

UNIVERSITY OF KWAZULU-NATAL

**The role of computer software and applications toward enabling productivity of
administrative personnel at Corobrik KwaZulu-Natal**

By

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DECLARATION

I, Christa Myrtle De Lange with student number 219089415 declare that

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ABSTRACT

As we witness the constant change and evolution of improved and updated software applications for users, we recognise the need for organisations to align themselves to the new technologies to ensure enabled and improved productivity.

The objective of the study is to examine the use of software applications by administrative personnel at Corobrik KwaZulu-Natal (KZN) for the enabling and improvement of productivity.

The research reviewed the use of software applications and how it effectively provides support required by the administrative personnel and the organisation, improving performance towards growth, knowledge and productivity while being able to adapt to change in the internal and external environments. The need for self-motivation and growth was explored with the recognition that the knowledge is to be shared to support the efficiencies for enablement and improvements.

To achieve the results of the study a qualitative research approach was used to probe into the use of the software applications and to understand how these applications effectively and efficiently enable the job functions for productivity. It was established that an interpretative approach will be best suited for the study as it allows for constructive experiences of the participants.

The sample method that was used was purposeful sampling, as sixteen participants were selected from different departments and levels of the organisation. The questions were semi-structured, as there was an opportunity for the participants to respond freely, to provide a deep insight of their views, perceptions and experiences of the use of software applications that are made available. The interviews were transcribed on analysis of the data and distinct themes were extracted allowing for a credible thematic analysis. The most pertinent findings that emerged, is the lack of training and sharing of knowledge and that the use of software applications was tacit rather than explicit within the organisation.

The recommendation of the study is for training to be made available to all the users for new and improved software applications. The training will be for the development and growth of improved skills and knowledge to all the users. For those staff members that do not have or lack computer software applications knowledge, platforms can be made available to capacitate them and can perhaps motivate them to their vision of self-actualisation. Knowledge repositories should be made available for improving software application skills which will allow opportunities for enabling performance, growth, understanding and productivity. The new and improved knowledge sharing, and abilities will support the efficiency and effectiveness of achieving of productivity outputs and will reinforce the organisations adaptability to change to the internal and external environment.

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LIST OF ACRONYMS AND ABBREVIATIONS	
2 nd	Second
3 rd	Third
4 th	Fourth
18 th	Eighteenth
21 st	Twenty-First
CRM	Customer Relationship Module
E.G.,	Example
ERP	Enterprise Resource Planning
IT	Information Technology
JDE	JD Edwards Enterprise One Application
MS	Microsoft
MS TEAMS	Microsoft Teams Application
MS Office 365	Microsoft Office 365
POD	Proof of Deliveries
SWOT	Strengths, Weaknesses, Opportunities and Threats
VIZ	Namely
VPN	Virtual Private Network
ZOOM	ZOOM Network Application

CHAPTER ONE: INTRODUCTION AND OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Computer software applications are technological programmes which contribute to the efficiency and effectiveness of organisation productivity (Dibbari and Dangata, 2018). The effective implementation and improvement of software applications in organisations is fundamental to ensure the optimisation of productivity and quality output (Gichoya, 2005).

As the use of software applications and technology advance and evolve there needs to be a focus on the importance of enabling the productivity of the administrative personnel (Hahm, 2018). The characteristics that need to be adopted to facilitate the achievement of the improved and advanced software applications is when there is an acknowledgement of the importance of the knowledge and efficiencies that the application can bring to work performance and productivity; when there is commitment and support to adopt the improved applications to the work function and where there is acceptance by the organisation and the administrative personnel that the application is going to render results of improved productivity (Hahm, 2018).

The study has been undertaken based on the observation of the limited access and availability of computer software applications to Corobrik Proprietary Limited (Corobrik's) administrative personnel and the impact that the lack of the software applications has on growth and development. Emma (2019) acknowledges that regardless of one's job function it is important for technology to be available to improve one's functionality. It will identify the method used by Corobrik to implement the use of computer software applications to enable the personnel towards improved efficiency and output levels.

In most organisations the implementation of technological applications requires a formalized plan and policy, structured by the Information Technology (IT) Department (Hardjo and Suharjito, 2013). The formalised plan and policy have assisted in identifying Corobrik's status quo with regards to computer software applications and the advantage or impediment this has on the personnel's ability to add value and making this a truly world-class organization. This is explained by Bloodgood and Salisbury, (2001) as being explicit or tacit. Explicit to ensure

knowledge and transfer of information is easily expressed and understood. Tacit where the transfer of knowledge can be difficult to articulate as it is difficult for the staff members to understand of the information. This explicit and tacit transfer of knowledge and can be determined by the culture of the organisation (Bloodgood and Salisbury, 2001).

1.2 BACKGROUND

1.2.1 Factory Technological Background

Corobrik has been the leading brick manufacturer in South Africa since 1902 (Corobrik Heritage, 2015). They have a national footprint with offices in Durban, Johannesburg and Cape Town. Durban is where the Head Office is and where this study will be situated.

Corobrik has led in the manufacturing of clay brick, clay pavers and has been a brick distributor for over 110 years. The manufacturing processes, practices and technology have improved over the years to ensure that they maintain their competitive edge in the market (Corobrik Heritage, 2015). Corobrik has transitioned through the changes of three industrial revolutions, namely Second (2nd) Industrial Revolution, Third (3rd) Industrial Revolution and currently the Fourth (4th) Industrial Revolution.

The Second (2nd) Industrial Revolution in the early 1900's introduced the process of mass production by using assembly lines and the use of electrical power on machinery (Schwab, 2015). This relates to Corobrik's use of machinery in their factories since 1915 (Corobrik Heritage, 2015).

The Third (3rd) Industrial Revolution was from the period of 1950's to 1970's, which saw the move from analogue technology (physical measurement) to the introduction of digital technology (digital modulation) (Coldwell, 2019). There was also the introduction to the internet (Schwab, 2015). In 1972 Corobrik's, Avoca Factory (old factory) was the most modern brick manufacturer in South Africa where the factory was designed to produce 42 million bricks per year. The process was automated from extruder to dryer (Corobrik Heritage, 2015).

The Fourth (4th) Industrial Revolution began in the 1990's and is continuing, entails the move and fast-paced improvement of technological innovation through the use and fusion of artificial intelligence, robotics, the internet of things genetic engineering and so forth (Coldwell, 2019). Coldwell (2019) goes on further to say that innovation is seen in robotics and artificial intelligence which will transform the industry in terms of production systems and the management of employees. In 2007 Corobrik's, Rietvlei Factory became the most technically advanced clay brick factory in South Africa. The advancement at this factory has been visible in the manufacturing, sorting, stacking and distribution of the bricks. There has also been a focus on fuel efficiency and the environment (Corobrik, 2015). Currently a new Corobrik factory, named Kwastina (Home of the Brick), is being built in Driefontien with state-of-the-art production intelligence, embracing international best class manufacturing automation technology. The factory will produce 100 million bricks per year. There will also be a focus on energy efficiency and environmental friendliness reducing fossil fuel consumption by approximately sixty (60) percent (%) of current usage. (Corobrik News, 2019).

1.2.2 Administrative Technological background

While some of the factories have been kept abreast with the technology for improved brick quality, types and variations for sales output, the pace of technology and computer software applications made available to support the administrative personnel in departments such as Internal Sales, Finance and Purchasing, has not been as rapid or robust. As argued by Black and Lynch (2001) that high productivity is not based on whether the organisation adopts a practice or application but rather how the practice or application is implemented. An examination of the implementation, use and knowledge of technological computer software applications has been done in relation to how the administrative personnel utilise, apply and are aware of this functionality. Examples of some of the applications used by Corobrik administrative personnel is Enterprise Resource Planning (ERP) system and the use or lack thereof for Microsoft (MS) programs such as Word, Excel, Power Point and so forth.

The period of the 2nd Industrial Revolution as per Schwab (2015) was the introduction to electrification, Corobrik's administrative function was predominantly manual (Corobrik IT Procedure, 2000).

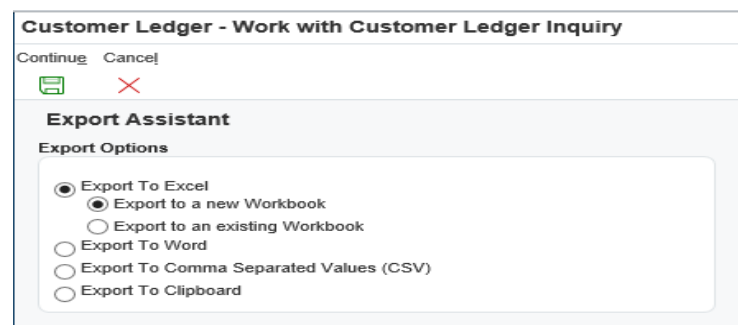
The 3rd Industrial revolution saw the introduction of the internet (Schwab, 2015). At Corobrik the first consolidated ERP system was rolled out in the early 1990's and was an earlier version JD Edwards (JDE) running on International Business Machine (IBM) database and hardware (Corobrik, IT Procedure, 1990). ERP systems have been in South Africa since the 1970's (Vizi, 2020). Further upgrades saw the ERP system develop from a green screen emulator type environment to a client/server and later to a web-based environment. The green screen emulator dates back to the 1960's where the "users entered text-based commands which were delivered to the mainframe, before showing the mainframes response" (Ashman, 2013:1). Ashman (2013) further advises that organisations looked at updated modern applications with improved interface to increase productivity and user experience. The client/server model is where the servers in an organisation provide resources and information to more than one client/employee. The information is requested by the user; the server interprets the request and transfers the required information back to the user (Techterms, 2016). Young (2012) explains web-based environments as that which allows the application for user networking which includes the use of the internet.

Microsoft office was implemented in the early 2000's and replaced the Corel office suite of products that were in use at the time (Corobrik IT Procedure, 2000). Access, availability and training was not given to all levels of administrative personnel. The use of these products was identified by user function and purchased for personnel that required the software to assist with their workload (Corobrik IT Procedure, 2000). Microsoft Office is a suite of computer applications that is used to support the productivity for office and business users (Techopedia, 2019). The suite includes Microsoft Office, Microsoft Word and Microsoft PowerPoint (Techopedia, 2019). Corel Office is the older packages such as Word Perfect and Libre Office (Nawrocki, 2012).

The lack of understanding and training of computer software applications to the lower-level administrative personnel resulted in the lack of knowledge of programs such as MS and therefore had an impact on their ability on development for productivity and future growth (Dery, 2020). Lee, Yun, Pyka, Won, Kodama, Giovanni, Park, Jeon, Park, Jung, Yan, Lee and Zhao (2018), phrases it as being a co-evolution between human and technology in that there is a desire from employees and individuals to be developed with technological innovation.

Some administrative personnel who do not have access to MS are granted access to a downloaded program called Libre Office. Libre Office is free open-source software, Libre Office (2020) and hence was seen as a good alternative for users who need access to basic spread sheet and word processing functions without serious costs linked to the applications (Corobrik IT Procedure, 2000). It was identified that the administrative personnel are not as competent in these software applications and not effective in their function. The ERP system, JD Edwards Enterprise ONE (JDE) has a download function to MS Excel not to Libre making it difficult for the user of the Libre Office application to perform their tasks efficiently. The example of a JDE Excel Download Prompt is depicted below in Figure 1.1.

Figure 1. 1 Example of JDE Excel Download prompt (Corobrik ERP system)



Source: Oracle JD Edwards, 2014

There was a distinct lack of skill and knowledge of the MS programs and most of the administrative personnel cannot formulate reports, read and use formulas which could therefore impact their development for growth within Corobrik. It also limits their opportunity for the transition to other organisations (Insights, 2018). As per Insights (2018), it was noted that there is less focus on talent and human resources as it is the belief of organisations that technology evolution has less impact to the organisation at this level.

The lack of development and incoherence of administrative personnel could result in Corobrik lagging behind in meeting the requirements of their suppliers and customers who have opened their computer software applications to improved technological advancements. Kiviniemi and Codinhoto (2014) explains that companies that fail to recognize and understand the need for internal growth, development and evolution, face the risk of becoming ‘frozen’ and could fail regardless of the opportunities in the market.

Many of the Corobrik customers have been embracing information sharing platforms between their various ERP systems and information data which are transferred into MS document

formats. Due to the current lack of knowledge and understanding of the software applications, most of the Corobrik administrative personnel will not be able to communicate with the customers on these shared platforms. As argued by Dery (2020) there is a lot of focus on the resources for the customer and not enough on the employees. The focus is on meeting the customers' requirements while there is lack of acknowledgement of the personnel use and understanding of spread sheets (MS Excel) and other MS applications that is needed to support the customer output (Dery, 2020).

The lack of support programs at Corobrik was also identified as having a negative impact on efficiency and effectiveness to productivity and customer service (Schwab, 2016). In the age of advance technology Schwab (2016) explains that organisations need to review their historical functionality and align it to the rapid changes in technology to meet the external environment expectations. An example was seen in the accessibility to proof of deliveries (POD). Corobrik does not have its own portal or document storage system. There has been dependence on the transporter to submit these as and when required. The result has been that should a customer require a POD the administrative personnel depend on the transporter to make it available and to send it to Corobrik, who subsequently sends it to the customer (Corobrik Sales Procedure, 2014).

An information system storage platform in organisations is integral as it creates an environment for the transfer of knowledge and the availability of this updated information encourages use of and practice information technology. This is supported by the discussion of Choi, Lee and Yoo (2010), regarding the need for organisations to build information systems also known as knowledge repositories which facilitate the promotion of the use of information technology and create the platform for the sharing of knowledge. Examples of organisation knowledge repositories are visible in the organisation intranet systems, e-learning, training platforms and document storage space are labelled as document repositories (Choi *et al.*, 2010).

As Corobrik has been in existence for over a century they also have staff members who have tenure for long periods of time. The possibility that lack of knowledge of technology or choosing to remain with the status quo creates a limitation to the development and up skilling to the administrative personnel was identified. When managers and employees have worked in an organisation for a long period of time, they become rigid and out-dated and there is a

negative impact on the business as their behaviour becomes predictable and difficult to change (Kim and Kankanhalli, 2009).

1.3 RESEARCH PROBLEM

The administrative personnel at Corobrik lack the experience and functional abilities of mainstream computer software applications due to limited knowledge of technology functionalities which results in the ineffective and inefficient to enabling productivity (Assink, 2006). The limitation of computer software applications not being made available to the administrative personnel impacts their ability to improve their skills and knowledge (Insights, 2018). When an organisation has been delayed in updating their computer software applications the limitation will be that they would be challenged by the inability to take advantage of new technological developments and opportunities which would provide improved productivity and efficiencies (Totterdill, 2017). Software applications such as Microsoft office are technological tools that provide organisations and the staff with the skills and ability to provide efficient and prompt customer service (Dery, 2020). The inability of administrative personnel to manipulate and perform tasks on software applications such as Microsoft office will impact their ability to process and review reports and thereby creates a delay in supporting customer service (Dery, 2020). The negative effects of a lack of training and not recognising the importance of administrative personnel being empowered with improved software application skills could be the result of reliance being placed on managers and senior managers needing to create and review reports (Totterdill, 2017). The impact being staff members inability to grow and add value to productivity in the organisation (Totterdill, 2017).

The growth and development of administrative personnel towards adapting to improved and up-to-date technology and software applications was identified as being hindered when organisations fail to accept, understand and transfer the knowledge of the potential advantages that using the improved available software applications will provide to productivity (Totterdill, 2015). The discussion of Haag (2014) is that there will be a percentage of administrative personnel that will disadvantage themselves and others as they have tendency to prefer systems and software applications that they are familiar with and therefore resist or ignore the training for adoption to the new methods and working abilities. Organisational decision-making

processes, hierarchy and costs consideration will be limitations and delays in accepting, improving, executing and implementing new processes (Totterdill, 2017).

The evolution of technology in relation to computing has changed in the way people and organisations respond to their external environment (Berisha-Shaqiri, 2015). The awareness noted by Berisha-Shaqiri (2015) is that information technology with the use of software applications is a means for organisations to gain competitive advantage through production and people, thereby ensuring their advantage in how they facilitate products and services presently and in the future.

1.4 SIGNIFICANCE OF THE STUDY

The study has assisted in identifying the software applications that need to be made available to various departments and administrative personnel and at the required levels in the organisation such as beginners and intermediary. The study has also identified the facilitation, training and development opportunities, which will grant the understanding, knowledge and functionality of computer software applications. The training and development will assist the Information Technology (IT) department in becoming aware of the challenges faced by the administrative personnel when attempting to work on these applications. Berisha-Shaqiri (2015) prescribes that if organisations adequately identify software requirements it will allow for improved performance and allow for gathering of information for development.

There has been an opportunity to identify the personnel who are able to grasp concepts quicker and also the ability and skills of the personnel. This can be related to the explanation by Sher and Lee (2004) in that the transfer and understanding of knowledge and capabilities is endogenous, where previous internal knowledge can assist with solving present and future problems. Through the exchange and understanding of the use of information managers can better understand their teams by realising ‘who knows what’ (Choi *et al.*, 2010).

The study could allow Corobrik to address the challenges faced by administrative personnel due to not being enabled with the software applications and identify the areas where applications like MS Office will add value to productivity. The impact of the application and

transfer of software application knowledge and development results in the improved performance in the productivity of the personnel and the organization improved efficiency (Choi *et al.*, 2010).

This exchange of empowerment, training and development could improve the knowledge management within Corobrik and thereby identify the implications of delaying the up skilling to achieve efficiency and effectiveness. Sher and Lee (2003) believes that knowledge management within the sphere of information technology and the use of software applications will be the source for organisation's ability to ensure their competitive advantage and sustainability.

The study has assisted the researcher in critically understanding the use of software applications in enabling productivity for administrative personnel in corporate organisations, which is a topic that has not been researched extensively in South African. The research will provide support to other researchers that will identify with the importance of enabling administrative personnel with up-to-date software applications and the skills which will support the productivity expectations of the organisations.

1.5 THE AIM OF THE STUDY

The main aim of the study is to determine the role that computer software and applications has toward enabling productivity of administrative personnel at Corobrik KwaZulu-Natal.

1.6 THE OBJECTIVE OF THE STUDY

The main objectives of the study are:

- To explore the capability levels of the administrative personnel at Corobrik in relation to their use of computer software applications.
- To identify the impact of limited resources and to explore how these limited resources and knowledge of computer software applications impacts the growth, development and productivity of administrative personnel at Corobrik.

- To explore the effect that implementation of change of software applications and methods has on the administrative personnel while identifying the strengths, weaknesses, opportunities, and threats to the culture of the organisation.
- To identify the measures that Corobrik have put in place to ensure that the administrative personnel are capacitated with computer software applications.
- To recommend strategy to develop the capabilities of the administrative personnel at Corobrik using computer software applications.

1.7 RESEARCH QUESTIONS

- What are the capability levels of the administrative personnel at Corobrik in relation to their use of computer software applications?
- What is the impact of limited resources and how has these limited resources and knowledge of computer software applications impacted the growth and development of administrative personnel at Corobrik?
- What the effect of implementation of change of software applications and methods is on the administrative personnel and the impact that the strengths, weaknesses, opportunities and threats have on the culture of the organisation?
- What are the measures that Corobrik has put in place to ensure that the administrative personnel are capacitated with computer software applications?
- What is the best way to improve the capabilities of the administrative personnel at Corobrik using computer software applications?

1.8 RESEARCH METHODOLOGY

This study has been undertaken within the approach of an interpretive model and has been facilitated by means of a qualitative research method. The interviews conducted were facilitated by recordings and were transcribed for the identification of themes and categories. To conduct the study, approval was received from the University of KwaZulu-Natal ethical clearance committee. The participants that agreed to support the study were presented with and accepted to sign the voluntary participant consent form which assured them of the anonymity of the discussions and agreed for the interviews to be recorded.

The qualitative research approach was based on the process of exploring a study which requires the researcher to probe by asking “What, Why or How” questions to establish narrative (Creswell and Creswell, 2017). The research approach was to gather and probe insight from the participants who can elaborate on their responses allowing the researcher to use a semi-structured interview method. (Qu and Dumay, 2011). The qualitative method using semi-structured questions allowed for understanding and interpretation which was more conducive to the researcher for the study (Qu and Dumay, 2011). The process of probing and elaborations allowed the researcher to understand the perceptions, perspectives and understanding of the administrative personnel and management as they use the available software applications for their function.

The gathering of the data allowed the researcher to recognize patterns and paradigms to underpin the study (Kamal, 2019). It is from the data gathered that the researcher established the thematic analysis of the study (MacDonald, 2012). The research methodology is inductive as it reviews a specific observation while being able to probe further into general theories allowing for themes and patterns to be formulated for the purpose of the study (Soiferman, 2010).

The research design was the guideline to the study where the researcher was able to construct the research problem, information required to be gathered, the approach strategy, the target population and sample and the review of patterns and paradigms that will support the data analysis of the study results (Akhtar, 2016). The research design for a qualitative study can be phenomenological, ethnography, historical, action, case study, grounded, exploratory, descriptive, explanatory and experimental (Kalu & Bwalya, 2017; Akhtar, 2016). The research design that has been identified for a study will be determined by the purpose of the study and process of data gathering and analysis (Kalu & Bwalya, 2017).

The researcher should have ease of access to the participants selected for the study (Creswell and Poth, 2016). The study site is the place where the researcher will meet with the participants for the gathering of data and information (Creswell and Poth, 2016). The study site should be in a location that is comfortable, safe and free from any distraction. This will allow the researcher to gain the assurance and support from the participants (Creswell and Poth, 2016).

It is the gathering of the information that allows for the process of rich data collection (Barrett and Twycross, 2018).

Data Collection plans need to be broad and allow for change and updates as review as the interviews are conducted where information with rich data is gathered (Moser and Korstjens, 2018). The data collections processed needs to be structured in relations to the type of interview being held, research questions asked, the target population and research approach of asking questions and probing (Barrett and Twycross, 2018). The most common interview process used is the face-to-face and focus groups is another option used (Moser and Korstjens, 2018). Questions asked can be semi-structured or structured. Semi- structured allows for probing and open responses from the participants (Barrett and Twycross, 2018). Structured questions are more rigid and controlled with limited responses from the participants (Barrett and Twycross, 2018). The structure, tools, credibility and trustworthiness of the interviews will present the researcher with the ability to perform accurate and reliable data analysis to support the outcome of the study (Moser and Korstjens, 2018).

The data analysis process assists the researcher in aligning the information gathered to theoretical framework of the study (Graue, 2015). When conducting a qualitative study, the researcher can gather the data by means of audio or video recordings which will then be explained and interpreted by the researcher (Thorne, 2000). This must be done with consent from the participants (Thorne, 2000). The tools and applications used for data analysis needs to be reliable and credible for accurate coding and categorising (Graue, 2015). The data is coded and categorised to extract findings and themes that should support the research study (Graue, 2015).

