these attributes to an individual's innovation performance.

The process of receiving feedback is another form of learning, however, the success associated with receiving feedback depends on determining *when* to provide feedback (during or after the process), and *how* to provide feedback (private or public). Despite the participants being open to receiving feedback, their preference for *when* and *how* to receive feedback could not be determined from their responses because the study did not test for this variable. However, a firm would prefer it if its employees wanted *private feedback*, *during the process* as both of these options increase the likelihood of innovation performance (Wooten & Ulrich, 2017).

The participants felt that innovation training would be beneficial, especially if it was related to "*problem solving"*, because the firm was finding it difficult to isolate the right problems. This issue is similar to a key tenet of Knowledge Management which stipulates that it is difficult to identify a problem if it requires an understanding of the underlying tacit knowledge (Leiponen, 2006b) which is based on individual experience and is difficult to share (Leiponen, 2006b; Levitt & March, 1988; Spender, 1996). Despite the participants wanting to work autonomously, they did agree with the existing literature and admitted that at some stage they would want to collaborate with others and share information.

The participants alluded to the importance of having a "*practical component"* to training instead of only receiving theoretical training. Similarly, research indicates that there are two types of training, namely firm-internal and firm-external training and that the

combination of these is conducive to firm innovation (Foss & Laursen, 2003). Firm-internal training involves learning from other employees and is more likely to include tacit and explicit knowledge whereas external training is associated with attending lectures at a training institution. As mentioned above, the participant's prefer a combination of training styles thereby suggesting that they would be more likely to attend training if theoretical and practical training were provided together. This is confirmed in the literature which found that employees are more likely to attend training if they knew upfront that, as part of the training, they would be provided with an opportunity to utilize their training in a practical situation at work (Foss & Laursen, 2003).

5.4 REWARDING INNOVATION

To achieve mutual trust, Iqbal, Nazir and Ahmad (2020) advised that managers can take actions that are guided by Social Exchange Theory (SET) which is the principle that a person is motivated by what they will receive in exchange for actions that will favour others. In this study the participants were also in favour of receiving some sort of reward for their innovations even if it would be non-monetary.

Both Maher (2014) and Padilha and Gomes (2016) found that rewards are an important element of innovation culture and can be either extrinsic (for example monetary rewards), intrinsic (for example positive feedback or a good reputation) (Adamczyk *et al.*, 2012), or intellectual (for example learning new things, improving problem solving capabilities and working autonomously) (Benbya & Van Alstyne, 2010). Similar to Peluso, Innocenti and Pilati (2017), the majority of the participants preferred "*non-monetary"* rewards over monetary rewards, for example "*being recognised during performance reviews, getting time-off, receiving additional leave days and having lunch with the CEO"*. In addition, and similar to (Benbya & Van Alstyne, 2010), most of the participants considered intellectual "*problem solving"* as a form of reward for participating in innovation. By accepting non-monetary rewards the participants were aligned to research that found that any reward to employees in exchange for their contributions will motivate them to produce the expected results (Kim, Han, Son & Yun, 2017) . Research also indicates that even low-level employees with limited education and skill, and who are normally associated with the desire for monetary rewards, would also prefer non-monetary rewards (Harunavamwe & Kanengoni, 2013). Low-level employees did not participate in this study, however, the

research suggests that if innovation is to be inclusive of all employees, including low-level employees, the provision of non-monetary rewards would be fully supported.

This is in stark contrast to the literature which found that when employees contribute to innovation, they perceive it to be extra work and therefore additional monetary compensation is expected (Foss & Laursen, 2003). The reason for the difference in findings could be attributed to the participants' attitude of being sympathetic to the difficult financial situation that the firm was experiencing saying that "*we are a very small organization and only provide loans, so we do not have any other income stream"*. Unfortunately, the existing research is not definitive about the causal relationship between employee attitude and a firms financial performance (Johnson, Davis & Albright, 2009). Some researchers believe that the employees attitude toward the firm is a good predictor of a firms financial performance (Schneider, Hanges, Smith & Salvaggio, 2003), whereas others suggest that the opposite is true, a firms performance is a predictor of employee's attitude (Locke & Latham, 1991). It is therefore difficult to conclude on the cause for the sympathetic attitude of the participants.

One type of non-monetary reward that was popular among the participants was "*getting time off" or "give me time off"*, also "*getting more leave days"* and specifically "*getting Fridays off"*. Such a finding alludes to the participants wanting a flexible working arrangement so that they can have a better work-life balance. This is not surprising because research conducted by Russell, O'Connell and McGinnity (2009) identified that a flexible work arrangement is an effective way of balancing work and personal commitments. However, a flexible working arrangement is grounded in mutual trust which can only exist in a strategy where leaders and managers share the same values and are fully committed in supporting employees with their work–life balance (Galea, Houkes & De Rijk, 2014). When this is achieved, employees will feel more trusted thereby increasing their motivation to go the extra mile (Kelliher & Anderson, 2009). A key finding on flexible working arrangements is that, if it is implemented, the flexible working arrangement must be made available to all employees. If not, it can create an atmosphere of jealousy and discomfort at the workplace leading to the creation of a culture of suspicion which in turn puts pressure on those who use these benefits (Ilmarinen, Gould, Järvikoski & Järvisalo, 2008). Similarly, the participants believed that all employees must

be included in innovation and must have an equal opportunity to reap any associated benefits.

The participants also raised the suggestion of including innovation in their performance appraisals as a form of being rewarded. Doing it this way will mean that even if they were not receiving monetary rewards their good work in innovation could increase their overall performance which in turn is linked to increases and bonuses. Recognising employees for their innovation via their performance appraisals has become an important antecedent to innovation performance because it was found that organizations with extremely effective performance appraisal methods attain substantial innovation results (Chen & Huang, 2009). A number of other studies also found a significant and positive relationship between performance appraisals and innovation (Bal, Bozkurt & Ertemsir, 2014; Chen & Huang, 2009; Shipton, West, Dawson, Birdi & Patterson, 2006). The participants were also concerned about the time spent on innovation and how it may impact their performance in their other work saying that "we *should also be recognised in performance reviews because of the time and effort it could take to actually implement an idea*" instead of being penalized and causing "*me to receive a lower score on my other work"*. Matookchund and Steyn (2020) also found that time was an important requirement for corporate innovation and entrepreneurship and employees should be recognised for time spent on innovation.

5.5 ROBUST INNOVATION PROCESS

Cooper *et al.* (2002) found that the most successful companies utilize formal processes for innovation. The participants also supported a formal approach to innovation because they believe that innovation "*would be taken seriously"* if it were formalized and supplied with finances and resources. The relevance of this becomes apparent when resources are required to implement ideas yet employees are not in control of allocating these resources. This is echoed by Engen and Magnusson (2015) who stated that ideas may require financial and human resources, as well as the involvement of different units, all of which employees will not be in control of thereby necessitating the initiation of an organizational innovation process. The participants did express the need for the leadership team to be formally involved so they could provide the necessary resources and finances.

Regarding the process itself, the participants expect it must have a "*platform for submitting and tracking ideas, an evaluation stage that is resourced with experienced individuals and an implementation stage".* These expectations are consistent with the Pentathlon framework by Goffin and Mitchell (2016) which was designed to guide managers through a formal innovation process and contains the stages of ideation, evaluation and implementation.

Based on their prior experience, the main concern for the participants was the "*lack of implementation"* of selected ideas. Their concern is justified in that most companies do not provide sufficient attention to the importance of implementation and fail to do proper estimations and planning (Goffin & Mitchell, 2016). According to Klein and Sorra (1996), innovation failure is not only linked to the innovation itself but can also be due to poor implementation thereby making it a critical component of innovation and must be given due attention by senior management. If this is not addressed properly any innovation initiative will lose all credibility and will curb employee participation.

5.6 MAJOR FINDINGS

A key finding of the study was that an employee's requirements of innovation management can be distinguished along two aspects. The first is the cultural connotations of innovation and the second is the structural features of innovation. Under the cultural aspect is leadership and management's role in establishing an innovation friendly environment while the structural aspect includes rewarding innovation, professional evaluation and feedback mechanisms, and a formal end-to-end innovation process with an implementation stage. Effecting both the cultural and structural aspects requires commitment from both the leaders and managers of a firm. Leaders are often included under the term of managers, however, a key finding of the study was that employees actually differentiate between leaders and managers and have different expectations of each of them.