Qualitative research is the process of exploring and recording the experiences and inputs from participants from a selected target population and therefore the study needs to be of a quality that is credible and trustworthy (Cope, 2014). The researcher will need to ensure that the study is trustworthy and therefore the research being conducted needs to meet the criteria of being credible, dependable, confirmable, and transferable (Cope, 2014).

1.9 DELIMITATIONS

A delimitation to the study was time and accessibility. Most administrative personnel at Corobrik travel in lift clubs therefore studies were limited to Corobrik KZN office. The delimitation of time was that most of the interviews were done during lunch breaks while some were done earlier in the day, before the working day began.

COVID-19 and the recent floods in KZN also presented a challenge. COVID-19, as some participants were anxious about face-to-face interviews. They were encouraged to wear a mask and requested to speak louder for better clarity on the voice note for the purpose of transcribing. Some participants contracted COVID-19 and thus appointments needed to be rescheduled. The recent floods and time slots needed to be moved as some participants were not at the office as they needed to manage their home situations.

1.10 DISSERTATION BREAKDOWN

This section will assist in explaining the outline and structure of the dissertation, which comprises of five chapters excluding reference and appendices.

Chapter One of the dissertation discusses the introduction and background to Corobrik which creates the platform and understanding of the research topic. The reason for undertaking this study is outlined in the research problem, significance, aim and the objective of the study. The research methodology used to facilitate the study and the research question are also discussed.

Chapter Two discusses the literature surrounding this study by presenting the revolution and evolution of technology. The importance of development, change and culture in technology is discussed whilst also reviewing the knowledge of administrative personnel. Challenges in the enabling of software applications was identified by means of a SWOT analysis which assists in recognising short comings and improvements. A theoretical framework for the study was outlined as there is recognition of historical academic and acclaimed studies that support this research study.

Chapter Three presents the research methodology selected to achieve the study, which is the qualitative research method. There is an explanation why the qualitative research method was selected and how this method will effectively facilitate the study. The chapter discusses the research approach, paradigm, study site, target population, data collection and data quality for credibility and trustworthiness. The chapter also explains the ethical considerations and the delimitations that were recognised to assist in presenting possible challenges and creates boundaries for the study.

Chapter Four is the presentation of the data collected. Data was collected by facilitation of semi-structured interviews which were recorded and transcribed. A thematic analysis was performed where fundamental themes and sub themes emerged which categorised the results and findings of the direct quotations from the participants that supported the study. The discussion and findings of the themes is presented within the ambit of the literature review which is Chapter Two of the study.

Chapter Five presents the conclusion of the study with the recommendation for Corobrik. The outline of the conclusion is based on the results and discussion findings that emerged from chapter four expounding on the objectives and the theoretical framework.

1.11 CHAPTER SUMMARY

The chapter introduced the topic and information for the choice of choosing Corobrik KZN as the study site. The background of Corobrik has been mentioned with a view of the technology and software applications that are used by the Corobrik staff. The researcher has highlighted the evolution and revolution that Corobrik has made and has not made towards their technological advancement. There was also the outline of the content of the study which explained the research problem, the significance of the study, the aim and objective of the study, research questions, research methodology, delimitations and dissertation break. The details of these topics has been explained further in the research paper.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

The literature review will focus on the role of computer software applications in organisations and the enabling of productivity for administrative personnel. The study will examine the need for changes to updated and relevant software applications in an organisation as the evolution of technology is witnessed, in the impact of the changes and the effect of behaviour of the administrative personnel and management. The discussion will review and identify the importance or non-importance of technological development, knowledge and training for the organization and to the employees and the challenges encountered when knowledge is not shared effectively (Hardjo and Suharjito, 2013). There is a need to identify the gap in the relationship between administrative personnel, technology and software applications and the impact on organisations when administrative personnel lack the skills of being enabled (Dery, 2020). To explore the gaps the study will be discussed comparing previous studies in relation 1st Industrial Revolution to the 4th Industrial Revolution, the development and culture of the organisation, the importance of transfer of knowledge and the maintaining of efficiencies with a review of strengths, weaknesses, opportunities and threats (SWOT), with support of the IT department to ensure that the administrative personnel and the organisation maintain efficiency and effectiveness. In the wake of the COVID-19 Pandemic there will also be a review of the impact of the use of software applications and technology as organisations and staff are required to maintain efficiency, productivity and organisational output.

2.2 THE REVOLUTION AND EVOLUTION OF TECHNOLOGY OVER THE AGES

Hotamişli, İbicioğlu and Karayel (2009) describes the evolution and revolution in an organisation as being those phases that cause change. The evolution is the phase that has steady growth and stability (Hotamişli *et al.*, 2009). The revolution is that which causes turmoil and the need for change (Hotamişli *et al.*, 2009). An example is made when an organisation changes from decentralized to centralized due to the changes in the environment in which the organisation functions (Hotamişli *et al.*, 2009).

The changes in technology have forced organisations and personnel to undergo major process changes as they move from traditional methods to advanced technological methods (Nivca, 2016). The evolution of technology is sustaining and can be described as the improving of the technological advancement and innovation of the interconnectedness of information and communication while a technological revolution is described as disruptive and powerful in that it will present the emergence of organisational roles, create emerging markets and continuous short-term innovation Lee, Yun, Pyka, Won, Kodama, Giovanni, Park, Jeon, Park, Jung, Yan, Lee and Zhao (2018). The revolution of technology is phrased as the 4th Industrial Revolution. There is an uncontrollable emergence between technology and industrial markets and organisations are unable to predict the changes (Lee *et al.*, 2018).

Although these revolutions were unforeseen, they did however improve human social interactions, the working environment, the attitudes of the personnel, their safety and wellbeing. (Pogan, 2019). The explanation of Xu, David and Kim (2018) is that the revolutions have an impact on organisations and personnel, and it is only through the transfer of knowledge that there will be an assurance that knowledge of technology with the use of software applications will reach and benefit all.

As discussed by Hirschi (2017) the 1st Industrial Revolution in the 1800's saw the change from manual labour to mechanical production. The steam engine was introduced and was powered by coal (Xu *et al.*, 2018). The 2nd Industrial Revolution in the 1900's saw the introduction of mass industrial production machines (Hirschi, 2017). The 3rd Industrial Revolution in the early 20th Century saw the introduction of personal computers and by 1960 there was the introduction of the internet (Hirschi, 2017). The 4th Industrial Revolution of the 21st Century has seen the introduction of artificial intelligence, automation of analytics, the internet of things and cloud computing (Hirsch, 2017). The 4th Industrial Revolution can also be phrased as the era of the “second machine age” (Brynjofsson and McAfee, 2014).

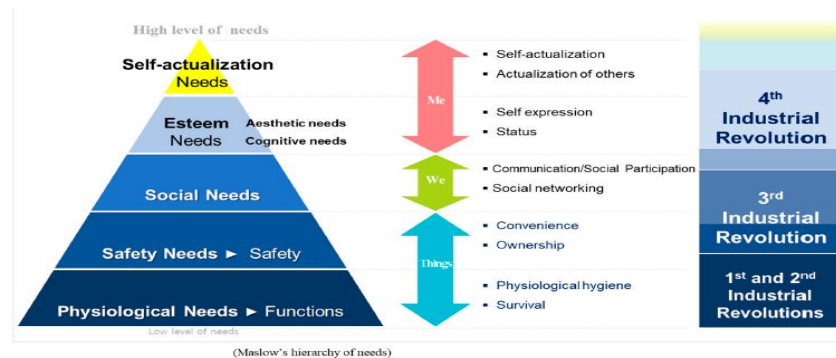
The impact that the respective Industrial Revolutions has on employees is defined by Lee *et al.* (2018) as “co-evaluation between human desire and technological innovation”. Lee *et al.* (2018) describes a correlation between the human desire and technological innovation to that of Maslow's hierarchy of needs. McLead (2007), describes Maslow's Hierarchy of Needs as a theory of human motivation where individuals possess a motivational system to achieve certain needs, and when one-need is satisfied, seek to fulfil the next one at the next level. There

are five levels of needs in Maslow's pyramid (Maslow, 1943), from the bottom of the hierarchy upwards, the needs could be explained as follows:

- Physiological - These are basic needs such as air, food, water and shelter.
- Safety Needs - The need for protection such as law and order, boundaries and stability.
- Social Needs - The need to belong and to be loved such as having a family, relationships and friendships.
- Esteem Needs - The need to have self-esteem, a sense of achievement and independence.
- Self-Actualisation - The need to be aware of personal potential, having a sense of self fulfilment and personal growth.

The correlation between Maslow's Hierarchy of Needs and the human desire for technological innovation through the Industrial Revolutions is explained as follows Lee *et al.* (2018), the 1st Industrial Revolution – there is a relationship between physiological needs and the need to have and understand mechanical technology. There is a need for survival and things; The 2nd Industrial Revolution – there is a relationship between the need for safety and the need for electric technology. Where the individual has a sense of ownership and a need for the convenience of things; The 3rd Industrial Revolution – there is a relationship between the ability to satisfy social needs and being abreast with information technology. The individual has a need to communicate with others by means of social networks and social media. There is a sense of we; The 4th Industrial Revolution – There is a relationship between self – esteem, self-actualisation and being in touch with intelligence technology. The individual has a focus on me in that they have a desire for status, self-expression, self-fulfilment and personal growth (Lee *et al.*, 2018). This correlation is depicted in Figure 2.1. below:

Figure 2. 1: Relationship hypothesis between Maslow's hierarchy of needs and the evolution of the Industrial Revolution



Source: Adapted from Lee *et al.* (2018: 5)

In 2019 the world witnessed a new revolution and evolution as it was impacted by the Corona Virus also known as COVID-19 Pandemic (World Health Organisation, 2020). This Pandemic brought much turbulence and complexity to the working environment (Duygun and Şen, 2020). As per Duygun and Şen (2020), organisations need to be in readiness to maintain their existence by being proactive with new developments and situations. As the Pandemic intensified it became obvious that technological needs for organisations needed to improve at a rapid pace for business continuation (Bhattacharjee, 2020). There brought about a change in the needs from staff members who were required to work remotely and organisations as they needed to meet the new working requirements for survival (Bhattacharjee, 2020).

Survival as per Maslow's Hierarchy of Needs with regard to technology in relation to COVID-19 Pandemic (Bhattacharjee, 2020):

- Physiological – There is the basic need for continued electricity as power is a major conductor in the cyber domain. There is also the basic need of having accesses through mobile devices which allows for social distance and remote working.
- Safety Needs – The need to have secure and safe hardware set ups from remote locations and for organisations to secure their networks against computational problems.
- Social Needs – There is a requirement for stable and sufficient internet resources as the internet has become a daily need. The internet allows for social communication and networking. The social communication and networking will include the accesses to email and meetings by means of online meeting platforms.

- Esteem - The need to have the ability and access to robust software applications such as organisational gateways for continued output and functionality for remote and on-site activity
- Self-Actualisation – The requirement is to have an understanding and use of artificial intelligence to achieve goals and allow for improved and sustainable growth. This will include digital platforms for continued working requirements and organisational outputs.

It must be noted that to achieve the higher levels personnel will need to work through and accomplish the requirements from the lower levels (Pogan, 2019). It is in having access to the resources and the opportunity for growth, development and knowledge that productivity levels can be achieved (Pogan, 2019). Organisations need to be personnel centric and provide direction for understanding and adaption to change (Pogan, 2019). To support the self-actualisation and self-esteem, it is indicated by Emma (2019) that the use of technological software applications in organisations is integral in the 21st century. She further highlights the importance of organisations in ensuring that software applications are kept abreast with the global trends for purpose of development and productivity for the organisation and for the employees.

2.3 DEVELOPMENT, CULTURE AND ORGANISATIONAL CHANGE OF ENABLEMENT IN TECHNOLOGY

2.3.1 Development

It is important for business executives to understand the importance of the development of improved and updated technology and software applications in their organisations (Schwab, 2015). When implementing work practices and development it is important for organisations to understand how the applied new development will achieve higher productivity (Black and Lynch, 2001). Schwab (2015) it is evident that organisational leaders have a limited comprehension of the impact that the technological advancements that the 4th Industrial revolution will have on their respective businesses. Organisations need to place importance on development and training of personnel to ensure that they can perform within the environment of rapid changes. The empowerment of people needs to be at the fore of securing organisational productivity (Schwab, 2015). Insights (2018) advises organisations to be prepared for the

impact that development solutions will have on their businesses as this will ensure that they remain relevant. The development and up skilling of personnel will present the opportunity for acquiring knowledge and a platform for continuous improvement that will bring success, enablement and growth (Insights, 2018). Hirschi (2017) affirms the importance for personnel to have a sense of self efficacy towards their development to prompt the enabling of continuous improvement. There should be a desire to self-educate, be it formal or on- the-job which will provide an understanding, knowledge and enabling for the adapting and adoption of the ever-changing technologies and applications (Hirschi, 2017). The development of self is encouraged and supported by creating strong career networks and setting goals to successfully understand and know computer software application and technology for the enabling of the growth and contribution to productivity (Hirshi, 2017). Improved up skilling and development requires organisations and personnel to be open to change to ensure the transformation. The discussion by (Berisha-Shaqiri, 2015) is that the development and improved use of technology will facilitate transformation of organisations for the ability to expand and maintain a competitive edge.

2.3.2 Culture and Organisational Change

Change management in an organisation is inevitable and it supports the adoption and adjustment to new internal and external environment advancements (Hassan, Channa and Lashari, 2017). Organisations need to be aware and up to date with the external environment as it will assist in being aware of the changes (Hassan *et al.*, 2017). It is further discussed by Hassan *et al.* (2017) that change is needed to motivate personnel, improve process structures and contribute to the success of the organisation. As written by Robbins, Judge, Odendaal and Roodt (2016) change is best described by the Change Management Theory of Lewin, which looks at three steps as viz. unfreezing, movement and then refreezing.

The step of change is explained as being, when an organisation initiates the new change which is a process to changing from the present to the future. This can be described as the process where the organisation introduces new methods and processes but that the staff prefers is to keep the status quo (Robbins *et.al.*, 2016). The staff would rather reject the new change and continue with the old as it that which they are comfortable with and know (Robbins *et.al.*, 2016). The organisation will need to ensure the effective transition from the present process to the future process to be implemented (Robbins *et.al.*, 2016).

The introduction and initiation can be done by means of team building and personal development (Kaminski, 2011). This is labelled as the unfreezing. Then the organisation starts the implementation and moving to the future desired state.

The process is rolled-out by organisations by facilitating training, development and adaption to the change (Kaminski, 2011). There is an influence on the personnel that this method is better than the future (Kaminski, 2011). While this step can be costly and time consuming it is the process where results are visible (Kaminski, 2011). This is called movement (Kaminski, 2011).

The next process is where the organisation reaches their desired state, implementation is effected and stabilised (Kaminski, 2011). This is the process where the change is implemented and new operating procedures become standardised (Kaminski, 2011). This is labelled the Refreezing (Kaminski, 2011). Attention needs to be given to those factors that cause resistance to change and thereby not moving away from the status quo or culture as it was known. This process will require support and orientation (Kaminski, 2011).

This process of unfreezing, movement and refreezing relates to the discussion held by Jaspersen, Carter and Zmud (2005) where they look at 3 stages of technology post adoption.

It is important therefore for organisations to identify those applications that will improve technology enablement and present updated efficient abilities productivity (Jaspersen *et al.*, 2005). The personnel are trained and adapt to the technology for the achieving of performance and productivity (Jaspersen *et al.*, 2005). Without the recognition for the need for change and improve technology and software applications the organisations and the personnel could be viewed as inefficient as they will have limited information and inability to apply the change. (Jaspersen *et al.*, 2005).

Jaspersen *et al.* (2005) discusses that the organisation will ensure that the personnel understand the technology and application which allows for the achievement of productivity. The discussion of Insights (2018) is that training and development of personnel will assist in achieving the agile methods that will support the adoption to the new process, applications and technology.

The participation in the change is where the personnel endeavour to become familiar with the applications (Jaspersen *et al.*, (2005). There is a sense of self- efficacy in that the personnel will explore the functionality of the application for the improvement and work functions and improve productivity (Jaspersen *et al.*, (2005). Once there is an adoption to the new applications and technology, organisations need to be ensuring the stimulation of the improved and new methods (Jaspersen *et al.*, (2005). Non-stimulation can result in the return to old behaviours, resulting in the keeping to the status quo (Jaspersen *et al.*, (2005) an example can be the explained in the implementation of knowledge repositories which supports the sharing and enhancing of knowledge and information and encourages the continuous improvement for improved productivity (Choi *et al.*, 2010).

As discussed by Akkaya, Gunsul and Yikilmaz (2021), organisation and staff members also need to be prepared for change when exceptions and adversities approach. The COVID-19 Pandemic brought about the need for rapid change and development (Akkaya *et al.*, 2021). In order to Unfreeze, Move and Refreeze leaders in the organisation are required to initiate change by ensuring staff members are made aware of the new methods and use of software applications and technology (Akkaya *et al.*, 2021). The change is implemented by ensuring knowledge platforms and education of the new applications is effected successfully (Akkaya *et al.*, 2021). Finally there is the implementation and use of tools, applications and equipment which will allow for the continuous work function and productivity be it remotely or on-site (Akkaya *et al.*, 2021).

In the fast-growing technological environment that we participate in today, it is important for organisations to understand the need for change and the opportunities that will be present (Bloodgood and Salisbury, 2001). When the new updated resources are implemented for the up skilling and enabling of personnel, the improved ability within the entire organisation contributes to productivity and the organisation being competitive within the environment it participates (Bloodgood and Salisbury, 2001).

Change is an adjustment to the organisation and personnel by ensuring continuous learning and use of improved methods support the understanding of the new technological methods (Insights, 2018). In order for change to be effected it is important for the process being adopted to be made clear and explicit to the personnel (Renjen, 2019). Explicit is where communication is deliberate and the process of implementation is clearly understood (Choi *et al.*, 2010).

Renjen (2019) identifies that a limitation to the adoption to the change is when the organisations decision making process is not clear and there is a culture of departmentalisation such as organisational silos and a lack of exchange of knowledge. Culture is a system in an organisation that is shared and adopted by all personnel (Robbins *et al.*, 2016). An example made by Renjen (2019) is when the leader's knowledge and skills are advanced only rather than evolving this change across the entire organisation. There is an avoidance of disruption with a protection and vision of self-empowerment (Renjen, 2019). It is also argued by Insights (2018) that many organisations prefer to work within traditional known applications and technology and are avoiding or not ready to embrace the opportunities that new technology and applications will present for productivity internally and externally. This is described by Insights (2018) as “organisational inertia” in that organisations remain focussed on past experiences, accomplishments and abilities to protect their current status. The avoidance of external knowledge and advancements can be a cause of disruption and cause an organisation to fall or fail, which is a discussion that also resonates with (Hahm, 2020). It is therefore important for personnel to embrace the move from the status quo and adapt attitudes of self-efficacy and acceptance to change which will drive the need to achieve self-actualization (Hahm, 2020). This can be brought about by organisational leaders implementing a change by means of ensuring improvements in technology and sharing of knowledge for the advancement of performance and productivity (Hahm, 2020).

2.4 KNOWLEDGE FOR ADMINISTRATIVE PERSONNEL

It is important that organisations review the computer software applications used against the skills of the personnel and compare that to the development and advancement of the external environment (Lucas, Agarwal, Clemons, El Sawy and Weber, 2013). As discussed by (Lucas *et al.*, 2013) organisations need to review their traditional ways of performing tasks and the capabilities of the personnel. This will assist in facilitating the necessary changes that need to be implemented, how task and job functions need to be carried out and thereby enabling organisations to gain competitive edge by doing things differently (Lucas *et al.*, 2013). The discussion of Miller, Mizerski and Mizerski (2000) is that organisations need to perform a skills audit which will assist in identifying the skills and competencies held by staff members. The purpose of a skills audit is to assist the organisations in identifying the skills required for staff members to perform a job function, to enable staff members in identifying the skills that

they require and provide training to support the development for the improvement and growth for future career paths (Miller *et al.*, 2000).

It is argued by Chen, Wang, Nevo, Benitez-Amado and Kou (2015) that IT and software application capabilities can be enhanced when organisations examine processes that will allow for the improvement of performance within the business environment. Robbins *et al.*, (2016) discusses a learning skill of double looping which is when there is recognition of errors with an opportunity to improve on the procedures and applications as there is interaction within the organisation. There is open communication and with the shared knowledge an organisation will therefore have a culture of having shared vision (Robbins *et al.*, 2016). Information within the organisation should be timely and updated to align the organisation with the external environment (Chen *et al.*, 2015). There should be a complete understanding of the requirements of each department within the organisation with effective communication internally and a review of the external environment which can allow for growth and development (Chen *et al.*, 2015). Choi *et al.* (2010) suggests the practice of knowledge maps will assist organisations in gathering information on 'who knows what'. This will assist organisations to understand the development required by the personnel and at what level (Choi *et al.*, 2010). The organisation will also be aware of what training resources they have available or is required to assist with the development and enabling of the personnel (Choi *et al.*, 2010).

It is important for organisations to ensure an exchange and acceptance of knowledge to facilitate the growth (Xu, *et al.* 2018). Knowledge in the organisation is linked to investment as there is an opportunity for creativity, improvements and the sharing of information (Xu, *et al.* 2018). Knowledge is integral in management and leadership of the organisation as it supports achieving objectives effectively (Xu, *et al.* 2018). It is the finding of (Choi *et al.*, 2010) that when there is IT support, and the knowledge is shared and applied there is a positive impact on the performance of the team. This support and knowledge sharing allows for explicit understanding and coherence of the application tools (Choi *et al.*, 2010). Additionally, it is important for an organisation to invest in computer software applications to assist in the improvement of the knowledge of applying the technology and applications by the personnel (Choi *et al.*, 2010).

As technology evolves organisations therefore need to be dynamic in their innovation to ensure their endogenous and exogenous skills and resources are aligned to global trends to ensure

competitive capabilities (Sher and Lee, 2014). There is also the need to ensure that personnel are enabled and up skilled to apply these innovations and computer software applications to processes such as document management and workflow software for effective and efficient productivity (Choi *et al.*, 2010). Lack of tools and resources for effective application and transfer of knowledge and skills of computer software application could be a challenge and result in a negative impact on productivity of the organisation (Choi *et al.*, 2010). When there is a culture of inertia of the personnel and the organisation it presents a challenge for effective change, transfer of knowledge and it will have a negative impact on productivity. (Polites and Karahanna, 2012).

2.5 CHALLENGES EXPERIENCED WITH THE ENABLING OF COMPUTER SOFTWARE APPLICATIONS

In the 21st century the use of computer technology and applications is imperative to complete all organisational functions (Lee *et al.*, 2018). There is much emphasis by Schwab, (2016) that all organisations in every industry needs to review their use of technology in order to meet the needs of their external environment. The emphasis is to move from the traditional applications and towards implementing applications that will achieve productivity (Schwab, 2016). As technology becomes more advanced there is a degree of uncertainty, however if organisations and personnel do not evolve to the rapid changes it will create challenges for the organisation. (Xu *et al.*, 2018).