- Cultural requirements for innovation management
  - Leadership for Innovation

    Under the first cultural trait of leadership for innovation, employees view leaders as the highest form of authority and therefore associate them with a high level of responsibility, especially for innovation. They want leaders to be supportive by adopting a Transformational-like leadership style, which can materialize in a variety of ways. Firstly, the main requirement that employees have of their leaders is for them to create a culture of innovation. Despite innovation being intangible and difficult to explain, employees are able express how important an innovation culture is to them. Innovation is characterized by dramatic change, chaos and even failure, therefore from a culture perspective, employees want leaders to exert their authority and influence to cultivate a culture that encourages risk taking without the fear of being ridiculed or having ideas blindly rejected. If such an environment can be created, the benefits are twofold, employees will feel safe to submit their ideas and the firm will be able to capitalize from risk taking instead of avoiding it. To illustrate that leaders are genuinely committed to innovation, employees want leaders to align the innovation strategy to the vitally important organizational strategy and then permeate its importance throughout the organization.

    Employees want their leadership team to be the representatives of innovation because they believe that leaders can instil a sense of confidence in the innovation process. As representatives of innovation, leaders are expected to utilize all forms of communication to express their commitment to innovation and to also inspire employees to participate in innovation. Leaders can use a combination of direct as well as indirect communication to appeal to all employee types since direct communication is excellent for communicating facts and focusing on the cognitive abilities of individuals whereas indirect communication targets an individual's imagination.

    The Fourth Industrial Revolution (4IR) includes technologies such as AI, robotics, quantum computing, autonomous vehicles and 3D printing. It is a disruptive force that has already permeated the boundaries of some sectors. It is predicted that as advances in AI is realized, it will fundamentally change the way we work and live. For example, in a firm environment, AI "employees" will have the ability to do mundane chores more efficiently than humans can thereby allowing human

employees to increase their involvement in creativity and decision making. However, AI also poses a threat to employee job security if they were to replace employees who do not have the necessary skills to move onto other jobs. While these concerns were not raised in this study, from a leadership standpoint, it is important for leaders' to prepare for when 4IR becomes more ubiquitous. Leaders need to adopt a Transformational leadership style so that they can start creating cultures that are more flexible and accepting of AI but at the same time can still accommodate human employees.

- Management for innovation

  The second cultural aspect for firm innovation is related to management's role in innovation. Employees prefer if their managers were to provide them with the ability to work autonomously and to make important decisions regarding their innovations. In other words, employees want to shape their own work environment so that they can work at their best. According to employees, autonomy can be achieved if management offers them trust, respect and flexibility. Without these in place, employees are likely to withhold their creativity and passion thereby losing the firm its innovation capabilities as well as its competitive edge. But, it was also found that employees believe that if managers do not make the necessary cultural changes that would support employee innovation, they would want the leadership team to intervene and enforce the changes. They expect the leadership team to use their authority to overturn management's outdated autocratic way of working in exchange for a more collaborative and inclusive way of working.

- Trust in employees for innovation

  Trust is about having a firm belief in an individual's ability and reliability. Employees therefore want managers to trust that they have the skills and commitment to complete work, even if they are left unmanaged. They would feel inadequate and untrustworthy if managers continue use external service providers to complete work that they can do themselves. Managers can also display trust by sharing confidential information and decision making with employees so that they feel that they are co-creating with managers, instead of managers doing it on their own like they usually do.

- Employee Respect for innovation

  With regard to respecting employees, it is important for managers to understand that respect is about how employees are being treated. Employees want managers to ask for their opinions and to respect their opinions, but not judge them harshly, even if there is a disagreement between them. Managers can also display respect for employees by addressing their concerns and explaining important decisions to them. Respect can also be determined by how an organization consults with its employees before making new rules and policies. A professional and respectful work culture can make employees feel valued and respected for their ideas and their role within the firm. If managers respect employees, they will be more comfortable with submitting ideas to managers knowing that it will not be judged too harshly and that their opinions will be accepted.

- Job Flexibility for innovation

  Providing employees with job flexibility can take on many forms. For example, allowing them to collaborate with other teams instead of only being allowed to interact with their own team. Flexibility is also about allowing employees to work their own hours instead of pre-defining their work hours. Managers can also be flexible by reducing employee workloads so that some of their time can be dedicated to different kinds of work like innovation.

- Structural requirements for innovation management

  The structural aspects of innovation were found to be the rewards for innovation, evaluation and feedback mechanisms, and an innovation process with an implementation stage.

  - Rewarding employee innovation

    In rewarding innovation, intrinsic and extrinsic motivators play an important role. A key finding related to innovation rewards is that employees are amenable to both monetary (extrinsic) and non-monetary (intrinsic) rewards even though previous research indicates that employees prefer monetary rewards only. Some employees are also considerate of the size and the financial position of the firm and do not expect financial rewards if there is limited financial resources. Therefore, the management team need to be cognizant of the different groups of employees and their individual preferences so that they can plan their rewards in such a way that it appeals to all groups of employees. Some of the non-monetary

rewards that were suggested include time off from work, gift vouchers, working fewer hours, time to pursue new ventures, providing additional resources, reducing normal workloads and being formally recognised.

Rewarding innovation must not be limited to only those that produced some sort of output. Individuals that did not produce anything tangible took the same amount of risk and should not be punished for it. In an innovation culture that encourages risk taking, employees that have even attempted innovation should receive some sort of reward. A suggestion that was made for this type of reward was to acknowledge these individuals in performance appraisals.

- Providing employee feedback for innovation and Problem Solving

  Many of the responses on learning and development pointed toward “feedback” being the critical component for improving future ideas. Not only was feedback identified as important but the feedback must come from experienced individuals. Innovators that receive feedback from inexperienced individuals will be convinced that their ideas are not worthy of being professionally assessed and would reconsider any future involvement in innovation. This is not a situation that firms want to encourage as it excludes individuals that could potentially have the next great idea and those that have been excluded can create negativity around innovation thereby jeopardizing the credibility of the firm’s innovation agenda. Adding to the complexity of feedback is a finding that that not all individuals want to necessarily receive feedback. Those individuals that do want feedback, want to receive it at a certain time and in a certain format. Furthermore, some would like continuous feedback whilst others only want to receive feedback after idea evaluation. Regarding the format of feedback, some individuals do not mind if their feedback is made public whilst others only want private feedback.

  Since feedback is a valuable element of learning but has so many variations, managers need to develop an appropriate feedback strategy to address all types of feedback.

Another finding under learning and development was related to problem solving. It was found that, far too often, the root cause of a problem is not understood but solutions are developed. Innovation can be useful for finding much needed solutions, but individuals in a firm must be fluent in identifying the right problem to solve and must be trained to do so.

- The innovation process

  The final aspect of the structural component is concerned with the innovation process. It was found that a formal innovation process, which contains the basic stages of ideation, evaluation and implementation would be supported by employees. Innovation must also consist of a system for submitting ideas, an evaluation panel of specialists and an implementation stage. The reason employees desire such a formal approach to innovation is to ensure that innovation is being taken seriously and their ideas would be implemented. Participants felt that a formal approach to innovation, approved by the leadership team, would enforce accountability through leadership oversight and performance measures. It is important for employees to have trust in a firm's innovation process because employees are also taking a risk when they participate in innovation. For example, when employees participate in innovation they may face ridicule, reprimand, and loss of promotional opportunities. In some extreme instances, they may even face dismissal. On the other hand, if they trust the process enough they will be more inclined to take risks because they believe it will provide opportunities for recognition, responsibility and improved promotion. This would mean that the company must set clear innovation goals and then define and coordinate the innovation process.

5.7 MANAGEMENT IMPLICATIONS

This study set out to identify management practices that have the potential to increase employee participation in innovation. Giving firms such insight will allow them to translate these insights into cultural norms thereby enabling employees to become more involved in innovation. Literature has noted that employees have gleaned an enormous amount of collective knowledge, skills and experience from working in firms and are therefore an ideal alternative to traditional R&D. Furthermore, the success of firms like Fiverr, where skilled individuals offer their services to people outside of their own work environments, is a clear indication that employees are already involved in innovation even if their own firms do not have this benefit. Firms therefore need only to harness the innovation potential of its employees by creating an environment that will encourage them to participate in innovation.

OICs have become a popular and successful option for firms wanting to crowd in ideas from a larger group of people that are external to the firm. Similarly, firms have begun to use OICs to access the depth of ideas available internally from their employees. However, innovation is not a standard work practice and it therefore requires different management practices to those used for managing day to day work activities.

This study has identified management practices in literature that has focused on innovation management practices as well as on OICs and tested them with employees to derive the following managing practices.

Employees know that a business strategy has a significant role to play in the success of a firm. It used to navigate a firm towards achieving its goals by holding the leadership team accountable to them. Employees also observe that a business strategy is used to communicate the future plans of the firm to clients, shareholders, vendors and employees. Therefore, employees believe that if a goal is incorporated into a strategy all effort will be made to achieving that goal. Similarly, they want innovation to be incorporated as a strategic goal of the firm so that the leadership team will be committed to achieving it and, it can be measured for success. This type of commitment by the leadership team motivates employees to participate in innovation. Employees also want a leadership team to be directly involved in communication that is related to their innovation strategy so that it emphasizes their commitment to innovation.