It has been recognised by Renjen (2019) that organisations are still grappling with the implementation of these advanced technologies which limits development and sharing of knowledge. The challenges can be seen in the inertia of organisations and personnel (Polites and Karahanna, 2012), the lack of transfer of knowledge, limited vision and lack of acquiring advanced technology (Insights, 2018).

The discussion by Insights (2018) is that organisations prefer the traditional processes and therefore maintaining the status quo. The maintaining of the status quo of computer software applications is further explained by Polites and Karahanna (2012) as a level of inertia, where personnel prefer to work on the systems and applications that they currently use. The personnel are not willing to adapt even if they are aware and have been trained on advanced applications

(Polites and Karahanna, 2012). The impact of inertia is that personnel lack a sense self-efficacy and the desire to improve which could impact their ability to grow (Hirschi, 2017). As technology improves and advances there will be an increase in demand for personnel that are highly skilled and the demand for lower skilled workers will decrease (Totterdill, 2017). Hahm (2020) supports this by explaining that as technology advances personnel need to have attitudes that will support the ability to generate high performance. The challenge of maintaining the status quo and not acknowledging the need for development can result in lack of improved productivity and ultimately failure (Kim and Kankanhalli, 2009).

Another challenge that can be discussed is the lack of sharing of knowledge, having a limited vision and not acquiring advance technology (Renjen ,2019). The view by Insights (2018) is that the reason for the lack of sharing of knowledge, having a limited vision and not acquiring advance technology as being a challenge is due to organisations not being aligned and explicit in their decision making. The continued discussion by Insights (2018) is where organisations have a culture of silos or departmentalisation and layers of managerial hierarchy which creates distance within the organisation. These existing cultures hinders the transfer of knowledge and information resulting in misalignment within the organisation and therefore has a negative impact on the decision-making process (Totterdill, 2017). An example is made by Renjen (2019) as the challenge of the decision-making process is that varied technological options are made available when organisational silos and managerial hierarchy impact the decision-making process. An additional contributor to these challenges is that organisations prefer to maintain traditional processes which results in the vision of the organisation being inadvertently limited to short term goals as opposed to longer term opportunities (Renjen ,2019). The challenge is for organisations to realise that long term opportunities are those factors which create a space for growth and development (Insights, 2018).

Other challenges which organisations need to be aware of are the unexpected and unprecedented situations, such as the COVID-19 pandemic where organisations are impacted as there is an unpreparedness for what is to come (Marabelli, Vaast and Li, 2020). These situations present the requirement for staff members to adjust to new methods of performing work tasks (Kaushik and Guleria, 2020). The challenge for the staff members and the organisation is experienced when it is compulsory to adapt to the new environments, for example social distancing in the office and working remotely (Kaushik and Guleria, 2020). As per Kaushik and Guleria (2020) the challenge for the organisation if unprepared is in the

reviewing and implementing of alternative working options and having the effective and efficient digital platforms for this functionality. While organisations need to make fast and drastic changes the challenge also lay with the staff members in their technological capacity and abilities in being able to adapt to the new working environments (Kaushik and Guleria, 2020). The responsibility of the organisation is to ensure awareness, training and knowledge creation for the use of new technological methods and software applications (Kaushik and Guleria, 2020). Within the challenge of the situations there is the awareness of increased psychological and social concerns such sickness and fatalities (Kaushik and Guleria, 2020). The organisations need to be empathetic and offer support to staff members while ensuring productivity and efficiency is maintained (Kaushik and Guleria, 2020). The challenge and the responsibility of the staff members is to adopt a sense of resilience and self-efficacy to ensure productivity output and effectiveness (Kaushik and Guleria, 2020). It is important for the organisation to ensure digital platforms and workspaces are functional, effective and that the organisation has the capacity to meet the requirements of the unexpected consequences (Kaushik and Guleria, 2020).

While there is recognition of the challenges it has been argued by Renjen (2019) that there is not much progress in managing these challenges and implementing policies and procedures to present opportunities for enablement. It is important therefore for organisations to recognise the gaps in productivity and enablement and strive to navigate methods that will assist in closing the gaps and improving capabilities (Renjen, 2019). The responsibility of the leaders is that they always need to be aware of the internal and external sources which impact the organisation (Heidrik and Struggles, 2016). The decision making needs to be objective to ensure continuous learning for improved productivity (Heidrik and Struggles, 2016). Due to challenges experienced by organisations and the need to close the gaps it is important to perform an evaluation by means of a Strength, Weakness, Opportunity and Threats (SWOT) Analysis (Hardjo and Suharjito, 2013). A SWOT is a measuring mechanism which assists in identifying the importance or non-importance of development, knowledge and training for the organization and to the employees (Hardjo and Suharjito, 2013).

2.6 STRENGTH, WEAKNESSES, OPPORTUNITY AND THREATS (SWOT) ANALYSIS

As organisations identify the need to improve the implementation of software applications and technology across the departments and functionalities it is recommended that they adopt an agile approach (Barlow, Giboney, Keith, Wilson, Schuetzler, Lowry and Vance, 2012). This is explained by Barlow *et al.*,(2012) as being the process where organisations are continually prepared for the adoption of the rapid changes in technology. The process being when organisations can embrace the change, learn from the change and are able to contribute and adapt to improvements to support the environment in which it trades Barlow *et al.*,(2012). It is therefore important for organisations to identify the gaps that limit the change and introduce processes that advance the change (Hardjo and Suharjito, 2013). As per Hardjo and Suharjito (2013) gap analysis is a method where the organisation assesses the differences in performance between their information systems or software applications to new and updated systems or applications. This will assist organisations to determine whether technology requirements are being met and if not what steps should be taken to ensure they are met successfully (Hardjo and Suharjito, 2013). The facilitation of identifying the gaps can be facilitated by means a SWOT analysis (Hardjo and Suharjito, 2013). The discussion by Neves, Rosa, Correia and de Casto Neto (2011) is that a SWOT analysis allows for the analysis of the information where the strength and weakness is identified from internal factors and opportunities and threat are identified from external factors.

These SWOT factors can be identified as follows:

- Strength – This is when information and training is readily available and allows for development and knowledge creation (Guaragni, Schmidt and Paetzold, 2016). This is seen in the availability of knowledge and training repositories (Guragni *et al.*, 2016). Additionally discussed by Guragni *et al.* (2016) is that a strength is also where the personnel are knowledgeable and therefore can offer support to the decision-making process of the organisation's hierarchy. The hierarchical recognition and acknowledgement in overcoming silos also add value to the organisation as it allows for improving of efficiencies (Insights, 2019). There is an opportunity for improved organisational vision, strategy and preparedness for the rapid changes as technology evolves (Insights, 2019).

- Weakness – When the personnel are not trained and lack the knowledge of the technology they lack the skills to facilitate the enablement and development of the new technology which leads demotivation and disempowerment (Guragni *et al.*, 2016). There is also the discussion on inertia which is the behaviour that limits the ability to adapt to the rapid changes in the external environment and failure to adapt could threaten the existence of the organisation (Hopkins, Mallette and Hopkins, 2013).
- Opportunities – This is present when there is sharing of information and training which creates the ability to rapidly adjust to the external environment (Guragni *et al.*, 2016). The organisation and staff will be able to effectively adopt to the new technology and software application innovations (Guragni *et al.*, 2016). The review done by Insights (2019) is that organisations have acknowledged the gaps and are committed to training the personnel as opposed to hiring up skilled workers. The opportunity for enabling and development will stimulate self-efficacy which improves confidence and performance within the staff member. (Hahm, 2020).
- Threat – The characteristic of uncertainty displayed by the organisational leaders as they are more focussed on protecting their own positions (Insights, 2019). The threat that technologically advanced highly qualified workers is entering the job market, with updated technological skills and more efficient capabilities (Schwab, 2016). There is also the threat of bureaucracy where personnel do not have access or understand internal knowledge and applications and therefore are not aligned to the organisation (Stenmark, 2001). The argument of Stenmark (2001) in relation to the transfer of knowledge and understanding of applications is that there is a tendency for information to be tacit which makes it difficult to understand. The result is personnel becoming despondent and resisting change by maintaining the status quo, which will be a threat to the improved productivity of the organisation (Stenmark, 2001).

Based on the review it is clear that gathering and sharing of knowledge is an indispensable resource (Choi *et al.*, 2010). It is important for organisations to assume the role in enabling the administrative personnel in the organisation as it creates empowerment for the individual and improves productivity (Insights, 2018). The role of empowerment does not lie solely with the organisation, it is also the responsibility of the personnel to embrace change, have an

attitude of self-efficacy which will support confidence and improve performance (Hahm, 2020). The discussion of Haag (2014) is that it is essential for inertia and maintaining the status quo to be overcome as organisations need to move towards ensuring improved efficiencies and adjusting to their internal and external environments. As organisations and personnel grow and develop there needs to be collaboration which will support and facilitate training, development and empowerment (Choi *et al.*, 2010). When there is an understanding by the staff member to applying the use of updated software applications there is inevitably improvements in productivity of the organisation (Choi *et al.*, 2010).

2.7 THEORETICAL FRAMEWORK

The framework of this study is to identify the importance of up to date and improved use and availability of software applications by the administrative personnel in organisations (Dery, 2020). It explores the relevant knowledge and training that should enable the administrative personnel in the organisation (Dery, 2020). The relationship between people and technology will be probed with an effort to create an awareness of the synergy between these subjects for improved performance and organisational output (Dery, 2020).

To outline the framework of the study the theories that were identified were based on how personnel evolve, adapt and change and their effective and efficient use of knowledge management. The Lewin's Theory of change was used to identify how change can be implemented. The effectiveness and improved efficiencies of knowledge was outlined by knowledge management methods which will assist in identifying Strengths, Weaknesses, Opportunities and Threats. Knowledge management was facilitated with the identification of a gap analysis.

The discussion of Pogan (2019) is while there is the alignment and awareness of the improved and updated technology there is still a large portion of the population that do not have access to these functionalities and will continue to widen the gap and create segregation in the working environment. There is the needs to improve knowledge and information in the work place to create an opportunity for human centricity in technology (Pogan, 2019). Organisations need to

provide directions for better understanding and change which will result in improved output from personnel and achieving organisational goals (Pogan, 2019).

2.7.1 Theory of Change Management

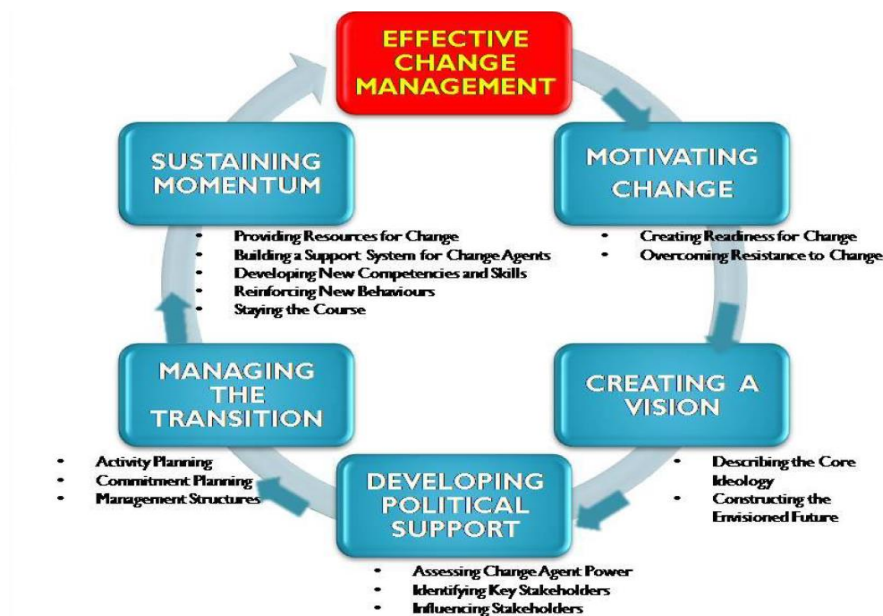
As discussed by Hussain, Lei, Akram, Haider, Hussain and Ali (2018), it is important for organisations to be prepared for and accept change as change allows for organisations to remain competitive within the environment in which they operate and presents opportunities to modify and improve strategies and organisational structures. The need for change can result from internal or external situation and influencers. Change can either be robust where the organisation is always striving for excellence will move forward and adapt proactively to new technologies and environments or change will be slow as the organisation and staff members prefer to remain in their current state therefore maintaining the status quo resulting in participation in reactive situation where the organisation can be viewed as unprepared and unwilling to change (Hussain, *et al.*, 2018). The responsibility to ensure that the status quo is not maintained remains the responsibility of the organisation as they need to ensure that the staff members buy-in to the change and that the change is effective, supports productivity and will present needs being achieved with desired improvements (Hussain, *et al.*, 2018).

In an effort to facilitate and effectively implement change organizations need to ensure staff member participation as this will enhance and encourage the transition to the desired state and vision of the organisation (Hussain, *et al.*, 2018). Change theory and management is best supported by the Change Theory introduced by Kurt Lewin (1947) of Unfreezing, Movement or Change and Refreezing (Cummings, Bridgman and Brown, 2016). This change theory has been elaborated further by Cummings and Worley (2014) as the five-step model for effective change management. As discussed by Sylva and Amah (2016) the five-step model for effective change management is as follows:

- Motivating employees for change – Described as when leaders advise staff members of the change that will be effected and while preparing themselves for any resistance should it occur.
- Creating a vision to clarify why and what of the change – This is where leaders need to communicate the vision to ensure that the staff members have an understanding and expectation of the change and role the staff members will play in the change.

- Providing political support for change and preventing groups from blocking the change – The leaders establish a buy-in from the staff members which will assist in reducing resistance to change. Staff members are included in the change process by task distribution and team inclusivity thereby ensuring shared vision and outcome.
- Managing the transition through planning activities and maintaining commitment – Leaders need to provide effective training and knowledge sharing for the change to produce positive results and thereby achieve the goal of the organisation
- Sustaining momentum through source management, change agents, support systems and skills development – Ensuring continuous improvement and support to prevent inertia and maintaining the status quo. There is communication to allow feedback as the organisation works towards the established goals. The five-step model for effective change management is depicted below on Figure 2.2:

Figure 2.2 Effective management Model by Cummings and Worley (1995)



Adapted by: Sylva and Amah (2016:50)

The effective implementation and adoption of change theory requires active leader engagement (Saghafian, Laumann and Skogstad, 2021). Change is constant and when effective it should present current and up to date functionalities to the organisations hence reviewing and renewing direction, procedures, resources and capabilities for both internal and external stakeholders

(Saghafian, *et al.*, 2021). The adoption of change theories allows for the review of technology and software applications while ensuring processes are maintained and improved for the purpose of effective productivity, enablement of resources and output (Saghafian, *et al.*, 2021).

2.7.2 Theory of Knowledge Management and Gap Analysis

Knowledge resources in an organisation serves as an investment in information for growth and development to and from staff members at all levels. It is noted that while it is important for knowledge to be shared it is also important for knowledge to be applied as it assists in improving capabilities and organisational functions (Choi *et al.*, 2010). Shared information in an organisation is imperative for growth of staff members and for the organisation (Hussain, *et al.*, 2018). The shared information is not limited to training and development but also encompasses the abilities, experiences and competencies from which all staff members can leverage and present opportunities for enablement and strong organisational foundations (Hussain, *et al.*, 2018). While knowledge sharing is important it must be noted that without knowledge application the uses and delivery of the organisational knowledge databases and processes will be ineffective (Choi *et al.*, 2010). As per Choi *et al.*, (2010) knowledge application is necessary for problem solving and can be used for the facilitating the comparison and collation of previous results to current results. An example of this is comparing reports on organisational performance from one year to the next, an application that can be used for this is MS Excel.

Knowledge management is the information, strategies and processes factors which support the structure and procedures of the organisation (Shankar, Gupta and Narain, 2003). It is the view of Shankar *et al.*, (2003) that knowledge management has a value add to the organisation and the staff members as follows:

- Product or Service Leadership – Based on updated technologies and accurate production information the process requirements will be communicated and software applications will be updated with the data and tools to allow for the sharing and application of knowledge. When knowledge is shared, transferred and made available it leads to optimising customer services and organisational goals being achieved.
- Operational Excellence – Operational excellence allows for the delivery of quality products and services. To achieve this excellence all the varied departments and

divisions of the organisations needs to ensure that the knowledge and information on computer systems is integrated and can be exchanged to achieve the productivity goals and outputs of the organisation. There is the requirement of technology and software applications to be available to the respective users to ensure organisational optimisation and quality output.

- Customer Knowledge – It is important to know your customer and understand their product requirements and services. By being able to use and understand the computer applications staff members can gather, collate and report on the requirements of the customer.

The availability and collation of knowledge within the across all departments within the organisation could give rise to a database known as a knowledge repository being made available to all users of computer software applications and technology (Shankar *et al.*, 2003). As knowledge is available and able to be shared it improves organisational behaviours while breaking down departmental silos, allowing information to be made available, learning and growth is encouraged and skills can be developed which presents the opportunity for productivity flow and transparency (Shankar *et al.*, 2003).

As knowledge is shared and applied across the organisation it can be interpreted as explicit or tacit. When knowledge is tacit the information and skill is known and understood by leadership, specific staff members or the owner of the information only (Hussain, *et al.*, 2018). The challenge with tacit know is that it is not easily transferrable, shared and applied thereby making the information difficult to understand or execute (Hussain, *et al.*, 2018). Explicit knowledge is that information which is made available and easily understood by all staff members (Hussain, *et al.*, 2018). Explicit knowledge is easily shared applied and understood across all members of the organisation (Hussain, *et al.*, 2018).

Knowledge management methods of the organisation should be systematic and as improvements and new information is implemented there is a process and culture of building on the existing knowledge (Wang, Ahmed and Rafiq, 2008). The process of improving, sharing, retaining and being receptive to new knowledge will facilitate the growth and performance of strategic resource and capabilities of the organisation (Wang, *et al.*, 2008). As

organisations build on their knowledge there is a culture of learning, adapting and a willingness to receive and absorb new information and applications for organisational competitive performance and effectiveness (Wang, *et al.*, 2008).

2.8 CHAPTER SUMMARY

The chapter highlighted how software applications, resources and technology have evolved and have become very critical in the life span, survival and progress of the administrative personnel and the organisation. The advancement and application of technology is identified by the industrial revolutions that were experienced from the 18th century to the 21st Century and beyond. It is the experiences and advancements in the industrial revolutions that demonstrates the need for change in the working environment. The evolution and advancements of the revolutions identified the need for administrative personnel to improve, understand and gain knowledge for the functionality of technology and software applications. To support the evolution and revolution of technology and software applications the relationship between Maslow's Theory of Needs and The Industrial Revolutions was explored. The exploration indicated that organisations need to ensure that they maintain improved and up to date technologies for efficient and effective productivity and output. The improved applications and technologies made available to the administrative personnel would support and enable growth, organisational productivity and present development opportunities for attaining self-actualisation.

The ability to perform and grow within the revolutions will require organisational change which is supported by Lewin's Theory of Change. The change process presents the ability for organisations to either improve or maintain the status quo and organisational culture. As organisations acknowledge and make strategic decisions towards improvement and growth there would need to be the acceptance and willingness to understand the internal and external environment in which it operates. The change process discussed by Lewin presents opportunities for the organisation and administrative personnel to learn, unlearn, re-learn and execute. This change process will evolve and adapt as new and improved applications indicate an advantage to the progress in productivity and growth of the organisation. Change processes require effective execution to ensure that there is buy-in from the organisation which would

minimise the cultural challenge of inertia, departmentalisation and the preference to maintain the status quo. To support the change process the organisation needs to ensure that information, training and knowledge is available and effective for enabling growth and development. The enabling of the administrative personnel would be the transfer of the information, training and knowledge with the understanding that the effectiveness is also reliant on their behaviour and characteristic of self-efficacy with the willingness to improve and grow.

Knowledge is fundamental in an organisation to ensure that leaders understand the personnel and that the personnel have a clear understanding of the requirements of the organisation. When knowledge is exchanged effectively there is opportunity for the organisation to understand and compare where skills development and growth is required and what software applications resources will ensure effectiveness and productivity. Effective evaluation and review of the internal and external environment would allow the organisation to recognize the software applications and practices that will ensure improvements to remaining competitive. When knowledge and information is understood and shared an organisational culture of having a shared vision establishing an investment by personnel across all levels of the organisation. Shared Knowledge and vision eliminate the barriers of tacit knowledge and present the opportunity for knowledge to become explicit, available and raises opportunity recognising changes and gaps that would occur.

The rapid changes in technology and applications require organisations to be able to recognise when there are possible gaps in the performance of the current software applications being used and what is required to meet the changes swiftly and effectively. A gap analysis is a tool that can assist the organisation to facilitate the process of recognising challenges, opportunities, failures and growth. The gap analysis is done by means of an organisational SWOT analysis which would presents vision and understanding of the performance of the internal environment while gaining knowledge of the impact from the external environment. The SWOT analysis highlights the shortcomings of the organisations and the personnel's inability to want to develop and grow while presenting the opportunity for collaboration for the development and empowerment to enabling of personnel for organisational productivity.

Another impact to effective adaption, improvement and continuous productivity was when COVID-19 impacted the world socially and professionally. It was noted that organisations need

to promptly recognise the impact of the pandemic and the change effect it would have on the functions of the administrative personnel and organisation. New working methods would require productivity to continue while ensuring the safety of the personnel with the focus on optimising organisational goals. The willingness to adapt and change required effective and efficient implementation by the organisation and for the personnel, therefore the transfer of knowledge and execution of new methods meant immediate change. The organisations needed to ensure that new updated functionality of software applications and technology was implemented to support organisational goals and administrative personnel needed to understand the output abilities, learn and understand new the use of software applications to ensure business continuity.

The next chapter will discuss the research methodology being used to conduct the study. The research approach being used is the qualitative method which will be further explained to present an understanding as to why this is the preferred approach. The chapter will also describe the data collection process which would be conducted by semi-structured interviews for the purpose to establish themes for the study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter discussed the literature review for this study expanding on the detail of computer software applications and the role that it has played in enabling administrative personnel to be more productive, efficient and effective.

This chapter has described the research methodology chosen to conduct the study and to achieve the objectives that have been outlined. The research methodology has explained the aim of the study, research paradigm, research design, research approach and the study site for the research.

The latter subsections have provided explanations on the population and sampling study that was used, the data collection in relation to feedback received from the selected participants, data analysis and the detail which will support the credibility and trustworthiness of the study.

The chapter was concluded with a review of the thematic analysis and the ethical consideration pertaining to the study.