Employees expect leaders and managers to work together in creating a culture of innovation that encourages risk taking and doing things differently if they want to encourage employee participation. Innovation culture can be difficult to cultivate and the culture itself is often described as intangible, however, the benefits of the innovation culture far outweigh the challenges involved in establishing it. Furthermore, culture is no longer an esoteric management concept, nowadays, employees are familiar with innovation culture and they expect it to be a priority of the leadership team if they want innovation to succeed.

Employees believe that when functions are formalized they are viewed as an essential function of the firm and is properly resourced and financed. When they are not formalized, these functions are resourced and funded only if there are surplus amounts to do so. These functions eventually collapse, even after much time and effort has been expended

on trying to make it a success. Therefore, employees want their firms to approach innovation in a formal and structured manner so that it can have its own dedicated team with proper funding. Employees view this as a strong intent by the leadership team to provide genuine support for innovation and therefore will not feel like their efforts are in vain.

Employees want managers to adopt a contemporary management style when it comes to innovation, meaning that they want a more people focused management style as opposed to a task focused management style. They want a certain level of autonomy so that they can decide, on their own, what and how they want to develop creative solutions. They want management to have a higher level of trust in both their skills and their commitment for completing their work.

Employees want managers to respect them because it has a positive effect on their morale. They want managers to be alert to differences in their skills, experience and personality and must consider these when managing them. Employees want managers to respect them by understanding their challenges and not judging them harshly. Leaders must also provide due consideration for all of their efforts even if it does not resolve the problem at hand.

Employees want constructive feedback from managers so that they can develop their skills and experience. It also serves as encouragement for them to continue participating in innovation. However, employees also want managers to understand their feedback requirements with regards to when and how to provide feedback. When feedback is being provided by a panel, employees expect the panel to be constituted of professionals so that they can be confident that their ideas will be treated with respect and given their full attention.

Employees want to be trained in problem solving techniques so that they can identify the correct problems to be solved. Their creativity will also be properly directed to these problems instead of being wasted on the wrong problem thereby losing interest in innovation.

Employees want to be rewarded for innovation but they do not necessarily want to receive monetary rewards. They are prepared to receive non-monetary rewards and some even believe that being able to participate in innovation is reward in itself. The popular choices

for non-monetary rewards generally include flexible working arrangements including time off from work.

6 CHAPTER 6: CONCLUSION

The study found that if firms want to be successful with employee innovation they need to adopt a management style that is more focused on improving employee's working conditions, rather than the traditional management style of only making sure that tasks are being completed. Furthermore, the study revealed that employees differentiate between leaders and managers and have distinct expectations of each role. They view leaders as the highest level of authority that is responsible for establishing a culture of innovation. It also came across quite strongly, that employees expect leaders to have a high level of direct involvement in innovation in order to give it credibility. On the other hand, they expect that, on an operational level, their line managers should genuinely adopt the innovation culture by trusting them more and granting them autonomy and flexibility to set their own working agendas and practices. In rewarding employees, the study found, in contrast to similar studies, that employees are willing to accept non-monetary rewards instead of only monetary rewards for innovation. In terms of training, employees view the feedback that they receive as an integral part of learning, development and improving their ability to innovate. Another key aspect to training which employee's value quite highly is the incorporation of a practical component to training. Being able to apply their training in a real world situation is a strong source of motivation. Employees also prefer having a formal innovation process because it enforces governance procedures and gives them confidence that innovation is being taken seriously. Without a formal process they believe that their efforts would just be ignored and not given the attention it deserves.

The innovation management practices, made available in this study, will benefit leaders and managers wanting to adopt employee innovation. It will also benefit employees, in that they will be more motivated to contribute to innovation. This study not only contributes to the lack of research in this area, but also provides valuable insights on innovation management practices, for example, autonomy, flexibility and job rotation. For many firms, employee innovation will remain a rambling collection of activities, full of unmanaged efforts and a source of frustration for everyone including leadership, management and employees. Exciting opportunities exist for leaders and managers prepared to invest time and effort into utilizing the management practices that this study has uncovered.