3.2 AIM OF THE STUDY

The aim of the study was to determine the role that computer software and applications has toward enabling productivity of administrative personnel at Corobrik KwaZulu-Natal. The purpose was for organisations and administrative personnel to identify and become more aware of the need to adapt to technology changes that will improve and support organisational efficiencies and productivity. The awareness was also be highlighted in the challenges presented when there was failure to recognise the need for change.

3.3 RESEARCH PARADIGM

A research paradigm can be described as a pattern or a worldview (Kivunja and Kuyini, 2017). It is the worldview that determines the perspective and shared beliefs of the researcher and

allows the researcher to provide a meaning, interpretation and understanding to the topic being researched (Kivunja and Kuyini, 2017). It is the research paradigm that provides the researcher with a view and lens on the research method to be used and how the gathered data would be analysed (Kivunja and Kuyini, 2017). Research paradigms therefore assist in providing the beliefs that influence the researcher's topic, what methodology is to be used to execute the study and how the result of the research is interpreted. It is within this framework that the paradigm of the study is established as it allows the researcher to further understand and investigate the topic for clarity, processes and measures (Kamal, 2019).

The study was conducted at a point in time, with the gathering of data for the building of constructive experiences, knowledge and activity of the participants, the study was therefore described as empirical (Kivunja and Kuyini, 2017). The study was subjective and can therefore be described as interpretive as there was an engagement and gathering of information from the participants that are active in the environment being researched (Rashid, Rashid, Warraich, Sabir, Waseem, 2019). The research method for interpretivism is qualitative as it associates with credibility, transferability and dependability (Rashid, *et al.*, 2019). The researcher ensured that the topic and research process was facilitated ethically where there was clear understanding of right and wrong behaviour, there is transparency to participants and there was consideration of assurance of a value system of integrity (Kivunja and Kuyini, 2017).

The interpretative paradigm allows for the social construction where the researcher is involved and has a keen interest and understanding of the situation, position and patterns experienced by the participants (Merriam, 2002). The gathering of data from participants is done by means of interviews, focus groups or naturalistic observations (Tuli, 2010).

Interviews are facilitated with a discussion between researcher and participant where open-ended questions are asked based on the experiences of the participants in the specific environment. The interviews allow for an honest and credible rapport between the researcher and the participant (King, Horrocks and Brooks, 2018). Interviews are structured, semi-structured and unstructured.

Focus Groups involve the discussion of the participants in group where a collective conversation is held about the research topic (Kamberelis and Dimitriadis, 2013). Focus groups

allows for the researcher to gather an informed and collective understanding from the participants who have direct experiences in the environment being researched (Gill, Stewart, Treasure and Chadwick, 2008).

Naturalistic Observation is when the researcher observes the functioning and mechanics of the environment being researched, instead of personal discussions and accounts of information required (Ryan, 2019). The observations are held in the natural settings of the participants (Ryan, 2019). Naturalistic observation is best suited in an environment where the researcher will be observing behaviours and interaction (Angrosino, 2016).

Based on these explanations the gathering of data for this study was facilitated by interviews and direct engagement with the participants. There was an inductive strategy used to establish a clear description and interpretation of the view and perspective of the interviewees (Merriam, 2002). It was understood that the preferred paradigm for this study was interpretivism as it allows for social engagement for the gathering of in-depth knowledge and experiences of the participants. This strategy and paradigm allowed the researcher to extract and formulate themes and patterns for the study (Merriam, 2002). The information gathered is transferable, credible, dependable and can be confirmed (Taylor and Medina, 2011).

The study was conducted at Corobrik Kwazulu-Natal (KZN) to understand and gather information on the experiences of the administrative personnel for the utilisation and knowledge of software applications that limit the enabling of productivity. The interpretive paradigm supports the study at Corobrik KZN with the gathering and reporting of rich and detailed data based on the social engagement, which assists in understanding the experiences and perspectives directly from the administrative personnel.

3.4 RESAERCH DESIGN

The research design is the process of inquiry that provides specific direction for the procedures of the research study (Creswell and Creswell 2017). Research design guides the researcher for the data collection process and techniques to be used with the assistance in type of data to collect and a process on how the data will be analysed (Kalu & Bwalya, 2017). The study being

conducted was a qualitative method as the research requires the systematic gathering of information to better understand human experiences and behaviours by probing into cultures, beliefs and values (Kalu & Bwalya, 2017).

Qualitative research is best used to facilitate the exploring of complex situations that cannot be measured by quantitative means (Kalu & Bwalya, 2017). The research designs identified in qualitative research vary in accordance with the purpose of the study and how data is gathered and analysed.

The research designs are as follows: phenomenological, ethnography, historical, action, case study, grounded, exploratory, descriptive, explanatory and experimental (Kalu & Bwalya, 2017; Akhtar 2016)

- Phenomenological – the research of living experiences of individuals regarding a particular situation. The researcher gathers the data which provides awareness and understanding to the meaning of the experiences that attribute to the individuals.
- Ethnography – to understand and gather data and knowledge of individuals' cultures, beliefs, and value systems as they are observed in their natural environment.
- Historical – the historical data is analysed, collected, evaluated and synthesised in a systematic order for the understanding of events that have happened in the past and how they relate to the current events and what could happen in the future.
- Action – research is conducted to improve and enhance practices while monitoring and recording the impact of the improved practice.
- Case Study – an enquiry in particular field, where there is an evaluation of in-depth knowledge of programs and events of people. This research is conducted over a period of time for the purpose of understanding and knowledge.
- Grounded - is inductive and the process requires the data to be collected and analysed by interviewing and probing the participants, which will assist in establishing the outcome theories and themes of the research study.
- Exploratory – This research design is when a problem has been identified and the researcher investigates for an accurate understanding and thereby developing a hypothesis. Th research will be conducted at a study site or target population where there has been no or little investigation conducted thereby providing more knowledge

available on the problem. The researcher will review what has happened, who is responsible and what have emerged.

- Descriptive – The descriptive research design is based on statistical research, which will be based on quantitative research. Descriptive research design can be used for studies in social, physical and social science.
- Explanatory – Explanatory research design will facilitate research studies that have not been explored and conducted. It cannot be used for comparison or factors of change.
- Experimental – This is a research design that is conducted in a controlled environment and requires an observation of the problem that is being studied. The environment cannot be altered to change.

In relation to the study at Corobrik KZN, the data and knowledge gathered was empirical and participatory therefore the research design that best describes the method is exploratory as there is an inductive process for the participation of selected individuals. (Creswell and Creswell 2017).

3.5 RESEARCH APPROACH

The methodological approach in research is the technique that assists in analysing and evaluating the information on the topic of the study (University of Witwatersrand, 2020). These methods can be a qualitative, quantitative, or mixed-method approach (Creswell and Creswell 2017). The qualitative research method is employed for this study.

The qualitative approach is one of narration and participation. Qualitative research methodology is an inductive approach which undertakes to explore and understand the experience of participants by means of interviews, documenting, analysing and interpreting their behaviours and attitudes (MacDonald, 2012; Toews, Glendon, Lewin, Berg, Noyes, Booth, Marusic, Malicki, Munthe-Kaas and Meerpohl, 2016). It can also be described as interpretivism or positivism (Hovorka and Lee, 2010).

Quantitative research methodology is a deductive approach that facilitates the recording and verifying of numbers which is transferred into a computer-readable format for the establishing of correlations from the research data and the outcomes. The important aspect of quantitative research methodology is that it can be replicated by another and receive the same result. This method can also be described as a probability method (Stage, 2007).

Mixed-Method Research methodology is a combination of both qualitative and quantitative methods. It is the method that allows the researcher to understand statistical quality control method and ethnographic methods (Terrell, 2012).

The research approach for this study was qualitative which means there was the probing and exploring for the interpretation of the information gathered from the participants of the study problem (Kamal, 2019). The qualitative approach was one of narration, participation and was inductive.

The reason for qualitative research being used was because it assists in understanding the situations, experiences and behaviours of the individuals who will be participating in the researched environment (Kalu and Bwalya, 2017). There was an opportunity to gain insight on the decisions and processes within the environment which can lead to getting to know the cultures, beliefs, and values which shape and steer the environment and support the outcomes of the study (Kalu and Bwalya, 2017). It was the understanding of the researcher that qualitative research is subjective as it adapts to the environment in which the study was being conducted and the researcher becomes part of the study as he or she also becomes absorbed in the environment in which the study is being conducted (Dodgson, 2017).

Qualitative research methodology adopts an inductive approach which undertakes to explore and understand the experience of participants by means of interviews, observation, documenting, analysing and interpreting their behaviours and attitudes (MacDonald, 2012; Toews, Glenton, Lewin, Berg, Noyes, Booth, Marusic, Malicki, Munthe-Kaas and Meerpohl, 2016). Qualitative Research is a method that requires an inductive and explorative approach where through being systematic and analytical the researcher establishes a credible interpretation of the raw data gathered, which will convince other researchers that the study is plausible (Gioia, Corley and Hamilton, 2012). As qualitative research is explorative, the questions asked is central to the “What” and the “How” of the topic (Creswell and Creswell, 2017). The questions are semi-structured as to gain the experiences and insights of the participants both present and past (Gioia *et al.* 2012). It is for this explanation that a qualitative approach is best suited for my study.

The study being conducted was facilitated by the qualitative method, it was therefore required that a sample study be included to support the content. This was done with the personnel at Corobrik KZN.

3.6 STUDY SITE

The study site is described as the place where the researcher engages with the participants that are available and are impacted by the situation of the study (Creswell and Creswell, 2017). It is at this place that the researcher gathers and collects data (Creswell and Creswell, 2017). For this study, the study site was conducted at Corobrik KZN. Corobrik is a national brick manufacturing company with branches in Johannesburg, Cape Town and Durban. Corobrik is the leading brick manufacturer in South Africa. The sector that Corobrik falls within, is the building and manufacturing industry. The national staff complement at Corobrik is 1500, including administrative and factory staff. The staff complement at Corobrik KZN is seventy-five, of which the administrative personnel is fifty. There are four directors and ten senior managers that are positioned at the KZN, Avoca office. The BEE level for Corobrik is five. The Corobrik Durban office is in Avoca, Durban North with distribution sales centres in Avoca, Mobeni, Pinetown, Pietermaritzburg and Glencoe (Corobrik Heritage, 2015). The staff member at Corobrik have been granted a twenty-six-percentage share in the company (Corobrik, 2022). It was from this study site that the researcher has been able identify the target population for sampling for the gathering of data.

3.7 TARGET POPULATION AND SAMPLING

The discussion of the target population and sampling has explained and supported the context of the outcome of the study described by the researcher. The reason for researcher identifying a sampling method was because it provided the basis for selecting a target population. The target population was a selected subset from the larger population that has been identified to support the study (Acharya, Prakash, Saxena and Nigam, 2013).

3.7.1 Target Population

A researcher will always need to gather data and information in order to provide knowledge and support to the study being researched (Asiamah, Mensah, and Oteng-Abayie, 2017). The data is gathered from participants who are identified as the research population (Asiamah, *et al.*, 2017). The population identified for the research will have attributes that provide an interest and support to the sourced evidence of the study (Asiamah, *et al.*, 2017).

The research was conducted at Corobrik KZN where there is a staff complement of seventy-five members including senior management and directors. It was this staff complement that was identified as the population for the study. Approximately fifty staff members perform administrative functions with the use of software applications to support their productivity. The upload, support and training of software applications is the responsibility of the information technology department (IT). The motivation and recommendation for the upgrading, improving and changes of software application is done by IT with the decision making and approval by the directors. It was from this target population that the sample for the study was identified.

The participants were selected from the different departments at Corobrik as this provided a wide spectrum of input to the data that supported the study. The experiences and working processes of the participants are from different working levels of the organisation. The researcher's observation was that this cohort assisted in providing input to the study for coherence towards the research results (Koerber and McMichael, 2008).

The participants were also selected based on their tenure at Corobrik and age categories as this will provide support to the discussion on the enabling, training, change, attitudes and growth towards software application. The discussion of Koerber and McMichael, (2008) is that the researcher will consider a population that will provide the relevance to the study and it from this population that a sample is identified.

The age of the participants varies from 30 years old to 65 years old. The historical working culture at Corobrik is one of a long-term uninterrupted tenure where some staff members have been promoted from within and have worked for one organisation only. The tenure was from as small as one year to 45 years of working service. In the recent years there has been the

introduction of employment from the outside therefore staff members with short working service are already older and have experience from other external organisations.

Table 3. 1: Population Age and Tenure Range

Job Category	Age range in years: From - To	Tenure in Years: From - To
Directors	35 to 60	5 to 10
Senior Managers	50 to 65	10 to 40
Supervisors	40 to 60	1 to 20
Administrative Personnel	35 to 60	4 to 20

Source : Author's Contribution

3.7.2 Sampling

The sample for the study can be described as those individuals that have the attributes to provide evidence for the study and participate within the researched environment. The sample selected for the study must represent the target population that has been identified for the study Acharya, *et al.*, 2013).

The predetermined sample size includes 15 staff members of which four are top management, three are senior management and eight are administrative personnel. The researcher's preference was to select participants that have the required experiences to address the research questions. The researcher was directly associated with company being studied therefore it was convenient to make a decisive selection for the sample required for the study (Acharya, *et al.*, 2013).

The reason for the selection from top management was because the study was aimed at identifying and bringing awareness of the impact that the lack of up-to-date software applications skills and knowledge has on efficiencies and productivity. Therefore, the participants were selected using a nonprobability sampling technique, purposive sampling which is described below (Marshall, Cardon, Poddar and Fontenot, 2013).

Based on the analysis of Marshall, *et. al.*, (2013) a single qualitative study sample size of between 10 to 30 participants is the point at which saturation achieved i.e., achieving comprehensive knowledge of the sample (Palinkas, Horwitz, Green, Wisdom, Duan and Hoagwood, 2013). The importance of a study reaching saturation is because it is at this point that the quality of the study is at its highest point (Marshall *et al.*, 2013). The selection of 15 participants was the guided recommendation interview sample size Marshall *et al.* (2013). It was estimated that the point of saturation for this study will be 15 participants. The study was conducted in 2022.

Suri (2011) discusses that all research studies require a sample method to establish and provide a quality composite and outcome to the study. The study being conducted was qualitative research with an intentional selection from the Corobrik personnel for the sampling. The sampling was therefore purposive. Purposive sampling was a technique where the researcher deliberately selects specific participants to contribute to the study as they provide information that was relevant and supports the study (Etikan, Musa and Alkasim, 2016).

3.8 DATA COLLECTION METHODS

The study was qualitative method which was conducted by interviews as it was a method of exploring and understanding the role that computer software applications have in enabling administrative personnel and productivity (Palinkas *et al.*, 2013).

The purpose of data collection was to provide information and evidence that will support the experience, situation and circumstance of the study being explored (Polkinghorne, 2005). The exploring, data collection and interview process was conducted with participants that are directly impacted by the experience, situation and circumstance (Polkinghorne, 2005). The interviews and collection of data spans across all levels of the organisation to assist with the transfer of knowledge, awareness and enabling of all employees within the organisation (Polkinghorne, 2005).

The interviews were semi-structured to direct the probing of answers while achieving a clear understanding of the theme. The review of Qu and Dumay (2011) is that when interviews are conducted by means of prepared semi-structured questions, they should be open ended to allow

for the probing and exploration of the topic and theme. The question must be consistent, systematic and explicit for the opportunity of informative responses. The interview method should have an ease of conversation as the participant should be comfortable within the environment and the researcher could gain the assurance of gathering the data which could achieve the results required for the study (Qu and Dumay, 2011). The interviews need to be facilitated within time frames that do not impact on the productivity of the staff members (Qu and Dumay, 2011).

The reason and benefits for selecting semi-structured interviews was because they allowed for flexibility and freedom while having controls in place such as pre-set questions, ethical guidelines, effective and efficient interview protocols and ensuring findings are reported (Rabionet, 2011). As the questions were open-ended there was an opportunity to identify new experiences and situations while probing further to ensure that the study outcomes was reliable to support improvements and effectiveness in the organisation (Cohen and Crabtree, 2006).

Structured interviews require a standardized format where questions are pre-determined and rigid as there is little opportunity to deviate from the pre-set script of questions (Qu and Dumay, 2011). Questions that are not open-ended are required to be asked in the same order and the answers are brief and non-explorative (Qu and Dumay, 2011). The research is biased, and the findings will more than likely to be generalised (Qu and Dumay, 2011). Structured interviews will not support this study as there needs to be opportunity to probe and gather detailed and explicit experiences from the participants.

The interviews for the study were conducted at the convenience of the participants as the guideline of the study was not to impact daily work functions of the participants. The interviews were facilitated by means of face-to-face discussions, in English and with all necessary safety precautions in place. When the meeting was facilitated by means of ZOOM or TEAMS the invite time was scheduled at the convenience and preferred venue of the participant (Sokhulu, 2021). Due to COVID-19 there was also the option to conduct interviews online by means of virtual meetings facilitated by software meeting tools such as TEAMS, ZOOM or WATSAPP. These meeting options was at the preference and consent of the participant (Greeff, 2020).

Face to Face interviews required COVID-19 safety regulations by both the interviewer and the participant, ensuring that face masks and shields are worn. The method needed to be by the

consent and approval of the participant (Abboah-Offei, Salifu, Adewale, Bayuo, Ofosu-Poku, and Opare-Lokko, 2021). These interviews were recorded and to facilitate the recording of the interviews, participants will sign a consent form approving this mode of data collection.

In the interest of the safety of the participant due to COVID-19, another option of conducting the interview was by means of email which can facilitate semi-structured interviews and will also be at the consent of the participant (Hawkins, 2018). The consent form will also include a clause for confidentiality which offers assurance and comfort to the participants (Wiles, Crow, Heath and Charles, 2008).

The interviews were conducted at the Corobrik KZN offices for ease of accessibility and assurance of the participants. The interviews that were facilitated online by ZOOM and TEAMS were at the pre-set invited time and were conducted from the study site of the researcher and the selected venue of the participant.

Time was a limitation therefore interviews were planned in advance at the convenience of the participants. The interviews were planned and conducted after working hours, so as not to impact or affect productivity and break time. Where preferred, interviews were held at break time but due to time constraints two or three sessions were held. Due to COVID-19 and the facilitation of on-line virtual interviews, these interviews were held after hours in consideration and convenience of the participant. (Greeff , 2020). Each interview should be not more than 45 minutes. The recorded data collection will be transcribed by means of Otter.ai application.

3.9 DATA ANALYSIS

Qu and Dumay (2011) stipulate that a qualitative method requires the researcher to develop and gather useful and purposeful information on the topic. Furthermore, in order to facilitate interviews effectively the researcher is required to be proficient in writing and listening skills therefore the researcher needs to be focussed and prepared with all necessary tools to achieve the desired outcomes. The researcher is required to have respect for the participants, take a keen interest in what is being discussed and present a structured, organised and comfortable environment while adopting a curious approach in order to achieve saturation point from the responses received (Qu and Dumay, 2011).

To support this study the interviews were conducted by means of voice note recording (Moser and Korstjens, 2018). The recordings will be transcribed by means of an electronic text analysis tool e.g., Otter.ai (Corrente and Bourgeault, 2022).

The choice to using Otter.ai for data analysis was because the user had access, with no cost. The use of Otter.ai was effective in that it gave the closest feedback to the voice recording. As the researcher gathered data for the proposal and received feedback from other academics, Otter.ai was used for translation of voice notes and it presented the closest translation of information gathered. The researcher's previous transcribing experience was with Google Docs and in comparison, Otter.ai was more exact and presented direct translation which made the process effortless. The researcher was able to easily transcribe data into a word document. It was also effective in that there was no limitation to the number of words that could be saved. The saving and storing option is user-friendly and the researcher was assured that the use of the tool was effective and efficient. The study done by Sutherland and Morris (2022) supports the use of Otter.ai as a transcribing tool as it easily accessible, cost effective and user friendly.

A consent form should include the participant's acceptance to being recorded (Bricki and Green, 2007). In order for the researcher to have a complete understanding of the content of the interviews it is important to become immersed in the detail therefore ensuring the themes are eminent (Korstjens and Moser, 2018).

The themes are interpreted by the analysis and summarising of the data collected. The data is processed by identifying similarities within information collected and creating systematic codes for ease of interpreting (Bricki and Green, 2007). Coding is a process of interpreting the meaning from the data and is shown in three different approaches known as assembled, categorised and thematically sorted (Williams and Moser, 2019). Coding assists the researcher in extracting themes which can be categorised and provide meaning and understanding to the data being presented (Williams and Moser, 2019). The coding process provides a solution to analysing the data in a successive manner which presents the purpose of the study (Williams and Moser, 2019). The coding method assists the researcher in processing and understanding the text data, provides guidance of information from similar topics and a process of analysing the content and thereafter interpreting into themes and sub themes (Hsieh and Shannon, 2005). These approaches guide the researcher in adopting an approach for trustworthiness and credibility (Hsieh and Shannon, 2005).

3.10 DATA QUALITY CONTROL

Qualitative research reflects an iterative analysis because by nature of the study method the researcher is required to continuously analyse data while simultaneously making improvements for the study to be considered as trustworthy (Korstjen and, Moser, 2018). Data is considered trustworthy when there is confidence in the data and the methods used to interpret the data ensures quality and reliability to the study outcomes. The trustworthiness of a qualitative study can also be measured against the criteria of credibility, dependability, conformability, transferability and reflexivity (Connelly 2016).

Credibility of the study provides assurance that the findings of the study is truthful and valid (Connelly 2016). The study detail must be transparent and be structured in a manner that is plausible, understandable and coherent to ensure that confidence can be placed in the study outcomes (Kyngäs, Kääriäinen and Elo, 2020).

Dependability of the study refers to the consistency and accuracy of the data (Kyngäs, *et al.*, 2020). This is when there is a review of how the data can be changed and altered over time, based on alterations and decision made when analysing the data. The results should be evaluated by the participants to ensure that the interpretations reflect the data that is collected (Korstjen and, Moser, 2018).

Conformability of the study is an indication that the data collected supports the study being conducted (Kyngäs, *et al.*, 2020). The results of the study should be a clear reflection of the data gathered and analysed (Kyngäs, *et al.*, 2020). The data is reviewed as authentic and relevant to the study being conducted (Kyngäs, *et al.*, 2020). The research study can be confirmed and does have credible data sources (Korstjen and, Moser, 2018).

Transferability of the study determines if the study being conducted can be applied and used in other fields of study in the same or similar context and subject (Kyngäs, *et al.*, 2020). The research to be transparent to ensure that the context of the study can resonate to and with other studies (Korstjen and, Moser, 2018).

Reflexivity of the study is a process of self-reflection which requires the researcher to perform a critical analysis of self, based on his/her interpretation and perceptions of the effect of the

research decisions and the feedback. A research study requires that the researcher is self-aware in relation to prejudices, perceptions and values which affect the decisions throughout the study (Korstjen and Moser, 2018)

3.11 ETHICAL CONSIDERATION

Ethical approval for this research was obtained from the University of KwaZulu-Natal Ethics Committee. The approval was also on the submission of a gate keeper's letter to the Office of the Registrar at the University of KwaZulu-Natal. To ensure that human dignity and the safety of the participants is upheld the researcher sought informed consent from participants by allowing them to make the decision to participate by providing adequate knowledge of the study they was being conducted. Privacy and confidentiality was upheld by reminding participants of their right to keep from the public certain information about themselves and agreement to limit access to private information. Respondents will remain anonymous and no names except pseudonyms will be used in this study.

3.12 DELIMITATIONS OF THE STUDY

Due to the need for engagement with staff members across varied departments, time will be a delimitation as the study cannot impose or impact on their work, productivity and break time.

There will be a delimitation with the impact of COVID-19 where potential participants could decline due the stresses and anxiety of being exposed when doing face to face interviews (Buheji, Jahrami, and Dhahi, 2020). This will relate to participants that do not have access to Wi-Fi and data therefore the virtual option cannot be considered causing a delimitation (Greeff, 2020). Should a participant contract COVID-19 there is potential for delay as consideration need to be given for recovery.

The preparedness of Corobrik and the personnel to be open to change and adaptation to new technology and improved software applications methods will be a delimitation as there could be a preference to remain with the status quo as opposed to understanding the benefits and efficiencies that the updated software applications can render.

3.13 CHAPTER SUMMARY

This chapter presented the research methodology approach that will be conducted for this study. The chapter discussion outlined the aim, paradigm, design and approach of the study which presented the methodology and process that assisted in achieving the outcomes, themes, categories and patterns. It is the gathering and determining of the information exchanged which supported the integrity, trustworthiness and credibility of the study outcomes.

The study site, population and sample size assisted in streamlining and setting the boundaries in which the interview will be conducted. The interviews were semi-structured which allowed for the free exchange and probing of the open-ended questions. The participants were assured of their safety within the regulations of the COVID-19 protocols and procedures to further offer assurance and comfort of the environment in which they participate. The delimitations for the interview were highlighted and assisted in assuring the interviewer of best methods and practices to achieve the objectives and aim of the study.

It is through the interviews and analysis of the information that themes and patterns were established. It is the themes and patterns that gave insight to the use and abilities towards software applications for productivity at Corobrik.

CHAPTER FOUR: RESULTS AND FINDINGS

4.1 INTRODUCTION

The previous chapter provided a detailed description and analysis of research methodology which is used to establish and record the data for the research topic. This chapter determined the outcomes and results from the interviews that were conducted with the staff members at Corobrik KZN.

Sixteen participants across the different levels of employment accepted the invite to be interviewed. It is within the discussion of the sixteen participants that saturation level was reached. The interviews were facilitated with questions that provided results towards gathering information for the aim and objectives of the study. The interviews were facilitated by means of open ended, semi structured questions allowing for probing and an inductive approach for the feedback received from the participants. The discussions provide rich detailed experiences of the staff, on their use of software applications for enabling productivity at Corobrik KZN.

The discussions allowed for the extraction of themes and sub themes which provided the understanding of the analysis of the interviews and the study being conducted. The themes that were established from the study were software application capabilities and knowledge, software application resources, organisational culture and the factors that hinder effective utilising of software applications, and continuous improvements measures in place to ensure administrators are capacitated.

4.2 RESEARCH OBJECTIVES

The main objectives of the study are:

- To explore the capability levels of the administrative personnel at Corobrik in relation to their use of computer software applications.
- To identify the impact of limited resources and to explore how these limited resources and knowledge of computer software applications impacts the growth, development and productivity of administrative personnel at Corobrik.

- To explore the effect that implementation of change of software applications and methods has on the administrative personnel while identifying the strengths, weaknesses, opportunities, and threats to the culture of the organisation.
- To identify the measures that Corobrik have put in place to ensure that the administrative personnel are capacitated with computer software applications.
- To recommend strategy to develop the capabilities of the administrative personnel at Corobrik using computer software applications.

4.3 PARTICIPANT DETAILS

Participants were from the various levels at Corobrik KZN which included Directors, Senior Managers, Supervisors and Administrative Personnel. Table 4.1 will illustrate the participant structure.

Table 4. 1: Participants of the study

Participant	Level	Tenure
MD1	Director	Five Years
MD2	Director	Over Ten Years
MD3	Director	Over Five Years
MSM1	Senior Manager	Over Ten Years
MSM3	Senior Manager	OverTwentyYears
MS1	Supervisor	One Year
MS2	Supervisor	Three Years
MS3	Supervisor	Over Ten Years
AD1	Administrative Personnel	Over Ten Years
AD2	Administrative Personnel	Over Ten Years
AD3	Administrative Personnel	Over Five Years
AD4	Administrative Personnel	Over Ten Years
AD5	Administrative Personnel	Four Years
AD6	Administrative Personnel	Over Ten Years
AD7	Administrative Personnel	Seven Years
AD8	Administrative Personnel	Over Ten Years

Source: Author's Contribution

There are fifty administrative personnel at Corobrik KZN of which sixteen members participated in the study. The participants have worked at Corobrik for a varied number of years but most have worked at Corobrik for over six years. They have not had the opportunity for training and skills development. Some have self-taught and others are willing to go on formal training for opportunities for improved skills and promotion. There is also the process for culture change which will need to be taught and instilled.

Figure 4.1 presents an illustration of the participants that accepted to support the study and the tenure of the staff members at Corobrik KZN.

4.4 STUDY FINDINGS

The data from the interviews performed by means of qualitative data collection and were recorded and transcribed verbatim as per the discussions held. The study detail and results emerged by means of a thematic analysis, which was extracted from the detail of the interviews. Themes and sub themes were established and are illustrated in Table 4.2.

Table 4. 2: Themes and sub-themes

Theme	Sub Theme
Administrators' capabilities on the use of software applications	Software application Knowledge
	Use of Application for enabling productivity
	Knowledge Repositories
Software Application Resources	Updated Systems
	Improved Productivity
Organisational Culture and the factors that hinder the administrators to effectively utilise the software application	Change towards Software Applications and Technology
Continuous Improvement measures in place to ensure that administrators are capacitated on software applications	Training on the System Applications
	Improvements on the Systems Application
	Opportunities for promotion

Source: Author's Contribution

4.4.1 Administrators' Capabilities on the Use of Software Applications

The use of software applications for the enabling of productivity has become the fundamental tool in organisations to ensure effective reporting and work output. The evolution of technology and software applications is a constant and organisations need to be aware and prepared.

The discussion with all sixteen participants indicated that improved software applications are now being made available at Corobrik but historically they were very limiting as there were restrictions to functionality and access. The software applications were outdated however over the last eighteen months there appears to be a move forward towards improved software applications being made available for enabling staff members, to improve knowledge and productivity. There was an indication that cost was also a limiting factor on how improved software applications were made available for knowledge and improvement. While some applications are made available on personal computers and laptops the training, skills and knowledge development remains slow. Training and skills development is facilitated by direct contact with the IT Department on a one-on-one and when required. This method of training is effected by the on-the-job basis rather than with frequent formal training and knowledge centre systems. The discussion of Alipour, Salehi and Shahnava, 2009 is that while on-the-job skill and knowledge acquisition is beneficial it is important to note that progress and improvement of application knowledge can only be acquired by holistic learning, understanding communication of competencies and information. Due to staff tenure and lack of knowledge there is an indication that staff members were viewed as being embarrassed to ask for assistance as the self-perception is that they should know and therefore are fearful to ask.

4.4.1.1 Software Application Knowledge

The identification of the software applications knowledge of the staff members as a sub theme allows for the probing and understanding into how they use and manipulate the applications to perform their job function. The eight administrative personnel that were interviewed acknowledge that software applications have been updated, however the knowledge on the use of the application remains limited, thus the ability to manipulate the applications remain unchanged. The software applications that recently have been made partially available satisfies the job function for enabling productivity. There's been the updates to MS Office 365, this

however, has not allowed for the improvement in the job function, as there has not been proper training and sharing of knowledge. It is rather on an on-the job and need to know basis.

Two of the Administrators stipulated that:

The software applications have improved since 2021. Prior to the update there was a noticeable gap. The updated applications such as Office 365 has been installed however there has been no formal learning or training to support the new application and methods. The assistance from the Information Technology Department (IT) is limited to on-the-job training. There is more knowledge and use of applications such as JD Edwards (JDE) and Groupwise only. JDE being the Enterprise Resource Planning (ERP) application and Groupwise being the old email application. Microsoft Outlook, Excel and Word is new to most and the knowledge to use the application is limited unless a staff member asks IT Department. "Excel, probably in the past year because we used to use something called Lynex, it is not like a proper office Excel." There is no manual made available. The reliance from IT is repetitive as they assist the same staff members with the same query. "It is pointless for the IT guys because it's just repetitive. IT is doing the work for them." (AD4 and AD3)

Another Two Administrators indicated that:

The application does assist and satisfy the job function, but it can be improved. It also depends on how the staff member works and their attention to detail. Some processes are manually generated as JDE does not allow for the automation of certain invoices. (AD5 and AD8)

One of the Senior Managers indicated that:

I think people are definitely fearful to ask. IT assists many staff members during the course of the day. On assistance we have a sense that staff members are not comfortable asking other colleagues. There is 'the sense of fear' of being embarrassed and the perception from the staff members colleagues that they do not meet the requirements of the job function. "You kind of get the idea that they do not want to ask anyone else, and it might, not necessarily be a pure IT query." There is the fear that someone will say "how can you be in the job if you don't know how to do this." (MSM1).

4.4.1.2 Use of Application for Enabling Productivity

The sub theme has been identified as it presents the discussion on the use of the software applications and how it capacitates the administrative personnel for enabling productivity at Corobrik. Some departments do not have many exceptions, whilst others acknowledge that the processes are laborious and limiting causing delays. The discussion with five of the eight administrative personnel, and one of the directors indicates that most job functions require manual processes which presents a challenge to enabling productivity. Once again on-the-job sharing of knowledge and information has been identified and the delays in gathering information and outdated systems do hamper productivity. The need for training has been identified as critical as it has an impact on team members productivity. The more knowledgeable members need to assist others in the department, which causes delays.

One of the Administrators indicated that:

The introduction of a dedicated WhatsApp line as an application tool for communication with the customer and the transporter has allowed for quick turnaround on receiving orders and resolving queries. WhatsApp communication has replaced the long and sometimes unnecessary telephone communication and is more effective. Customer service turnaround is quicker. It allows for automation of documents that need to be uploaded to the ERP system and sent to the customer. Telephone communication is made to customers and project sites that are limited to telephone communication only. (AD1)

Two of the Administrators indicated that:

There is many limitations and challenges experienced from the transport division. It is difficult to track the transporters and the information and documentation that is required to support the transport process. The transport process is manual as there is constant calls to the transporter and the driver to track location. The tracking process is not accurate as the truck status could reflect as left the factory, but the truck has not actually left. Delays are experienced in the turnaround of documentation. There should never be delays in the turnaround of documents as this is the process that supports the efficiencies for deliveries being complete, and sales being effectively closed.

There is currently no electronic method or software application used for the storing and sending of documents viz. proof of deliveries (POD) and waybills. The transport process is controlled on Excel rather than on an effective ERP system. As Excel is the base application used there is more “room for manipulation” and less or no security for the tracking of errors. The backup and support are not effective to ensure information security and retention. The reliance is on the transporter for communication to the drivers, accuracy and safe filing of documents which presents many challenges to the Corobrik staff members. (AD3 and AD7)

Another Administrator stipulated that:

The process for capturing an order is too long. It can be done quicker. The sales centres have a quicker process for the capturing of orders. This is the limitation experienced in the department as different divisions have different methods but using the same software application. There needs to be quicker method identified for the process of capturing orders as some steps can be eliminated without breaching any system and software security. (AD2)

Two Senior Managers identified that:

There are many processes in the job function that is manual and does require a review of an application that can facilitate the enabling and automation in the ERP system. (MS1).

The hardcopies of documents are stored in boxes and requires a manual search when retrieving older documents. Recons are processed and saved on excel as opposed to being applied and stored on a secure software application or ERP system. There are many documents and reconciliations processed on a monthly basis. These manual methods are not effective as it limits the enabling of productivity. (MS1)

One Director identified that

There is reliance on senior management or director to facilitate processes on the system e.g., Password Overrides. There is still the preference to use manual quote books and site inspection books therefore sign offs are still done manually. "It's a manual process. Ultimately it gets captured on the system, but it goes through two or three manual processes to get there. We have training managers we have IT trainers. The systems are there it's just maybe to implement a formal program." (MD3)

4.4.1.3 Knowledge Repositories

The topic of knowledge repositories was presented to eight administrative personnel, none of them are aware of what a knowledge repository is. On explanation they were in favour of knowledge repositories and were positive to the enablement and development it could bring to all levels of staff at Corobrik. All directors and senior managers are aware of knowledge repositories and only two of the three supervisors were knowledgeable. All managers are in favour of knowledge repositories and are in support of the benefit that it will bring to all staff members. There can also be empowerment and improved behaviour of staff members towards the growth and development of software applications and productivity. Wilkesmann and Wilkesmann (2018), discusses knowledge repositories and e-learning platforms which allows for the gathering of knowledge with the ability to share and engage with other colleagues. The empowering and sharing of knowledge breaks down the lack of skills barriers and builds up the enablement for improved productivity and progress.

Three Administrative Personnel Stipulated that:

"Yes, it will be of benefit to a lot of people within the company. I would say yes for me, in my field of sales that is why I came into sales." (AD6)

"Yes, it will be of big benefit because you know at least you can go learn and you know what everybody is else is doing and you have an understanding." (AD1)

"Fourth Industrial Revolution? Yes, is vital. The most important key parts of my job coming second best to customer service. That's without the IT function I won't be able to do anything else." (AD3)

One Supervisor Stipulated that:

“It allows employees to have a better understanding of how the business operates. Not just your own core function. In their own time. At the moment, well for the sales side, we’ve got a training program, you know, Visualize.” (MS3)

Three of the Directors Stipulated that:

“So, the answer is yes, you do need knowledge repositories, and you do need them to be accessible to everybody. You need them to be not archives but rather live things.” (MD1)

Knowledge repositories will allow for improved efficiencies. There is the opportunity to upskill staff member on the use of computers. The staff can have access to applications that will allow them to manage their own human resources information instead of depending on their managers and supervisors. Secured applications can be made available on the staff members cellular phones. The knowledge repositories should have refresher courses and more training and development courses that will ensure improved efficiencies for the staff members in the organisation. “I mean, sometimes we don't all understand some of the features how they can help us to do things simpler, quicker. So, I think refresher courses and training and development is always a must, especially on the IT side, especially when you got new versions of software.” (MD2 and MD3)

4.4.2 Software Application Resources

The discussion with two of the three supervisors and five of the eight administrators highlighted the challenges that the staff members experienced particularly for purpose of customer service when requiring remote access. There is the acknowledgement that while laptops were made available for remote use, the software applications that were made available had limited functional access therefore staff members could not complete tasks. This was identified in the limitation of staff members not having access to and through the Virtual Private Network (VPN) therefore unable to access the ERP.

There has been a notable change with an effort to improve functionality and enablement. Some productivity applications remain manual with very little progress in systems becoming more automated and therefore tasks take longer to complete. The receipt of information is delayed due to manual processes, requests and older long methods that are still in place. There is also the recognition of limited human resources in departments which hinders staff members from attending training sessions. Should staff members attend training their workloads accumulate as their team members assistance is minimal due to being limited to their own job function during the day. While there has been updated software applications available the limited functionality of the applications does not support the team members numbers for efficient and effective productivity. The discussion of Wilkesmann and Wilkesmann (2018) is that with vertical mechanistic structures the staff member fulfils the role of some automated systems. It is the mechanistic structure that limits the staff members interaction with software applications for improved productivity development an enablement.

4.4.2.1 Updated Systems

The use of updated systems in organisations allows for improved up to date and efficient productivity and output. It is important for organisations to be aware and prepared for the change of technology from traditional methods to updated and improved processes and applications (Schwab, 2017). It has been recognised that historically resources at Corobrik were outdated and systems were not aligned and evolving with the technology advancements which is available for productivity enablement. All participants of the study acknowledged that there has been a delay in the roll-out of updated applications and technology at Corobrik. There is an indication of an improvement which is slow but visible. Previously both hardware and software did not meet the efficiency levels required for productivity and this limited the staff being enabled, efficient and effective.

One Administrators and One Supervisor indicated that:

For about 18 months, there's definitely been an improvement. Previously, there was no access to work on your laptop from home. We can now access work from home and from project sites. It has become easier to get complete work requirements and easier for communication. Historically it was a huge gap because we had laptops, but our

access was limited to working in the office only. There is an improvement to the way we operate on our systems. (AD6 and MS3)

Another Administrators indicated that

The installation of Office 365 has presented improved systems and software application functions. The applications are fast and has improved the customer service function to the internal customers in relation to banking and up to date information. (AD7)

Once of the Senior Managers indicated that

The software application skills of team members are not highly rated. There is the view that staff members are improving their use of technology and software applications by their own motivation and understanding. There is the recognition of staff members with long tenure who are limited with their use of software applications. The younger staff members who can do much more than the other team members, and they present a different and improved skill set to the organisation. “I do not rate their skills very highly at all. I mean just to get a report printed or something we have got to ask for help.” (MSM3)

4.4.2.2 Improved Productivity

The implementation of improved technology and software applications by organisations will result in improved productivity and output. When organisations use improved technology to transform the business model there is an opportunity for enabled productivity and competitiveness (Insights, 2018). The recognition by all directors is improved systems and software applications for the Corobrik team needs to be fast tracked to work towards improved standards, output and productivity. The wake of COVID-19 also required that improved technology and methods were introduced, and this fast-tracked the implementation of effective and efficient software application to the organisation for continuous productivity. The process has begun and there is an awareness that due to the historical culture of inertia and remaining with the status, it will take time but the most important recognition is that it has begun and the vision to achieve the goal is progress.

One of the Directors indicated that:

“COVID-19 definitely required Corobrik to fast track if not forced the use to carry out work responsibilities, especially to facilitate working remotely from home. The wider use of notebook and mobile phone devices. More importantly the wider range and more extensive use of communications platforms such as ZOOM and MS TEAMS.” (MD2)

One Supervisor indicated that:

There has been support from IT for the applications and technology requirements in the department. It is the opinion that other departments should be given the opportunity to also have improved software and technology. The awareness that Corobrik is working towards improvements in technology which supports improvement in productivity, e.g., cloud-based software. The benefit is that more automated applications will result in improved levels of output and optimise customer service. “Sales personnel, can have applications on their cell phone and laptops so instead of having to manually email information to them, it can just be a folder that is automatically updated.” (MS2)

Another Director stipulated that:

I think there is three aspects to improved productivity.

- *Employees access to technology has been improved. There has been an upgrade of laptops and the sales team members have mobile applications to ensure productivity continuity. Technology access within their limits of authority has been made available to all staff members at Kwastina which is the new factory at Corobrik in Driefontein.*
- *There is the focus on training and how much training do people need. Training can be facilitated but it does not mean the training will create an awareness of the use of improved technology and software.*
- *There is the focus of culture. It is the culture of the organisation that creates the awareness and reliance on technology and software applications or not. A change which has been facilitated by the Chief Executive Officer and two Regionals Sales Directors has steered the sales team to a higher level of interaction with technology. The drive and awareness is to measure their performance so the team and the business*

can move forward to improved productivity. “The change to Outlook 365 as an example is an improvement to productivity enablement. We would still be fiddling around with outdated software packages that rely on Internet Explorer that is about to become defunct anyway.” When leadership of the organisation is driven to improvements to support productivity it results in the change of the organisational culture toward improved technology. When the leadership does not improve and change the technology culture, technology stays the same and could become defunct. (MD1)

4.4.2.3 Organisational Culture and Factors that Hinder the Administrators to Effectively Utilise the Software Application

The perception from the two of the three directors and one of the Senior Managers is that staff members preferred to maintain the status quo and portrayed the behaviour of inertia as it is easier stay with what you know rather than learn new information. Tenure is a determining factor in this regard as these staff members have worked in the organisation for many years and were happy with the way things are.

One of the three directors and One of two senior managers acknowledged that some older, long service staff members were in fact, always willing to learn and improve, which did give an indication of self-efficacy and growth for the development of self and for the organisation. The view from all the administrative staff, the supervisors, one out of the two senior managers and one of the three directors is that the culture of information remaining tacit is preferred therefore knowledge remains with those who know. This is perceived as specific knowledge remaining and being maintained at various levels only. Information is not easily shared resulting in limited ability for knowledge to be explicit for growth and enablement. This can be described as mechanistic as there is no leeway thus knowledge is determined by the level of a skill and a function (Wilkesmann and Wilkesmann, 2018). Processes are predetermined with little or no room for deviation (Wilkesmann and Wilkesmann, 2018).

One Director Indicated that:

“The biggest destroyer of company culture is personal ego; I cannot argue with that.” The difference with Corobrik is that there are employees that have been with the company for over twenty to forty years and perhaps this is not uncommon. The behavior

and mindset of that staff members is an issue as the system is there to be used whether they make the best of it or not. It must be acknowledged that training can be an issue but change in mindset does also determine one's behavior and attitude towards the use of software applications and technology. "I have been with organization for thirty years I have done it the same way for thirty years don't ask me now to change. They've gone from pen and paper to the 21st century. And as I say, sometimes that's got nothing to do with it with an age factor. Some people are reaching retirement who are very, very good on the system. There are other people in the early forties that are not so good on the system because they choose not to. In the department we have some sales representatives who capture their own orders, other sales representatives who cannot capture their own orders. That's a choice. It's not because they cannot, the systems are available for use, they are just choosing not to use them." (MD3)

Another Director Stipulated that:

"The old culture at Corobrik is that if I have knowledge, I'm the knowledge repository and then I'm safe." That organisational culture is very poor and outdated. "If a knowledge repository is what an individual becomes, rather than the system, and that may mean that the person is untouchable because of the knowledge they hold. Historical or intellectual capital within the business, it can't be right." (MD1)

Two of the Administrators indicated that:

The age of the company's staff age is a limitation. Most of the staff members are not motivated enough! There is the culture of just accepting and remaining within the boundaries of what they currently know. "No one wants to get into that uncomfortable zone of knowing more or trying to know more." There is a culture of being reliant on IT for all applications known and unknown. It the observation in the department that the older staff members repeatedly ask IT for assistance and in most instances the method being shown is repetitive. There is almost an unwillingness to learn as they know IT will perform the task. (AD3 and AD7)

4.4.2.4 Change towards Software Applications and Technology

During the interviews change of behaviour towards software applications and technology was a topic discussed extensively with all the participants. The identification by all the participants is that the Corobrik culture towards software applications needed to change. While change and behaviour towards software applications is in progress it is nowhere close to its desired state. All the administrative personnel identified the need to change and to move towards improved software applications, as they desired to progress in their careers and be promoted. Tenure of staff members was identified as a limiting factor as it delays change to some extent. There is also the identification to improve job functions which will improve productivity and efficiencies.