6.1 RECOMMENDATIONS FOR FUTURE RESEARCH

- Radical innovation is more demanding than incremental or breakthrough innovation because it requires more resources and power which is controlled by top management and therefore requires stronger leadership qualities to manage these resources (Prajogo & Ahmed, 2006). The leadership qualities that employees require for radical innovation was not addressed in this study. However, radical innovation is becoming increasingly more important for firms that want to be leaders in their industries. With the right leadership and management styles, employees can be a rich source of radical innovations. Therefore, further research should be conducted on what leadership and management practices would be effective in motivating employees to create radical innovations.
- This study found that employees prefer a flexible working arrangement and many firms are already adopting such a way of working, for example many are adopting the work-from-home arrangement and others are allowing employees to work their own hours. This alters the traditional work environment where many employees enjoy the interaction offered. Others may prefer working from home or working in the office when there are fewer people around. This study did not address the impact that the new ways of working will have on employee innovation, however, the work environment is changing rapidly and therefore future research is needed on the management practices that will be required for employee innovation under the new ways of working.
- Employees in this study indicated that they were cognizant of the challenging financial position of the firm and were prepared to participate in innovation and even accept non-financial rewards for it. However, this is not the case in all firms because the financial position of a firm is known to have a negative impact on employee's morale and motivation. Some employees may view the situation as an opportunity to generate ideas that could help the firm, while others may lose their motivation given the uncertainty of the survival of the firm. This study did not delve into the impact of the firm's financial position on employee innovation. Therefore, given the rise of financially distressed firms, further research on how the financial situation of a firm impacts employee innovation and how to overcome this situation can be useful to firms that are experiencing financial challenges.

- This study was limited because it was based only on a single firm in the public financial sector. It is recommended that future research be conducted on the management practices that are required for employee innovation in small and medium firms or larger corporate firms, with a focus on the new ways of working. This could include the working-from-home arrangement that has now become popular due to the Covid-19 pandemic and which, in many instances, has been adopted as a permanent arrangement by these firms. A study of this nature could, amongst other things, explain if the work-from-home arrangement is beneficial to employee innovation in these firms compared to employees in public firms.

- Another limitation of this study was that it only considered the views of non-executive level employees and the findings are therefore limited to the employee's expectations of senior management. But, it does not consider the challenges that senior managers are confronted with when providing employees with a suitable environment for innovation. It is recommended that research be conducted on the challenges experienced by senior managers when trying to implement employee innovation in order to provide a balanced view of the difficulties and opportunities associated with employee innovation. The decision making in firms generally lies with the senior management team and the reasons behind their decisions are often retained at senior management level. A study of this nature can reveal the decision making processes and provide more guidance to employees on how to improve their proposals to the senior management team so that they can be more amenable to making the necessary changes that can stimulate employee innovation.

- The ideas that were submitted by the Land Bank employees varied in complexity. Some were very basic ideas that related to internal business process improvements whereas others were grander in nature, for example, there was an idea to launch a "Uber Tractor" application that the Land Bank clients could use to rent out their farm tractors and other equipment to previously disadvantaged farmers. The idea was not implemented because the management team felt that it was a technical solution and the bank was supposed to be implementing financial solutions. If this idea had been implemented, it could have been of significant

assistance to previously disadvantaged farmers, who are also the main focus segment that the Land Bank is mandated to attract as clients. It would have also improved the reputation of the bank in a time when they were experiencing negative media attention due the rating agencies giving them a lower credit rating.

Another idea that would have assisted farmers was the idea to digitize their Forced Stock Sale process. When farmers, in declared disaster areas, experience drought, they are allowed to be exempt from tax related to the sale of their livestock. The Land Bank is the only institution that is mandated to process such a transaction, for both clients and non-clients. The process, however, was too cumbersome and often resulted in delays which also led to the farmer suffering from lower cash flows. The idea that was proposed by the employee was a more streamlined process, and if it were implemented, it would increase the efficiency in the process and would ensure that the farmer would get paid on time. It would have also provided the bank with the opportunity to sell other products to those farmers that were not clients of the bank already. The idea was supported by the management team but it was not implemented because they did not allocate resources to it. Eventually, it was combined into another project that was addressing overall client service issues, but this project was scheduled to be implemented over a few years. The idea has still not been implemented.

An employee submitted an idea to use a free online project management tool named Trello, to manage a team's normal work tasks. There was an inability for team managers to manage task completion using a variety of spreadsheets and word document and they were experiencing a recurring problem of tasks not being completed on time. The online tool would have kept all tasks in one environment, instead of using multiple documents, where it could be easily tracked, per employee and team, by the management team. Employees could also view all their tasks and their statuses in one location to simplify their work plans for the week. It would have also made it easy to generate and distribute reports from the tool and if the entire organization were to use it there would be uniformity in team management and reporting. Unfortunately, the tool was not supported because it

was felt by the management team that it would take too long to implement and since it was not a priority for the organization it would be a waste of time.

In all three of these examples, the Land Bank's inability to support employee innovation cost them the opportunity to improve internal processes, grow their business and improve their reputation. It is therefore recommended that the Land Bank management team become more supportive and resolute with employee innovation so that they can attract more employees to be creative and develop and implement their ideas.

This study set out to investigate the management practices that could potentially be used by firms to improve employee innovation performance.

From the responses that were received, the dominant finding that came to light was that individuals in leadership and management positions have a crucial role to play in developing appropriate management practices for innovation. The roles of leadership and management are known for overlapping in practice but, in research, they are also studied as separate concepts. A similar stance was taken by the participants in this study.

With regards to leadership, the study found that employees tend to view the leadership team, especially the CEO, as being the supreme figures of authority in a firm therefore having a strong influence over employee's behaviour and can use this influence to effect positive changes. Therefore, if employees are expected to participate in innovation and make it a success, they expect their leaders to be directly involved in all aspects of it. First and foremost, they expect that an innovation strategy becomes one of the key tenets in the leadership's all-important business strategy. They want the cornerstone of innovation to be an executive formulated innovation culture that encourages risk taking and doing things differently. The rapid inclusion of AI in firms is inevitable and leaders need to enhance the firm culture to be accepting of AI, especially since AI can significantly improve efficiencies. Furthermore, there is a genuine possibility of AI being able to generate ideas for firms. It is predicted that when AI takes over routine jobs in firms it will challenge employees' beliefs in aspects such as job security. A high level of uncertainty will exist among employees, and leaders need to start preparing for such situations by re-evaluating the role of employees and granting them more creative and decision making roles.

With regard to management for innovation, the study found that, for innovation, employees expect the leadership team to ratify a “people focused” contemporary management style rather than the traditional “task management” style. The contemporary management style must be characterized by the amount of support, trust, autonomy, collaboration and flexibility that it allows. Employees view autonomy as the opportunity to work independently on their ideas as opposed to their normal work where managers want to make all the decisions.

Employees are also keen to receive feedback, as long as it is constructive and it is provided by competent individuals. This approach will assure them that their ideas were given due consideration even if it were to be rejected.

An unusual finding emerged under the theme of rewarding innovation. Here employees expressed that they were indifferent about receiving non-monetary rewards over monetary rewards even though existing research indicates that employees prefer monetary rewards.

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APENDICES

A. Request for permission to conduct research at the Land Bank

CONFIDENTIAL

LAND BANK
We stand by you

MEMO

DATE: 5 March 2020

TO: Executive Manager: Corporate Strategy and Innovation

FROM: Ameeth Singh

HEADING: Permission required for Masters Dissertation topic

PURPOSE

To request permission for my Masters Dissertation topic that is related to the Land Bank's Innovation Program.

BACKGROUND

In January 2019 I began my degree, Masters of Management in Innovation Studies (MMIS) at WITS Business School. As per the requirements for completing the degree, I am required to complete a Master's level dissertation in 2020 that is aligned to the content of the course.

The content of the course covered many innovation topics including Innovation Strategy, Innovation Policy, Innovation Finance, Innovation for Social Purposes and Innovation at the Firm Level. Based on my intimate involvement in the innovation contest that we hosted at Land Bank, I have decided to pursue a research topic that relates to Firm Level innovation at Land Bank. In this regard, I want to conduct a study on the benefits of involving employees in a firm's innovation strategy by using a case study approach of Land Bank's innovation contest. Confidential personal and business information, of individuals or entities that interact with Land Bank which includes clients, employees, investors and business partners, will not be used in the research.

I must emphasize that, according to research ethical requirements, I will ensure that the confidentiality of Land Bank, Land Bank clients and any other person that participates in any data collection activities for the study is maintained.

PROPOSAL

The request is to grant permission for the Masters Dissertation that is related to the Land Bank Innovation program.

FINANCIAL IMPLICATIONS

None

RECOMMENDATION

It is recommended that permission for the Masters Dissertation topic be granted so that the requirements for the degree can be fulfilled.