One of the Directors Indicated that:

During the day the team is inundated with requests from customers for documents such as Invoices and PODs. There is no POD storage system in place so we basically running a manual POD system and that is very inefficient. The transporter is working on installing an electronic POD system, but we are not quite there yet. As an organisation we are making progress, but we still have a long way to go. We will continue to invest in new technologies like a brand-new factory therefore our technological systems need to be upgraded and our staff need to be equipped and ready for the change. "There is no point in having the latest brick manufacturing technology in the world but you still producing a manual POD., as an example our manual quote book." (MD3)

Another Director Indicated that:

There is a six-to-seven-year delay with the IT systems at Corobrik but once we close the gap, we will be closer to the technology of 2022 or 2023. As we improve, we can progress to the next steps of improvement and change. This will take time and it must be acknowledged that the staff members at Corobrik are not ready. I have been with Corobrik for five years now and the IT situation has always been a challenge. The current output of analysis and reporting levels that I have seen does not meet the capacity that the database can and is able to provide. I am aware that software and technology is there but first we have to get everybody to move towards the change. "I

mean in your department for example you have a number of individuals who will never change, will never step up. What are you going to do? They can't change unless you change those individuals.” There will be a roll out for the change and all aspects of the business will be impacted, from staff members to software applications and IT. (MD1)

One of the Administrators indicated that:

The slow organisation change towards improved technology and software applications is perceived as crippling the actual worker who is doing the job. There is an inefficiency and ineffectiveness as one is not provided all the necessary tools and resources to perform the job function. There is the requirement that as workloads increase staff members are expected to know how to perform yet the technology and software do not support the change. Tenure of staff members also delays the change as older colleagues are comfortable with their job function as it is. “No one knows what they're doing because the system is difficult for them. They don't really care about how to navigate a system there is someone who knows and does the task for them so they fine with that.: (AD3)

One of the Supervisors indicated that

The volumes of paperwork that the administrative staff process on a daily basis is very high and we need to change to automated technological systems that support the targeted output. “We need to be more automation because if you continue with the applications and systems that we have the voluminous workloads will obviously catch up with us. Outdated systems will not support output requirements for the customer and the supplier.” (MS2)

4.4.3 Continuous Improvement and Measures in Place to Ensure that Administrators are Capacitated on Software Applications

Continuous improvement in an organisation presents an opportunity for the knowledge and understanding of new and improved methods and processes. The organisation and the staff members can be kept abreast with the changes from the external environment which will support improved enabled productivity. The indication from all the interview participants is that the culture at Corobrik needed to change in order to advance the behaviour and

performance of administrators towards software applications. The change will support the shift towards improving and enabling productivity. The installing of improved technology, hardware and software applications over the past eighteen months is the beginning of the shift towards improved methods and application. The interview discussions with all the directors heeded that the acceptance of change by administrators towards improved enablement of software applications is a long way off. The directors are aware that there needs to be a change in the behaviour and attitude towards software applications and what they can provide for improving productivity enablement. The shift requires swift movement and change, as maintaining old methods does not allow for the acceptance and adaption to the new functionalities.

In all the interviews conducted with the participants it was noted that the need for training is important and necessary. It was apparent from the interviews that there is a need to be provided with training, the ability to use improved software applications and technology and effective transfer of information for productivity enablement. Training will provide the acquiring of job knowledge, exchange of information between staff members, interdepartmental integration for knowledge sharing and improved understanding of the organisation. The sharing of knowledge can move from mechanistic to organisational allowing openness to change and continuous improvement.

One of the Directors Stipulated that:

The past eighteen months has seen a change in technology and software applications at Corobrik. There has been a change of leadership and with the change there has been a remarkable about turn towards improved technology. The change and update in technology is delayed by seven to eight years and the gap has been recognised by the user access and ability. It is sad to see that while we are living and exposed to an era of constant technological, computerised and digital change, Corobrik has not closed the gap. Improved technology and software applications demands ongoing continuous improvements. It was stated by the director that "if an organisation does not continuously improve, you end up with a hole and you can't fill that hole, but you have to do is reboot and restart which is why we brought in Outlook 365." The improved technology and software applications provides protection, security of the Corobrik computer systems. There is work in progress for the change and improvements in software applications and support to the current ERP system which will bring about

fundamental shifts. It must be noted that the change and shift of the technological culture at Corobrik is very important to support and drive the change towards the use of improved technology and software applications. (MD1)

Another Director Indicated that:

There is a notable change in the software applications and technology that is currently available. The technological updates have allowed for the compatibility for use of documents, download and upload interfaces. This is apparent in the support of the ERP system which is JDE, to most of the modules for all departments in the organisation. There needs to be an improvement in the Customer Relationship Module (CRM). The CRM is one area of technology that needs great improvement as this module supports all stakeholders in the organisation. The output from the CRM provides the opportunity to improve areas of concern in the organisation and will continuous improvement. (MD2)

4.4.3.1 Training of Employees on System Applications

Training of employees on technology and software applications, is important to the organisation as it provides empowerment, growth and development. The results from the interviews with all the participants, noted that training is important and necessary at Corobrik. Training will allow for individual knowledge and improvements on job functionality while also understanding the requirements from other departments or internal customers. This will allow for the overall understanding of one's job function and enabling of productivity.

One of the Senior Managers Indicated that:

Training is an area in the organisation that money is not spent on. Training is necessary as it allows for the upskilling of the employees. The training given will provide knowledge to employees on how to use different applications, what the applications can do to make one's job easier. The training can be continual in short bursts e.g., how to use Excel. "We found people who type in numbers on Excel and then calculate it on a calculator and then type in the answer again into Excel, instead of just using the sum function of Excel. Training will just improve efficiencies and streamline processes."

The training is not necessarily for key job functions only, it can also be for systems training which provides improved knowledge on system applications. (MSM1)

Another Senior Managers Indicated that:

Training is necessary. The training requirements will differ for each department and depending on system application abilities some employees will need more, and different training compared to others. There needs to be an awareness of what training is required, perhaps setting up a system where each employee can bring an awareness to their line-managers of what training is required. There also needs to be better communication so that each employee can request for need more training in a specific field. Employees also need to be made aware where they need a little bit more training and giving them that opportunity. (MSM2)

One of the Directors stipulated that:

There has been very little training provided to the staff members over the years and perhaps it is understandable particularly after the emergence and outbreak of COVID-19 over the past two years. Corobrik does has training managers in the IT department to provide necessary training be it on-the-job training or departmental group training. "I personally have never attended a course with other departments. So, I think talk shop is necessary." Cross departmental training is also important and there is sharing of knowledge and an understanding of requirements from other departments. (MD3)

Two Administrators indicated that:

Formal training has not been provided. Knowledge and training of the job is provided by the person that you replace, should that person still be available to assist. Training is only provided when a staff member starts in a position or when a staff member is promoted. There is no formal training thereafter. The requirement to ask is the responsibility of the employee. There is more reliance on IT for on-the-job training. (AD4 and AD1)

Two Other Administrators indicated that:

There has been the implementation of new software applications, new hardware has been issued which include laptops and personal computers and all staff members have been issued with a new telephone. The telephones were installed however there was no formal training on how to use the phone. The training was on-the-job, by request to the IT department or when a team member learnt something they showed other team members. There is limited knowledge on functions such as call forwarding, use of the telephone search directory or setting up of voice mail. (AD6 and AD7)

One of Senior Managers indicated that:

Due to staff tenure and age knowledge on software applications is limited as this was not taught at school. Knowledge was gained as one progressed and applied an interest to the skills on a computer. Formal training has not been provided so there is on-the-job training and an individual interest in technology and the use of software applications. IT training should be on-going and there should be scheduled dates for staff members to be trained. (MSM3)

4.4.3.2 Improvements on the Systems Applications

Improvements on systems applications provides improved and advanced user abilities which will support efficient and effective output for the enabling of productivity. Improved systems result in optimizing customer service which could result in attaining organizational goals. The three directors noted that improvements are ongoing particularly with change to Office 365. This is an indication that Corobrik is moving in the right direction. The installing of new, updated software applications was welcomed by administrative staff however there needs to be training to support the improvements. The senior managers and supervisors supported the need for training on the new applications as it will provide improved knowledge and understanding to all staff members. The improvements will be a process running over a few years, as there are some challenges, but with the vision and improved robustness it will be achieved in the future.

One of the Directors stipulated that:

Historically, there has been no improvements on the computer systems. In the past the staff members were not provided with proper access. Over the past eighteen months there has been a shift and staff members have been granted more and improved access. The IT Department has been provided with the means to improve their toolkit. It is important for organisations to prioritise to ensure that improvements are in place to capacitate staff members to perform their job functions. The IT department has been granted the opportunity to continually review systems that will provide improvement and these systems can be tested to establish the support to the organisation. (MD1)

One of the Administrators Stipulated that:

“Our system should be user friendly, most applications run on apps. By integrating our system with android and apple devices, it makes Corobrik more accessible to their clients. We can by advancing portfolios for each client thereby giving the system and the organization a personal touch.” (AD8)

One of the Senior Managers indicated that:

One of the application and technological systems that need to be improved is an efficient storage folder or application for POD's. The process of requesting PODs from the transporter by email or telephone is inefficient and counterproductive.

Some customers have repeat orders in that they order the same product and therefore the price will be the same unless there is a price increase. For these customers which are predominantly distributors, there should be an easier way to place orders. The process for placing these orders should require one or two steps instead of repeating the long process for every order. Perhaps for these repeat customers there should be an online system where they can place their own orders of course with all necessary securities and prices changes as required. The staff members can then focus on those customers that have various orders which require the loner processes method. (MSM3)

One of the Supervisors indicated that:

There is a noticeable improvement in the lines of communication between sales and marketing. The Chief Executive Officer has encouraged and supported the

communication for effective execution of product launches and projects. Social media platforms are used more regularly and the website has been updated. We can now monitor our own 'hits' on information that has been posted and viewed.

Historically, there was a gap particularly with regards to the launching of products. Marketing should have been more involved, but we were not. Communication and information are actioned faster but there is still a lot of information where it is assumed that we should know these things. (MS2)

Another Supervisor indicated that:

There is a delay in the creditors recon process where for each recon we have to input information into an excel template. There has been a discussion for a function in JDE our ERP system, where a staff member can upload a supplier statement and JDE can output a recon. This will be automated and less errors and more efficient. The reporting for cash flow and payments will be accurate and better monitored and managed. (MSM1)

Another Director indicated that:

We have come a long way in our reporting methods. We have the reports that has improved the ability to monitor product categories, budgets and products for marketing. There are reports to measure if we are ahead or behind and also the performance of the distribution centers and sales representatives. The information is not 'live' but there is a way to align backwards. The forecast process is manual and is based on the order book. We can plan in advance for the next six months, but it is not a live system. "So, as I said, from a technological perspective, we've come a long way, but I think we still have a long way to go as we invest in new technologies like a brand-new factory. So, our staff and our systems also need to be upgraded to the times." (MD3)

4.4.3.3 Opportunities for Promotion

In all organisations there should be recognition and opportunity for staff members that have the attributes growth and promotion. Staff members should be afforded the correct tools and

technological resources to support the ability to meet their goals for promotion and progress. There is definitely opportunity for promotion at Corobrik and there is the identification of the staff members who are determined and embrace change and improvements. There is recognition and opportunity for staff members who are willing to learn and advance, have a sense of self efficacy and productivity enablement for their job performance. Staff members are driven by job satisfaction for achieving the goals and vision of Corobrik.

One of the Directors indicated that:

Talent management is very broad and each person has their own talent. Talent and skills of staff members are noticeable when their abilities are measured and challenged. Part of the talent management process is to identify hidden skills, competences and proficiencies. There is also opportunity for the staff member to identify their own hidden skills and talents. When an organisation identifies the skills and talents of staff members, they can place the individuals in positions which will result in maximising productivity. There is also opportunity for promotion and reaching potential high levels. "So, I think it's also identifying here again true competence and skill of an individual. So, they best suited for position." (MD2)

Another Director indicated that:

Talent recognition has got to be continuous. There is recognition of skill and talent then training is provided. There has been opportunity for promotion of staff members who have the potential to apply themselves. Therefore, necessary software applications and resources have been provided to advance their skills and improve the productivity output of the position. To support and empower growth and development necessary training with resources and correct technology will result in organisational goals being attained. (MD1)

One of the Supervisors Recommended that:

For the recognition of skills and growth, perhaps we have something like a learning academy. There is information and lessons where a staff member participates on-line. They can login to any lessons from any department and they will get a result. There is opportunity for the staff member to recognise what their skill is and can motivate for

development and possible promotion. The result is also sent to their respective manager where there is opportunity for recognition of talent and skill. With the support of management, the staff member can be given the tools and technological resources for growth and development. (MS1)

4.5 DISCUSSION AND ANALYSIS OF THE FINDINGS

The discussions and analysis of the findings will elaborate on data gathered from the interviews in relation to the literature and research objectives that have been outlined for the study. The qualitative method was chosen for the study as it best suited the process to gather data from the participants that were selected. The results of the study findings enabled the researcher to facilitate the analysis of data in relation to the attaining the research objectives that were outlined.

4.5.1 Addressing the Research Objectives

The research objectives have been outlined to facilitate and shape the information gathered by the researcher to gain insight to the study problem (Ritchie, 2003). The objectives guide the researcher in experiencing and interpreting the outcomes of the interview discussion of the participants (Nigar, 2020). The discussions are held with a focus on the objectives to provide a guide in attaining the outcomes of study. The participants provided feedback without hesitation as they were assured of the confidentiality of the information shared. The feedback from the sixteen participants was relevant and saturation levels were reached.

4.5.1.1 Capability Levels of Administrative Personnel and Application Knowledge on the Use of Software Applications

The capabilities levels of the administrative personnel at Corobrik are identified by participants interviews in the study finding. The outcomes of thy study identified that some staff members particularly managers do have an increased knowledge for the use of software applications while most administrative personnel have very limited knowledge. Management is aware of the lack of knowledge and the limitation and challenges that the delays that in the use software applications has presented. There is an intentional plan in progress to close the gap. The

discussion identified that while the progress to improve software applications was delayed and slow the administrative personnel are keen to progress and gain competence which will satisfy the basic need to grow within the environment in which they participate (Wu and Du, 2010).

The awareness and understanding of the functionality and abilities of how improved software applications will enable productivity, was clearly articulated by the participants. There is also the need to grow in understanding of the improved software applications for enabling easier methods for productivity and job functionality. Most of the improvement and application knowledge is on-the-job and the staff expressed the need for more formal knowledge and training to acquire holistic skills. The discussion of Lucas *et al.*, (2013) is that it is important for organisations to be aware of the applications being used, the skills of the staff members and the advancements in the external environment. Organisations also need to be aware of training resources which will help with development and enabling personnel. Staff members should have the need to learn, grow and understand more about technology and software applications. This knowledge should be formal and on-the-job to enable staff members to adapt to improved technological abilities (Hirschi, 2017).

While there has been an updated application installed for all staff members it is limited as there has been no change to the understanding of the functions that it can bring about to improve productivity. Most administrative personnel and managers are still performing job functions as they were before. They currently use the ERP system, JDE. There is a limitation to the ERP system that is used, as it has not improved and the long application processes and job functionality still remain as the-way-things-are-done. This identifies the gap in the software applications in comparison to the availability and the use. As discussed by Dery (2020), the gap in the relationship between technology, software applications and users' need to be identified as the lack of software applications skills by the users could have an impact on the organisation.

4.5.1.2 Resources and Knowledge and the Impact of Growth Development and Improved Productivity

The identification of limited resources and knowledge and the impact of growth and development is evident by the knowledge and application understanding of the staff members. There is still reliance on manual processes and methods. The historical knowledge culture at Corobrik is that knowledge and resource is more tacit than explicit as it is maintained at certain levels and job functions, knowledge is more on-the-job and by request and is therefore not shared effectively. There is an awareness that this culture is more tacit and has been a limitation to the growth and development of staff members in relation to technology and software application resources, understanding and upskilling. Management is aware of the limitation that this culture has formed and are in progress of making and encouraging a change. The identification relates to the view of Shankar *et al.*, (2003) where the discussion rather promotes that knowledge should be shared across departments in organisations as it breaks down silos, encourages growth and organisational behaviour. Tacit resource information and knowledge in an organisation is not easily understood, is not transferable which results in poor execution and limits growth, development productivity (Hussain, *et al.*, 2018). Knowledge in an organisation should always be improving as it builds on existing information, applications and systems. Improvements and update in resources and knowledge presents opportunities for information sharing and breaks down the limitation of hindering growth and development (Wang, *et al.*, 2008).

The recent changes and improvements while delayed has presented the identification and acknowledgment for future change and growth. This objective relates to the research study as there is the observation that while Corobrik's development and growth is delayed there is the acknowledgement and understanding by management of the impact that delayed resources and knowledge has had on the staff members and there is the vision to improve and achieve the goal of removing the barrier. It is the discussion of Wang, *et al.*, (2008) that a culture of learning, adapting and willingness to improve will result in organisational effectiveness, enabled productivity and competitive performance.

4.5.1.3 Culture and the Organisational Change for the Implementation of Software Applications

The study findings revealed that there has been a recent change to improve software applications at Corobrik. The change has presented a positive response however the knowledge sharing has been delayed and ineffective as the culture of long-term tenure, status quo, inertia and embarrassed or fearful to enquire has presented a limitation. The method of change facilitated at Corobrik is very swift and immediate, therefore it cannot relate to the studies of historical scholars. There is no exact or relatable theory to which change can be compared as the method that is preferred at Corobrik is to implement and then work through the exceptions, requirements, and on-the job training. The objective relates to the methods and processes used for change and the impact of the culture that determines the change. The identification to Corobrik is that change is delayed and slow and is greatly impacted by the historical culture. The discussion of Hussain, *et al.*, (2018) is that change is necessary in an organisation as it present opportunities for organisational growth, strategy and structure improvements and competitive development. Change can be robust where organisations are striving for excellence as they adapt rapidly to new technology and software applications, or they can be slow where there is preference to remain within the status quo, reactive and unwilling to change and adapt (Hussain, *et al.*, 2018). It is the decision of the organisation to make the preference of change as it will determine the improvements of the organisation and staff members which impacts efficiencies, effectiveness, and productivity (Hussain, *et al.*, 2018). Delays and ineffective facilitation of change could result in organisations stagnating and losing competitive edge (Bloodgood and Salisbury, 2001).

4.5.1.4 Measures in place to ensure that the Administrative Personnel are Capacitated with Computer Software Applications for Continuous Improvement

The identification and tool which measures staff members for being capacitated on software applications can be the by observation and effective participation to training and the execution in work performance thereafter. The outcomes from the study findings are that Corobrik does not have any formal methods of training in place. Training information is done on-the job and as required which can sometimes be repetitive and causes delays. There is also reliance on staff members that know how to perform tasks or to always provide information and characteristic of inertia is the limitation to not wanting to learn. The most widely discussed delay is an effective software application is for the storage and repository for POD's, supplier invoices

and relevant supporting documents. This was addressed with fourteen of the sixteen participants as it impacts being paid by the customer and paying the transport service provider. Many processes still have a manual method which causes many delays in the daily function for most staff members.

Most staff members identified with the need and requirement for training and improved applications. There is limited awareness of knowledge-based platforms viz., knowledge repositories and the value that it will add to their daily function. There was only one staff member who knew that the sales department does have such a platform. On understanding the platform functionality, majority had a positive attitude for using it for growth and development. Knowledge data base systems was identified as a platform for the availability and collation of organisational growth and development technology (Shankar *et al.*, 2003). There is an awareness by management of the value that these platforms could bring but it was also acknowledged that the delays were due to older methods of performing functions and maintaining a status quo which was a limitation. Remaining and maintaining the status quo could result in delayed productivity and untimely failure (Kim and Kankanhalli, 2009). The awareness and recognition of skills and development present an opportunity to organisations, and this is possible when they have platforms for regular review of performance which will allow improvements and growth (Chen *et al.*, 2010). This is supported by Choi *et al.* (2010) as it is discussed that knowledge maps assist organisations in gathering information on staff performance and ‘who knows what’. The identification by Renjen (2019) is that some organisations are still challenged by improved knowledge-based methods being implemented.

The objective supports and relates to the study as the Corobrik staff members have discussed training with great emphasis and interest and the need to improve their job performance. There is the requirement to effect processes with quicker and effective methods for the advantage of increased productivity. The observation is that with effective training there will be sharing of knowledge across the departments at Corobrik and it will empower all staff members to be effective and transition as change is implemented. The discussion of Schwab (2015) is that organisations need to implement practices of training and development to ensure that staff members and the organisation is kept abreast with the changes in both the internal and external environment. This is supported by the discussion of Choi *et al.*, (2010) acknowledging the importance of knowledge repositories and the value that they add to organisations as they

enhance the sharing of information while presenting an opportunity of continuous improvement and productivity. With the implementation of training and development it is important for organisations to have an understanding and a measure as to how the training will improve productivity (Black and Lynch, 2001).

4.6 CHAPTER SUMMARY

This chapter dealt with the results and discussion findings based on the interviews conducted at Corobrik. The outcomes recorded are of the experiences from the participants that accepted to be part of this study at Corobrik. The participants understood the purpose of the study and were honest with their responses. They all utilise the software applications that are made available to them, however there is the identification that historically the applications were limiting and therefore did not enable productivity. There have been improvements but the process to achieve the technological vision will take some time. The interview outcomes allowed for themes to be identified which were clearly articulated and expressed during the analysis process. It is the themes that allowed for assimilation and correlation of the interview discussions and outcomes to the literature and research objectives.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The study explored the role of computer software application in enabling productivity for administrative personnel at Corobrik KwaZulu-Natal where both administrative personnel and management identified the capacity of the software applications available, their efficiency levels and the potential to improve should cultures, attitudes and knowledge information evolve. The challenges were identified and highlighted the gaps that have delayed the improvements in software applications which has limited the enabling of productivity for administrative personnel.

This chapter will present the conclusion of the research and will provide recommendations to Corobrik and other researchers in relation to the content of the study topic. There is a comparison of the study findings to the literature review which enabled the researcher to distinguish the findings to that of other scholars and theories that relate similar studies. As the study was conducted at Corobrik, it will be important for recommendations to be extracted and presented to management, which will position the research results and can support the probing for future research problems. The recommendations will be based on the result and discussion analysis that emerged from the chapter four. There were limitations experienced in the study process and these will be discussed and reviewed.

The study findings were supported by conducting the qualitative research method which used purposive sampling. Sixteen participants were invited and accepted to be interviewed. It is from the interview transcripts that a thematic analysis emerged to underpin the study.