Compiled by:

Name: Ameeth Singh
Division: Corporate Strategy and Innovation
Date: 11 March 2020

Approved/Not Approved
Name: Sydney Soundy
Title: EM: Corporate Strategy and Innovation
Date: 11 March 2020

B. Granting of permission to conduct research at the Land Bank

The Land and Agricultural Development Bank of South Africa
P O Box 375 Pretoria 0001
Block D Eco Glades 2 Office Park, 420 Witch Hazel Avenue Eco Park
CENTURION

Mr. Ameeth Singh

83 San Marino
Giovanetti Street
Brooklyn,
Pretoria,
0181

25 September 2020

Subject: **Permission granted to conduct research**

Dear Mr. Singh.

Your letter dated 5 March 2020 refers. We hereby grant you the permission needed to conduct your research at Land Bank for the purposes of completing your Master of Management in Innovation at WITS Business School.

You must take the necessary steps to ensure that you adhere to all the ethical conditions that are stated in your dissertation. If the conditions under which you are conducting your research changes, you may need to re-apply for permission.

You will further be required to adhere to Land Bank's applicable policies, including aspects of confidentiality.

All the best with your academic endeavors.

Yours sincerely,

Sydney Soundy
25/09/2020 13:48:59 (UTC+02:00)
Signed by Sydney Soundy,
ssoundy@landbank.co.za

C. Participant information sheet

Dear Sir/Madam

I am currently undertaking a Masters degree in Innovation Management at the University of Witwatersrand Business School in Johannesburg. In order to fulfill the requirements of the degree I have to undertake a research project that is related to Innovation. In this regard, and under the supervision of Prof. Ahwireng-Obeng, I have selected to study Innovation Management practices that are specific to firms. The aim of the project is to find out what kind of Innovation management practices must be established in a firm to sustain a high level of employee participation in Innovation.

As part of this project I would like to invite you to take part in an interview to discuss your experience in innovation at Land Bank and your perception of management's role in innovation. This activity will involve an online interview and will take around 30 minutes. With your permission I would also like to record the interview using a digital device.

There will be no personal cost to you if you participate in this project. You will not receive any direct benefits from participation but there are no disadvantages or penalties if you do not choose to participate or if you withdraw from the study. You may withdraw at any time or not answer any question if you do not want to. The interview will be completely confidential and anonymous as I will not be asking for your name or any identifying information, and, the information that you give to me will be held securely and not disclosed to anyone else. I will use a pseudonym (false name) to represent your participation in my final research report. If you experience any distress or discomfort at any point in the process, we will stop the interview or resume at another time.

If you have any questions during or afterwards about this research, feel free to contact me on the details listed below. This study will be written up as a research report which will be available online through the university library website. The data collected from this research project will be stored on my personal laptop and will be kept for 1 year. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrec-medical.researchoffice@wits.ac.za

Yours sincerely

Researcher:

Ameeth Singh

1002563@students.wits.ac.za

0824437396

Supervisor:

Professor Frederick Ahwireng-Obeng

Frederick.Ahwireng-Obeng@wits.ac.za

011 717 3646

D. Questionnaire

The questionnaire was designed from a combination of literature on innovation management practices and OICs such that it would allow the researcher to identify a single set of management practices that would resonate with employees and persuade them to participate in OICs. Three studies from the concepts of innovation management practices as well as from OICs were used in developing the questionnaire presented below.

Question One

Did you participate in OICs? Why or why not?

Question Two

Who do you think should be the main driver of innovation in the Land Bank? Why?

How do you think this person's position/the team plays a role in the success of innovation?

What marketing methods should this person/team use to encourage you to participate?

Question Three

What type of incentives would encourage you to participate, if at all?

Question Four

What level of freedom/autonomy would you want in an OIC? Practically speaking, what would this involve?

Question Five

How would you like your manager to support you when you are trying to be innovative? Can you explain why you want this type of support?

Question Six

What does it mean to you to have your ideas evaluated fairly? What will make you feel like your ideas have been considered?

Who do you think should evaluate your ideas at work and why?

Question Seven

If you are solving a Bank-related problem and need assistance, do you think you will be best assisted by internal or external professionals? Please explain your answer

Question Eight

Do you think that training would encourage your creativity? If yes, what type of training would you want to have?

Question Nine

What level of freedom/autonomy do you want in your daily work? Practically speaking, what would this involve?