5.2 ADDRESSING THE STUDY FINDINGS AND LITERATURE REVIEW

The literature review presented the detail regarding the importance of software applications and technology in organisations and how the software applications have evolved over the ages to enable productivity and efficiencies for administrative personnel. The review identified the challenges that could be experienced should organisations neglect or delay to improve and

share the knowledge of up to date, effective technology and software applications and the impact thereof. To support the literature review, theoretical frameworks which have been studied and examined by scholars were interpreted to the study. The theories identified were as follows:

- The Three Step Theory of Change Management by Kurt Lewin (1947) elaborated further by Cummings and Worley (2015) as the five-step model for effective change management.
- Knowledge Management Information, Processes and Strategies of Shankar *et al.*, (2003).

5.2.1 Revolution and Evolution of Technology

Revolution and evolution in an organisation are those processes and methods that cause change (Hotamışlı *et al*, 2009). The recent improvement in software applications has been appreciated by some staff members as there is the opportunity to work remotely as opposed to previously being limited to functionality strictly at the office. This has improved and enabled productivity and customer service in some departments. The discussion of Lee *et al.*, (2018) is that evolution of technology in an organisation can be sustaining and there is the purpose of improving innovations and interconnectedness for technological communication. A revolution in technology, can be disruptive as the changes are robust and powerful. It is apparent that Corobrik's technology and software applications are evolving only as it is slow and steady. There needs to be the acknowledgement to improve and develop processes to ensure productivity enablement. Improved applications will allow for easier and fluid methods which the according to literature is an evolution to a more technologically advanced environment. The empirical data reveals that while the progress to improve software applications was delayed the administrative personnel are keen to progress and gain competence. This will satisfy the basic need to survive within the environment in which they participate also known as the deficiency need (d-need) (Wu and Du, 2010). The deficiency need (d-need) is discussed in relation to the behaviour of individuals and how they perform in a specific environment whether it is useful or not useful. The behaviour of the individual is therefore limited to a specific environment (D'Souza and Gurin, 2017). There is also the need to self-actualise and this is evident in the self-efficacy expressed by some of the staff members projecting a positive behaviour and being motivated, determined and empowered as they position themselves for the

ability to be promoted. This is known as the being need (B-Need) which explains the resilience and positive performance of staff members as they participate in the environment (Wu and Du, 2010). The discussion on being need (B-Need) relates to individuals who have a holistic view of their environment and therefore perform accordingly. The individual has an intrinsic nature and therefore does not limit themselves to a specific environment. They are able to perform in any environment and have the ability to self-actualise as they recognise those characteristics that will motivate and present opportunities for growth and development (D'Souza and Gurin, 2017).

There has been a change in leadership, and they have recognised the need for improved software applications and technology being made available for enabling productivity. The vision to progress is to install the updated technology and change the organisational culture to adapt to achieving organisational goals. To achieve the higher levels organisations, need to work through the low levels and it is in having access to improved resources that allows for development and growth to be achieved (Pogan, 2019). It is the requirement of leadership to support the staff members and provide the direction that will channel the change and culture that is required to achieve improvements in productivity enablement (Pogan, 2019).

5.2.2 Culture and Organisational Change

The culture at Corobrik has not changed. It has been recognised that there needs to be a change for technological and software application in the organisation to improve. Organisations need to adopt the culture of change to ensure that there is up to date methods that support the internal and external environment. It is the change towards improving processes and methods that will ensure that staff members remain motivated and work towards the success of the organisation (Hassan *et al.*, 2017). The inability for organisations to change and adapt to the improved technology and software applications will result in increased inefficiencies, limited information dissemination and an inability to change (Jasperson *et al.*, 2005).

Contributing factors which have been identified as the reasons for the limited ability to change and the static culture of status quo are the tenure of most staff members at Corobrik. Most staff members have been in the organisation for long period and therefore limits the ability for growth and development. The reliance of these staff members on the younger staff for

assistance is a limiting factor as it causes delays in productivity and limits the improved growth and vision for the organisation. This has been recognised by management and they are aware that these limiting factors do present a challenge for the technological improvement at Corobrik. Totterdill (2017), notes that with the improvement of technology and software applications there will be a demand for highly skilled personnel and lower skilled personnel will not be in demand.

5.2.3 Continuous Improvement

Training and development were the strongest and most widely discussed topic. All staff at all levels expressed that the lack of training which is limiting to the growth of staff members and results in inefficient and ineffective productivity. Many processes are still manual as staff members lack the knowledge of how to use applications. While there is an acknowledgement of the new software applications being introduced over the last eighteen months, there has been limited training and most information is received on-the job. The discussion of Schwab (2015) is that organisations need to ensure that training and development is viewed as being as important for staff members to perform effectively and efficiently in the rapidly changing technology and software application environment. It is when staff members are enabled that organisational productivity is improved and increased. When training and development is effective in an organisation it presents opportunities for transformation and the ability to maintain and expand competitive advantage (Berisha-Shaqiri, 2015).

There needs to be methods and processes for continuous improvement as staff members feel inundated with their work loads and some methods remain outdated and laborious. There are delays in implementing these new software applications which is increasing inefficiency and ineffectiveness of productivity. The delay to fast-track continuous improvement is also a reason for processes remaining within the boundaries of status quo and staff members having the behaviour of inertia. It is important for organisations to continually improve processes, and this will ensure that methods are up to date and relevant which also encourage staff members to adapt, acquire knowledge which enables growth and improved productivity (Insights, 2018). Adapting to the culture of continuous improvement within the organisation will prevent staff members maintaining the characteristic of preferring the status quo and will also avoid the attitude of inertia (Sylva and Amah, 2016).

The recognition and promotion of staff members in some of the key functional roles has also begun in support of the goals and vision of the organisation. The discussion of Bloodgood and Salisbury (2001) is that when there is the growth in technology organisations needs to understand the change and ensure that the resources are available to achieve the goal. These improvements will involve upskilling and enabling personnel which will contribute to the enabling of productivity in the organisation and being competitive (Bloodgood and Salisbury, 2001).

5.3 DELIMITATIONS OF THE STUDY

This is the first study being conducted at Corobrik on Corobrik, it is for this reason that this study will present information to improve processes, open opportunity for productivity enablement but will highlight research study limitations.

The ability to conduct the study was welcomed by sixteen staff members including management, the limitation experienced was by those who displayed a sense of fear and declined to participate and there were some staff members that needed to be assured of confidential non-disclosure during the discussion. The staff tenure also presented a limitation to participation.

The study was conducted at Corobrik KZN only, the limitation is that staff members from other regions were not interviewed hence they are unaware of the study being conducted and therefore will not have the opportunity to contribute with their experiences and are not aware of what the study will highlight.

The study focuses on the software applications and the ability to enable productivity which was discussed at length in relation to knowledge, culture and change and continuous improvement. The delimitation is that while it has recognised that the process to improve software applications has been delayed, there has been no disclosure or information for the effective strategy and plan to execute the change and thereby support a new culture, knowledge sharing, training and continuous improvement.

Due to some historical restructure, department numbers have been reduced, which led to challenges and delimitation in scheduling interview appointments. Timelines for month end, critical department cut offs and COVID-19 was a challenge. The solution was to meet in the office before the workday began, during lunch breaks which was sometime done in two sessions and some interviews were conducted via TEAMS and ZOOM. The impact of COVID-19 meant that interviews were delayed as they needed to be postponed.

The delimitations will highlight the challenges that need to be overcome at Corobrik and for future research studies.

5.4 RECOMMENDATIONS

The study was limited to Corobrik KZN only.

- The recommendation is to extend the study to the other regions which will allow the researcher to gather a broader input and will be more inclusive for staff member awareness.

Training was a topic discussed by all participants. Most are demotivated as they lack knowledge on technology and software applications. There is a willingness to learn and the need for growth however the limited training resource has not afforded the staff members the opportunity. The methods that are used for training are ineffective and therefore lack the ability to gather skills.

- The recommendation is that training should be more regular and intentional.

The IT Department is very small therefore unable to reach all team members as effectively for the purpose of training. The platforms such as knowledge repositories and learning academies and CRM's will definitely offer the opportunity for the staff members knowledge growth and development.

- The recommendation is that these platforms be introduced and used as they will have a measuring and managing tool kit. The activities and instructiveness by the staff

members will assist leaders to extract protentional opportunity for promotion. There could be support in the process to change the old cultures at Corobrik.

The culture of status quo and inertia was mentioned strongly, and it is definitely a limiting factor to those who know. The limiting factor being that progress in departments are delayed. Productivity is almost ineffective as most methods remain manual and the process for change is slow and delayed. Some departments do have advanced skills and methods, but it is limited to higher levels and those staff members that historically know. The barriers of the culture at Corobrik needs to be broken down.

- The recommendation and as supported by one of the participants, the process will be, “this is the change, this is the vision and this is where we are going. You are either on the bus or not.” The culture change needs to be swift and effective without looking back.

The software application and technology are in the process of improving however it is nowhere close to the external environment in which it participates. Admittedly the applications are outdated and are limited by the historical culture of status quo and inertia. The improvements that have been installed have been well received however there are still many methods and applications that are long and outdated and limits the enabling of productivity.

- The recommendation is that Corobrik listens to the voice of the staff members. It is the intention of this study to highlight the challenges experienced and present recommendations for improvement and faster advancement for achieving organisational goals.

There will be other organisations that have the same challenges experienced at Corobrik and as Cororbrik is proudly South African within the private sector there is the opportunity to conduct the research to the wider South African only organisations.

- The recommendation is to extend the study to other organisations. This will present the opportunity and ability to highlight the software application capabilities of the organisation, how the personnel behave towards improved software applications, the expectations of the personnel and the adaption and change for organisational culture.

5.5 CHAPTER CONCLUSION

The main aim of the study is to determine the role of user knowledge and adaptability of computer software and applications toward enabling productivity of administrative personnel at Corobrik. The data collected identified that the knowledge of the administrative personnel towards software applications was limited but they were open to adaptability and change to enable productivity. Management recognised that the culture of status quo and tenure of the staff members is a limiting factor. There is a vision to overcome the limitation, but it would take time as the culture of change was delayed. The recommendation of the culture of continuous improvement and resource knowledge and development was identified as important, as these factors would present the opportunity for adaption and change at a rapid and effective pace. The theme of continuous improvement and resources could be theoretical frameworks to explore and elaborate further. The opportunity to expand and draw on this research for further studies could explored as the adaptability, capability and knowledge on software applications for enabling administrative personnel is not limited to Cororbik.

“The function of good software is to make the complex appear to be simple!”

Grady Booch

REFERENCES

- Abboah-Offei, M., Salifu, Y., Adewale, B., Bayuo, J., Ofosu-Poku, R. and Opare-Lokko, E.B.A., 2021. A rapid review of the use of face mask in preventing the spread of COVID-19. *International Journal of Nursing Studies Advances*, 3, p.100013.
- Acharya, A.S., Prakash, A., Saxena, P. and Nigam, A., 2013. Sampling: Why and how of it. *Indian Journal of Medical Specialties*, 4(2), pp.330-333.
- Akhtar, D.M.I., 2016. Research Design. *Research Design*. Research in Social Science: Interdisciplinary Perspectives. New Dehli, Papers SSM.Com. pp.1-17
- Akkaya, B., Gunsel, A. and Yikilmaz, I., 2021. Digital Management Towards Society 5.0: A Review of the Framework for Kurt Lewin Theory During COVID-19 Pandemic. *Emerging Challenges, Solutions, and Best Practices for Digital Enterprise Transformation*, pp.120-137.
- Alipour, M., Salehi, M. and Shahnava, A., 2009. A study of on-the-job training effectiveness: Empirical evidence of Iran. *International journal of business and management*, 4(11), pp.63-68.
- Angrosino, M.V., 2016. *Naturalistic observation*. 1st Edition, New York, Routledge.
- Ashman, J. (2013). 'Terminal Emulation: A brand new view?' [online] Available at :<https://blog.microfocus.com/terminalemulationabrandnewview> [Accessed 21 April 2020].
- Asiamah, N., Mensah, H.K. and Oteng-Abayie, E.F., 2017. General, target, and accessible population: Demystifying the concepts for effective sampling. *The Qualitative Report*, 22(6), pp.1607.
- Assink, M., 2006. Inhibitors of disruptive innovation capability: a conceptual model. *European Journal of Innovation Management*, Vol. 9, No. 2, 2006. pp 215-233

Barlow, J.B., Giboney, J.S., Keith, M.J., Wilson, D.D., Schuetzler, R.M., Lowry, P.B., and Vance, A. (2011). 'Overview and Guidance on Agile Development in Large Organizations.' *Communication of the Association for Information Systems*, Vol. 29, Article 2, pp. 25-44.

Barrett, D. and Twycross, A., 2018. Data Collection in Qualitative Research. *Evidence-Based Nursing*, 21(3), pp.63-64.

Bhattacharjee, U. (2020). Modification of Maslow's Hierarchical Needs to Technological Hierarchical Needs: A New Way of Thinking During Pandemic Situation. *Higher education in pandemic era*, p.26.

Berisha-Shaqiri, A. (2015). 'Impact of Information Technology and Internet in Businesses'. *Academic Journal of Business, Administration, Law and Social Sciences*, Vol 1 No1 March 2015, ISSN 2410-3918. pp.73-79

Black, S.E. and Lynch, L.M. (2001). 'How to compete: The Impact of Workplace Practices and Information Technology on Productivity'. *The Review of Economics and Statistics*, 2001 83:3, pp.434-445,

Bricki, N. and Green, J., (2007). A Guide to Using Qualitative Research Methodology. [online] Available at: <https://fieldresearch.msf.org/handle/10144/84230> [Accessed 20 June 2022]

Buheji, M., Jahrami, H. and Dhahi, A., 2020. Minimising Stress Exposure During Pandemics Similar to COVID-19. *International Journal of Psychology and Behavioral Sciences*, 10(1), pp.9-16.

Bloodgood, J. M. and Salisbury, W. D. (2001) 'Understanding the Influence of Organizational Change Strategies on Information Technology and Knowledge Management Strategies'. *Decision Support Systems*, 31(1), pp. 55–69.

Brynjolfsson, E. and McAfee, A. (2014). '*The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*'. 1st Edition, W.W. Norton and Company Inc. (New York).

Chen, Y., Wang, Y., Nevo, S., Benitez-Amado, J., and Kou, G. (2015). 'It Capabilities and Product Innovation Performance: The Roles of Corporate Entrepreneurship and Competitive Intensity'. *Information and Management*, 52(6), pp. 643–657.

Choi, S. Y., Lee, H. and Yoo, Y. (2010). 'The Impact of Information Technology and Transactive Memory Systems on Knowledge Sharing, Application, and Team Performance: A Field Study'. *MIS Quarterly*, 34(4), pp. 855–870.

Cohen, D. and Crabtree, B., 2006. Qualitative Research Guidelines Project. [Online] Available at: <http://www.qualres.org/HomeSemi-3629.html> [26 June 2022]

Coldwell, D.A.L. (2019). 'Negative Influences of the 4th Industrial Revolution on the Workplace: Towards a Theoretical Model of Entropic Citizen Behavior in Toxic Organizations'. *Int. J. Environ. Res. Public Health*, 2019, 16, 2670; pp.1-13

Connelly, Lynne M (2016). "Trustworthiness in Qualitative Research." *Medsurg Nursing* 25, no. 6 (2016): pp.435.

Cope, D.G., 2014. Methods and Meanings: Credibility and Trustworthiness of Qualitative Research. *Number 1/January 2014*, 41(1), pp.89-91.

Corobrik (PTY) LTD (1990), Corobrik IT Procedure, viewed May 2020. [Online] Available at: <http://intranet.corobrik.co.za/Company%20Policies/Forms/AllItems.aspx>

Corobrik (PTY) LTD (2000), Corobrik IT Procedure updated in 2000, viewed May 2020. [Online] Available at: <http://intranet.corobrik.co.za/Company%20Policies/Forms/AllItems.aspx>

Corobrik (PTY) LTD (2014), Corobrik Sales Procedure viewed May 2020. [Online] Available at: <http://intranet.corobrik.co.za/Company%20Policies/Forms/AllItems.aspx>

Corobrik (PTY) LTD (2015), <https://www.corobrik.co.za/heritage>, 1898 to 2015. [Accessed 13 April 2020].

Corobrik (PTY) LTD (2019), <https://www.corobrik.co.za/news/view/Corobrik-celebrates-progress-at-new-R801-million-brick-factory-at-Driefontein/234> [Accessed 13 April 2020].

Corobrik (PTY) LTD (2022), <https://www.corobrik.co.za/our-story>, 1898 to 2022. [Accessed 23 November 2022].

Corrente, M. and Bourgeault, I., (2022). Innovation in Transcribing Data: Meet Otter. ai. *Journal of Teaching and Learning* Volume 16, Number 1, 2022, pp. 1-106_

Creswell, J.W. and Poth, C.N., (2016). *Qualitative Inquiry and Research Design: Choosing among five approaches*. Sage publications.

Creswell, J.W. and Creswell, J.D., 2017. *Research design: Qualitative, quantitative, and Mixed Methods Approaches*. Sage publications.

Cummings, S., Bridgman, T. and Brown, K.G., (2016). Unfreezing Change as Three Steps: Rethinking Kurt Lewin's Legacy for Change Management. *Human relations*, 69(1), pp.33-60.

Cummings, T.G. and Worley, C.G., 2014. *Organization Development and Change*. Cengage Learning.

D'Souza, J. and Gurin, M., 2017. Archetypes Based on Maslow's Need Hierarchy. *Journal of the Indian Academy of Applied Psychology*, 43(2), pp.183-188.

Dery, K. (2020) Interviewed by Sharon Goldman for CMS Wire, Digital Workplace, 11 March 2020. Available at: <https://www.cmswire.com/digital-workplace/kristine-dery-invest-in-employee-digital-skills-to-prepare-for-the-future-of-work/> [Accessed: 18 May 2020].

Dibbari, C.J. and Dangata, J.N. (2018). 'The Impact of Microsoft Word on Office Technology and Managements'. *Knowledge Review*, Volume 37 No 2, 2018, pp 82-86. ISSN 1595-2126.

Dodgson, J.E., 2017. About research: Qualitative Methodologies. *Journal of Human Lactation*, 33(2), pp.355-358.

Duygun, A. and Şen, E., 2020. Evaluation of Consumer Purchasing Behaviors in the COVID-19 Pandemic Period in the Context of Maslow's Hierarchy of Needs. *PazarlamaTeorisi ve Uygulamaları Dergisi*, 6(1), pp.45-68.

Emma, L. (2019). 'Importance of Technology in the Work Place'. Small Business. [Online] Available at: <https://smallbusiness.chron.com/importance-technology-workplace-10607.html> [Accessed 18 April 2020].

Etikan, I., Musa, S.A. and Alkassim, R.S. (2016). 'Comparison of Convenience Sampling and Purposive Sampling'. *American Journal of Theoretical and Applied Statistics*, Vol. 5, No. 1, 2016, pp. 1-4.

Gichoya, D. (2005). 'Factors Affecting the Successful Implementation of ICT Projects in Government', *The Electronic Journal of e-Government*, Volume 3 Issue 4, pp 175-184.

Gill, P., Stewart, K., Treasure, E. and Chadwick, B., 2008. Methods of Data Collection in Qualitative Research: Interviews and Focus Groups. *British dental journal*, 204(6), pp.291-295.

Gioia, D.A., Corley, K.G. and Hamilton, A.L. (2013). 'Seeking Qualitative Rigor in Inductive Research'. Notes on the Gioia methodology. *Organizational research methods*, 16(1), pp.15-31.

Graue, C., 2015. Qualitative Data Analysis. *International Journal of Sales, Retailing & Marketing*, 4(9), pp.5-14.

Greeff, M., 2020. Conducting Qualitative Research During a Period of Lockdown and Social Distancing. *Africa Unit for Transdisciplinary Health Research*, pp.1-7

Guaragni, F., Schmidt, T. and Paetzold, K., 2016. 'Traditional and Agile Product Development in a Hyperconnected World: Turning Weaknesses into Strengths'. *Procedia CIRP*, 52(1), pp.62-67.

Haag, S., 2014. 'Organizational Inertia as Barrier to Firms' IT Adoption – Multidimensional Scale Development and Validation'. In *Twentieth Americas Conference on Information Systems, Savannah, conference paper*. pp.1-11

Hahm S.W. (2018). 'Attitudes and Performance of Workers Preparing for the Fourth Industrial Revolution'. *KSII Transactions on internet and information system*, : TIIS v12 n8 (2018): pp.4038-4056.

Hahm S.W. (2020). 'A Study of the Roles of Leadership Styles and Attitudes with Social Responsibility for the 4th Industrial Revolution'. *KSII Transactions on internet and information system*, VOL.14(2), pp. 789–806.

Hardjo, L. and Suharjito (2013). 'Development of Information Technology Strategic Planning for Manufacturing Industry'. (Case Study: PT MCM), *International Journal of Communication and Technology*, (CommIT) <http://msi.binus.ac.id/commit/> Vol. 7 No. 2 Oktober 2013, pp 49-52

Hassan, N., Channa, N. and Lashari, I.A. (2017). 'Change Management Effective on Employee Satisfaction'. *Journal of Grassroots*, Vol.51, No.1, ISSN: 2521-456x

Hawkins, J.E., 2018. The Practical Utility and Suitability of Email Interviews in Qualitative Research. *The Qualitative Report*, 23(2). pp.493-501

Heidrik & Struggles, (2016). 'Winning with the Purpose in the Fourth Industrial Revolution'. Heidrick and Struggles International, Inc Heidrick. [online], www.heidrick.com. Available at: <https://www.google.com/search> Winning with Purpose in the Fourth Industrial Revolution intensity [Accessed: 06 April 2020].

Hirschi, A. (2017). 'The Fourth Industrial Revolution: Issues and Implications for Career Research and Practice'. *The Career development quarterly*, Volume 66, pp192-204

Hopkins, W.E., Mallette, P. and Hopkins, S.A., (2013). 'Proposed Factors Influencing Strategic Inertia Strategic Renewal in Organizations'. *Academy of Strategic Management Journal*, 12(2), pp.77.

Hotamişli I, M., İbicioğlu, H. and Karayel, M., (2009). Larry Greiner Growth Model in the Organization Life and a Case Study. In *International Symposium on Sustainable Development, June 9-10*. pp.259

Hovorka, D.S. and Lee, A.S. (2010). ' Reframing Interpretivism and Positivism as Understanding and Explanation: Consequences for Information Systems Research'. *Association for Information Systems*, In ICIS, pp. 188

Hsieh, H.F. and Shannon, S.E. (2005). 'Three Approaches to Qualitative Content Analysis. *Qualitative health research*, 15(9), pp.1277-1288.

Hussain, S.T., Lei, S., Akram, T., Haider, M.J., Hussain, S.H. and Ali, M., 2018. Kurt Lewin's change model: A Critical Review of the Role of Leadership and Employee Involvement in Organizational Change. *Journal of Innovation & Knowledge*, 3(3), pp.123-127.

Insights, D., 2018. The Fourth Industrial Revolution is here—are you ready. *Deloitte Development LLC*. [online] Available at:
https://www2.deloitte.com/content/dam/Deloitte/tr/Documents/manufacturing/Industry4-0_Are-you-ready_Report.pdf. [Accessed 06 April 2019].

Insights, D., (2019). 'Success Personified in the Fourth Industrial Revolution'. [online], Available at: https://www2.deloitte.com/content/dam/Deloitte/global/Documents/gx-davos-DI_Success-personified-fourth-industrial-revolution.pdf [Accessed 15 April 2019].

Jasperson, 'J. S., Carter, P. E. and Zmud, R. W. (2005). 'A Comprehensive Conceptualization of Post-Adoptive Behaviors Associated with Information Technology Enabled Work Systems'. *MIS Quarterly*, 29(3), pp. 525–557.

JDE (2014). JDEdwards. Introduction to OneWorld, pp3-37.

Available at: https://docs.oracle.com/cd/E17904_01/doc.1111/e17058/intro.htm#XIPJD001
[Accessed 27 April 2020]

Kalu, F.A. and Bwalya, J.C., 2017. What Makes Qualitative Research Good Research? An Exploratory Analysis of Critical Elements. *International Journal of Social Science Research*, 5(2), pp.43-56.

Kamal, S.S.L.B.A., (2019). Research Paradigm and the Philosophical Foundations of a Qualitative Study. *PEOPLE: International Journal of Social Sciences*, 4(3), pp.1386-1394.

Kamberelis, G. and Dimitriadis, G., 2013. *Focus Groups*. London: Routledge.

Kaminski, J. (2011). 'Theory Applied to Informatics – Lewin's Change Theory'. *CJNI: Canadian Journal of Nursing Informatics*, 6 (1), Editorial, pp.1210.

Kaushik, M. and Guleria, N., 2020. The Impact of Pandemic COVID-19 in Workplace. *European Journal of Business and Management*, 12(15), pp.1-10.

Kim, H.W. and Kankanhalli, A., 2009. Investigating User Resistance to Information Systems Implementation: A Status Quo Bias Perspective. *MIS quarterly*, pp.567-582.

King, N., Horrocks, C. and Brooks, J., 2018. *Interviews in Qualitative Research*. 2nd Edition, Sage.

Kiviniemi, A. and Codinhoto, R., 2014. Challenges in the Implementation of BIM for FM—Case Manchester Town Hall Complex. *Computing in Civil and Building Engineering (2014)*. pp1-8

Kivunja, C. and Kuyini, A.B., 2017. Understanding and Applying Research Paradigms in Educational Contexts. *International Journal of higher education*, 6(5), pp.26-41.

Koerber, A. and McMichael, L., 2008. Qualitative Smpling Methods: A Primer for Technical Communicators. *Journal of business and technical communication*, 22(4), pp.454-473.

Korstjens, I., and Moser, A. (2018). ‘Series: Practical Guidance to Qualitative Research. Part 4: Trustworthiness and Publishing’. *European Journal of General Practice*, 24:1, pp.120-124.

Kyngäs, H., Kääriäinen, M. and Elo, S., 2020. The Trustworthiness of Content Analysis. In *The Application of Content Analysis in Nursing Science Research*, pp. 41-48. Springer, Cham.

Lee, M., Yun, J., Pyka, A., Won, D., Kodama, F., Schiuma, G., Park, H., Jeon, J., Park, K., Jung, K., Yan, M., Lee, S., and Zhao, X. (2018). ‘How to Respond to the Fourth Industrial Revolution, or the Second Information Technology Revolution? Dynamic New Combinations between Technology, Market, and Society through Open Innovation’. *J. Open Innov. Technol. Mark. Complex*. 2018, 4(3), pp.21;

LibreOffice, (2020). ‘What is Libre Office?’. [online] Available at <https://www.libreoffice.org/download/download/> [Accessed 22 April 2020].

Lucas, H.C., Agarwal, R., Clemons, E.K., El Sawy O.A., Weber, B. (2013). ‘Impactful Research on Transformational Information Technology: An Opportunity to Inform New Audiences.’ *MIS Quarterly*, 37(2), pp. 371–382.

MacDonald, C., (2012). Understanding Participatory Action Research: A Qualitative Research Methodology Option. *The Canadian Journal of Action Research*, 13(2), pp.34-50.

Marabelli, M., Vaast, E. and Li, J.L., 2021. Preventing the Digital Scars of COVID-19. *European Journal of Information Systems*, 30(2), pp.176-192.

Marshall, B., Cardon, P., Poddar, A. and Fontenot, R. (2013). ‘Does Sample Size Matter in Qualitative Research?: A Review of Qualitative Interviews in IS Research’. *Journal of computer information systems*, 54(1), pp.11-22.

Maslow a. H. (1943). 'A Theory of Human Motivation'. Maslow, A. H. (1943). A theory of Human Motivation. *Psychological Review*, 50(4), pp.370–396.

Mclead S.A. (2007). 'Maslow's Hierarchy of Needs'. *HCC Certificate in Counselling Skills*. Pp1-8.Org. doi: 10.1016. B978-0-88415-752-6.50250-2. [Online] Available at: <https://highgatecounselling.org.uk> [Accessed 22 April 2020]

Merriam, S.B., 2002. Introduction to Qualitative Research. *Qualitative research in practice: Examples for discussion and analysis*, 1(1), pp.1-17.

Moser, A., and Korstjens, I. (2018). 'Practical Guidance to Qualitative Research. Part 3: Sampling, Data Collection and Analysis.' *European Journal of General Practice*, 24:1, pp.9-18,

Miller, M.R., Mizerski, R. and Mizerski, K., (2000), January. Towards the Development and Application of a Skills audit for Marketing and Communications Professionals. In *Towards the Development and Application of a Skills Audit fo Marketing and Communications Professionals*, pp. 832-835. Promaco Conventions Pty. Ltd.

Nawrocki, M. (2012), Corels Reboot of their Fabled Office Write beings a Fresh Look to WordPerfect and Company, Tech Republic. [online] Available at: <https://www.techrepublic.com/blog/windows-and-office/review-the-new-corel-office/> [Accessed 21 April 2020].

Neves, F.T., Rosa, V.N., Correia, A.M.R. and de Castro Neto, M., 2011, 'Knowledge Creation and Sharing in Software Development Teams using Agile Methodologies: Key Insights Affecting their Adoption'. In 6th Iberian Conference on Information Systems and Technologies (CISTI 2011) (pp. 1-6).

Nigar, N., (2020). Hermeneutic Phenomenological Narrative Enquiry: A Qualitative Study Design. *Theory and Practice in Language Studies*, 10(1), pp.10-18.

Nivca, (2016)., 'The Impact of the Fourth Industrial Revolution on Jobs and the Future of the Third Sector', Available at:

<https://www.ft.com/content/dec677c0-b7e6-11e6-ba85-95d1533d9a62>

<https://www.google.com/search?> The impacts of the fourth industrial revolution on jobs and the future of the third sector [Accessed 01April 2019].

Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P.,Duan, N. and Hoagwood, K. (2015) 'Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research'. *Research. Adm Policy Ment Health*, 42(5), pp. 533–544.

Pogan, L., (2019). Changing Work Values in a Liquid World. *Soc. & Soc. Work Rev.*, 3, p.33.

Polites, G.L. and Karahanna, E. (2012). 'Shackled to the Status Quo: The Inhibiting Effects of Incumbent System Habit, Switching Costs and Inertia on New System Acceptance'. *MIS Quarterly*, Vol. 36 No1, pp.21-42

Polkinghorne, D.E., 2005. Language and Meaning: Data Collection in Qualitative Research. *Journal of counseling psychology*, 52(2), p.137.

Qu, S.Q. and Dumay, J. (2011). 'The Qualitative Research Interview'. *Qualitative Research in Accounting & Management*, Vol. 8 No. 3, 2011, pp.238-264

Rabionet, S.E., 2011. How I learned to Design and Conduct Semi-Structured Interviews: An Ongoing and Continuous Journey. *Qualitative Report*, 16(2), pp.563-566.

Rashid, Y., Rashid, A., Warraich, M.A., Sabir, S.S. and Waseem, A., 2019. Case Study Method: A Step-By-Step Guide for Business Researchers. *International journal of qualitative methods*, 18, pp.1-13.

Renjen, P., 2019. How Leaders are Navigating the Fourth Industrial Revolution. *Deloitte Review*, 24(1), pp.39-43.

Ritchie, J., (2003). The Applications of Qualitative. *Qualitative Research Practice: A guide for Social Science Students and Researchers*, 34, p.24.

Robbins, Judge, Odendaal and Roodt (2016), '*Global and southern Perspective Organizational Behavior*'. 3rd Edition, Cape Town (South Africa), Pearson.

Ryan, T.G., 2019. Naturalistic Observation of Engagement and Disengagement within Professional Development in Education. *International Online Journal of Education and Teaching*, 6(1), pp.37-54.

Saghafian, M., Laumann, K. and Skogstad, M.R., 2021. Stagewise Overview of Issues Influencing Organizational Technology Adoption and Use. *Frontiers in psychology*, 12, pp.1-23

Schwab, K. (2015). 'Will the Fourth Industrial Revolution have a human heart?'. World Economic Forum, 27 October, Available at: <https://www.weforum.org/agenda/2015/10/will-the-fourth-industrial-revolution-have-a-human-heart-and-soul>. [Accessed 1 April 2019].

Schwab, K. (2016). '*The Fourth Industrial Revolution*'. New York: Crown Publishing Group,

Schwab, K., 2017. '*The Fourth Industrial Revolution*'. New York: Crown Publishing Group

Shankar, R., Gupta, A. and Narain, R., 2003. Strategic Planning for Knowledge Management Implementation in Engineering Firms. *Work study*, 52(4), pp.190-200.

Sher, P. J. and Lee, V.C. (2004) 'Information Technology As a Facilitator for Enhancing Dynamic Capabilities through Knowledge Management'. 41(8), p. 933.

Soiferman, L.K., (2010). Compare and Contrast Inductive and Deductive Research Approaches. *Online Submission*.

Sokhulu, L.H., 2021. Students' Experiences of Using Digital Technologies to Address their Personal Research Needs During the COVID-19 Lockdown. *African Identities*, 19(4), pp.436-452.

Stage, F.K., 2007. Answering Critical Questions Using Quantitative Data. *New directions for institutional research*, 2007(133), pp.5-16.

Stenmark, D., 2001. 'The Relationship Between Information and Knowledge.' In Proceedings of *IRIS* Vol. 24, pp. 11-14

Suri, H., (2011). 'Purposeful Sampling in Qualitative Research Synthesis'. *Qualitative Research Journal*, 11(2), Vol. 11, No. 2, 2011, pp.63.

Sutherland, K. and Morris, K., (2022). 'Using Multistreaming Social Media Video as a Research Method for Interview Data Collection'. *SAGE Research Methods: Doing Research Online*. Sage Publishing

Sylva, W. and Amah, E., (2016). Managing Change in a Democracy: A Managerial Perspective. *Journal of Administrative Sciences and Policy Studies*, 4(1), pp.37-59.

Taylor, P.C. and Medina, M., (2011). Educational Research Paradigms: From Positivism to Pluralism. *College Research Journal*, 1(1), pp.1-16.

Techopedia, (2019). 'Definition – What does Microsoft Office mean?', [online] Available at <https://www.techopedia.com/definition/20737/microsoft-office> [Accessed 22 April 2020].

Techterms, (2016), 'Client-Server Model', [online]. Available at: https://techterms.com/definition/client-server_model [Accessed 25 May 2020].

Terrell, S.R., 2012. Mixed-Methods Research Methodologies. *Qualitative report*, 17(1), pp.254-280.

Thorne, S., 2000. Data Analysis in Qualitative Research. *Evidence-based nursing*, 3(3), pp.68-70.

Toews, I., Glenton, C., Lewin, S., Berg, R.C., Noyes, J., Booth, A., Marusic, A., Malicki, M., Munthe-Kaas, H.M., and Meerpohl, J.J.(2016). 'Extent, Awareness and Perception of Dissemination Bias in Qualitative Research: An Explorative Survey'. *PLoS One*. 2016;11(8):e0159290. Published 2016 Aug 3. [Online] – Available at: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0159290> [Accessed 04 May 2020]

Totterdill, P., (2015). 'Closing the Gap: The Fifth Element and Workplace Innovation'. *European Journal of Workplace Innovation*, 1(1). Pp 55-74.

Totterdill, P (2017). 'The Corporate Response to the Fourth Industrial Revolution'. *European Journal of Workplace Innovation*, Vol 3, no 2, pp.117-138

Tuli, F., 2010. The Basis of Distinction Between Qualitative and Quantitative Research in Social Science: Reflection on Ontological, Epistemological and Methodological Perspectives. *Ethiopian Journal of Education and Sciences*, 6(1). Pp.97-108

University of Witwatersrand, (2020). 'What is Research Methodology?'. [online] Available at <https://libguides.wits.ac.za/c.php?g=693518&np=4914913> [Accessed 02 May 2020].

Vizi (2020). 'The History of ERP Systems - from the Beginning' [online] Available at: <http://vizi.co.za/articles/2020/01/06/the-history-of-erp-systems-from-the-beginning> [Accessed 13 April 2020].

Wang, C.L., Ahmed, P.K. and Rafiq, M., 2008. Knowledge Management Orientation: Construct Development and Empirical Validation. *European Journal of Information Systems*, 17(3), pp.219-235.

Wiles, R., Crow, G., Heath, S. and Charles, V. (2008). 'The Management of Confidentiality and Anonymity in Social Research'. *International Journal of Social Research Methodology*, 11(5), pp. 417–428.

Wilkesmann, M. and Wilkesmann, U., 2018. Industry 4.0–Organizing Routines or Innovations?. *VINE Journal of Information and Knowledge Management Systems*. pp.238-254

Williams, M. and Moser, T., 2019. The Art of Coding and Thematic Exploration in Qualitative Research. *International Management Review*, 15(1), pp.45-55.

World Health Organization (2020). "WHO Characterizes COVID-19 As a Pande-mic"

[online] Available at:

https://www3.paho.org/hq/index.php?option=com_content&view=article&id=15756:who-characterizes-covid-19-as-a-pandemic&Itemid=1926&lang=en [Accessed 18 August 2021].

Wu, J. and Du, H., 2010. A New Theory of Technology Usage. In *Proceedings> Proceedings of JAIS Theory Development Workshop. Sprouts: Working Papers on Information System. Sprouts: Working Papers on Information Systems*, 10(69), pp.1-32

Xu, M., David, JM, and Kim, SH, (2018). 'The Fourth Industrial Revolution Opportunities and Challenges'. *International Journal of Financial Research*, Vol 9, No. 2, pp.90-95

Young, J., 2012. Social capital and trust for a web environment. *Personal Knowledge Capital*, (Amsterdam: Elsevier), pp.81-90.

APPENDIX A: INTERVIEW SCHEDULE

UNIVERSITY OF KWAZULU-NATAL

GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MCOMM Research Project

Researcher: Christa De Lange (21908415)

Supervisor: Dr Jabulani Nyawo and Dr Pfano Mashau

The role of computer software application in enabling productivity for administrative personnel at Corobrik KwaZulu-Natal

Interview Questions

Administrative Personnel Questionnaire

- With the current software applications that are made available to you, do you feel that they satisfy your job function?
- In your job function, what have you identified the ‘gaps’ in the software applications that have been made available?
- How regularly is IT training made available to the you Is it effective and do you gather additional skills that will add value to your job function?
- Is the communication of IT effective at Corobrik and does it assist in ensuring that your job function is improved?
- The current software applications are they able to support the needs of the customer? What are the aspects of the job function will updated software applications assist in improving customer service and effectiveness?
- What recommendations or suggestions do you have towards computer software applications that will contribute to improve efficiencies and productivity of the administration function?
- What motivates to use and learn more about the functionality of the current software applications that are made available at Corobrik?

- Do you know what knowledge repositories are and if so, how do believe they will benefit you in your job function?
- How would you rate your skills and knowledge of the applications made available to you?

Manager Questionnaire

- As a manager at Corobrik how would you rate your skills and the use the soft applications that are made available to you to perform your job function? Please elaborate
- With your experience and exposure, what will assist in to the process to capacitate employees in technology and knowledge for the skills and development that is required for the organisation productivity?
- As a manager at Corobrik does the lack of computer software application skills of your team cause you to perform some of their functions and therefore impacts your key responsibilities? Why and How?
- When should IT training and development be made available, to what level of employee and who/what will prompt or co-ordinate the training?
- Should knowledge repositories be made available and become a development resource at Corobrik, how will it be implemented and how will it be monitored to evaluate its effectiveness to the staff and to the organisation.
- Software applications are constantly changing and updating to improve customer service support, quality and supplier output. Will the current software applications used by administrative personnel be able to support the performance that is expected to meet the factory output? Why and How?
- What has Corobrik done to ensure that administrative personnel will be able to support this output in relation to computer software functionalities and applications?
- Based on your experience what applications should be made available in order to maximise productivity?
- As a manager at Corobrik how would you rate your skills and the use the soft applications that are made available to you to perform your job function? Please elaborate.

- As a manager how would you rate the skills of your team in maximising the functionality of the current software application resources at Corobrik?
- What software applications and training has Corobrik made available to and do you feel that they give you the complete ability to perform your job function? How will the IT applications support the productivity?

APPENDIX B: COROBRIK PERMISSION GRANT



COROBRIK (PROPRIETARY) LIMITED

REGISTRATION No. 2007/021571/07

49 GERMISTON 1400

DICK KEMP STREET

EDENVALE 1610

REPUBLIC OF SOUTH AFRICA

+27 (0) 11 871-8600

+27 (0) 11 454-6010

info@corobrik.co.za

<http://www.corobrik.co.za>

24 June 2021

Student Name: Christa Myrtle De Lange

Student Number: 219089415

To whom it may concern,

Permission to conduct research at Corobrik

This letter serves to grant Ms Christa Myrtle De Lange (219089415) of the University of KwaZulu-Natal, permission to conduct research for her research topic entitled "The role of computer software application in enabling productivity for administrative personnel at Corobrik KwaZulu-Natal", with the University of KwaZulu-Natal.

Please note that for the purposes of interviewing the employees, you will approach them directly and participation is on a voluntary basis. All COVID-19 protocols will be followed during the interviewing of employees and where possible meetings will be held on a virtual platform.

The study should be conducted within the ambit of good research and ethics as laid down by the University and include confidentiality and anonymity where necessary.

We wish you well in your research endeavour.

Kind regards,



Nick Booth
CEO

DIRECTORS: P.C. du TREVOU (Chairman), N. BOOTH (Chief Executive Officer), D.J. MEYER (Chief Operating Officer),
R.F.R. BAKER, G.R. BURGER, A.W.J. LEITH, L.V. MOKOOTSI, R.R. MATHOBELA, S.N. NEMATSWERANI, M.P. SHANGASE, S.R.-C. SOSIBO, J.P. THESSAL
ALTERNATE: C.D. du TREVOU, O.J. VAN HEERDEN

APPENDIX C: CONSENT FORMS

MCOM Research Project

Researcher: Christa De Lange (21908415)

Supervisor: DR Jabulani Nyawo and DR Pfano Mashau

Research Office:

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

APPLICATION FOR ETHICS APPROVAL

For research with human participants

INFORMED CONSENT DOCUMENT

Date:

Greeting:

My name is Christa De Lange from Graduate School of Business and Leadership (GSB&L) at the University of KwaZulu-Natal. I am registered for Master of Commerce with the GSB&L. My contact details are as follows: Cell Phone No. : 0635011236, Email address : 219089415@stu.ukz.ac.za.

You are being invited to consider participating in a study that involves the research of the role of computer software application in enabling productivity for administrative personnel at Corobrik KwaZulu-Natal. The aim of this research study is to determine the role of user knowledge and adaptability of computer software and applications toward enabling productivity of administrative personnel at Corobrik. The study is expected to enrol fifteen (15) participants - three directors, four senior managers and eight administrative personnel. Data will be collected by using an in-depth face-to-face interviews through Microsoft TEAMS application. Should you be unable to participate in a face-to-face interview, through Microsoft TEAMS, I am willing to conduct the interview via other virtual platforms such as ZOOM which will be at your convenience and available time. The duration of your

participation if you choose to enroll and remain in the study is expected to be approximately +/- one hour. The study is not funded by any organisation, hence, it is conducted for academic purpose only.

There are no risks involved by participating in this study. Also, no potential risk involve that may harm health of the participants. The study may highlight the lack of or little knowledge and skills that Corobrik has afforded the administrative personnel therefore hindering growth within the organization. I hope that the study will create the benefit of improving the use software applications by training, knowledge creation and growth opportunities for the administrative personnel at Corobrik.

This study has been ethically reviewed and approved by the University of KwaZulu-Natal Humanities and Social Sciences Research Ethics Committee (approval number_____).

In the event of any problems or concerns/questions you may contact me or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557 - Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this interview. Note, the assurance of confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

CONSENT

I (Name) have been informed about the study entitled the role of computer software application in enabling productivity for administrative personnel at Corobrik KwaZulu-Natal by Christa De Lange.

I understand the purpose and procedures of the study (add these again if appropriate).

I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher a 0635011236 or 219089415@stu.ukzn.zc.za.

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557 - Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Additional consent, where applicable

I hereby provide consent to:

Audio-record my interview

YES

Signature of Participant

Date

Signature of Witness
(Where applicable)

Date

Signature of Translator
(Where applicable)

Date

APPENDIX D: LANGUAGE AND EDITING PROOF

FQB Academy
the executive zone

FQB ACADEMY

The Executive Zone

21 Santa Fe, Seaward

Ballito, KZN

4301

ndlovuj@fqbholdings.com

20th July 2022

To whom it may concern

EDITING AND TRANSLATION SERVICES

This serves to confirm that the Master's in Commerce Dissertation: *The role of computer software application in enabling productivity for administrative personnel at Corobrik KwaZulu-Natal*, by Christa De Lange (Student number: 219089415) has been submitted to me for copy editing and proof reading.

While I have suggested various changes, I cannot guarantee that these have been implemented nor can I take responsibility for any other subsequent changes or additions that may have been made.

Please let me know should you require any further information.



Yours sincerely,

Dr MJ Ndlovu

C: 082 825 0049 | E: ndlovuj@fqbholdings.com

APPENDIX E: ETHICAL CLEARANCE APPROVAL LETTER



28 January 2022

Christa Myrtle De Lange (219089415)
Grad School Of Bus & Leadership
Westville Campus

Dear CM De Lange,

Protocol reference number: HSSREC/00003508/2021

Project title: The role of computer software application in enabling productivity for administrative personnel at Corobrik KwaZulu-Natal

Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 05 October 2021 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. **PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 28 January 2023.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,



Professor Dipane Hlalele (Chair)

/dd

Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 Email: hssrec@ukzn.ac.za Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

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