READINESS OF THE SOUTH AFRICAN CORPORATE BANK FOR THE FIFTH INDUSTRIAL REVOLUTION

by

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ABSTRACT

The Fourth Industrial Revolution (4IR) is currently upon us, specifically in the South African banking industry. The purpose of this case study is to ascertain the readiness of the South African Corporate Bank (SACB) for the Fifth Industrial Revolution (5IR). This will be done by understanding if the SACB has adapted the principles of the 4IR, which have been mentioned above. This case study also aims to identify the gaps that are currently there in the SACB regarding the Fourth and Fifth Industrial Revolutions.

Due to the data analysis that included both Qualitative and Quantitative Research approach, the study followed a mixed research design, using a case study approach. Ten participants from different occupational levels were interviewed, these participants were employees of the SACB. The outcome of this study will assist in identifying the gaps that are currently present at SACB regarding the usage of the industrial revolution principles. During the literature review it was identified that there are currently gaps in the existing literature that has been performed, there is a shortage of literature regarding the different industrial revolutions and the impact that the revolutions have on the different organizations, specifically in the banking industry. It was also identified that there is a gap in literature regarding the South African Banking industry and the impact that the industrial revolutions have on the South African Banking industry.

The main findings of this study suggest that even though the employees are aware of the 5IR, they do not understand how it will benefit them and the organisation. Another major finding from this study is that the SACB is not fully utilising the principles of the 4IR. Some of the core processes of the SACB are still manual intensive, which means that the organisation is not fully digitised, which can mean that the organisation has not fully embraced or adapted the principles of the 4IR. This is one of the gaps that the study has identified. A recommendation has been made as part of this case study for the management of the SACB to review the organisational strategy, and to incorporate the adaption of the principles of the fourth industrial revolution as part of the organisational goals. The incorporation of the adaption of the fourth industrial revolution principles in the organisation will allow the organisation to incorporate the fourth industrial revolution in the day-to-day operations of the organisation, which will enhance the readiness for the fifth industrial revolution. Finally, the proposed future

area of research is the impact of the non-adaption of the fourth industrial revolution on the banking industry, this can be specified in the South African Banking industry.

Keywords: Fifth Industrial Revolution, Fourth Industrial Revolution, South African Corporate Bank

DECLARATION OF ORIGINAL WORK

I, Nothando Sihawukelwe Rampitsang, declare that this research report is my own unaided work. It is submitted in partial fulfilment of the requirements of the Master of Business Administration degree at Regenesys Business School, Sandton, South Africa. It has not been submitted before for any degree or examination at any other university or educational institution.

NAME

DATE

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Chapter 1: Introduction

1.1 Background of the study

The systems of financial institutions, termed banks which assist customers store and utilising their money, are known as the banking industry ("The Banking Industry: Definition, Trends, and Key Terms", 2021). The banks provide different services, including the opportunity to open accounts, which are utilised for different purposes, and services which include saving or investing funds. The banking industry also impacts the economy because it offers resources for individuals, families, and organisations to use for investments and transactions. This industry organises and distributes loans for applicants that use the funds received from the banks for different purposes, including purchasing property, financing tertiary education, starting businesses, etc. The banking industry was in an unhealthy state in 2008, when there was a global financial crisis. According to Banker's Top 1000 banks Ranking for 2018, it is in a much better position now; this is evident when assessing the fact that there was an increase of total assets to one hundred and twenty-four trillion dollars in 2018 (Meola, 2021).

The banking industry currently has several global trends, including the shift from the manual way of doing things to digitalisation. This is specifically prevalent in mobile and online banking; this brings about convenience and speed for the customers. Clients do not want to walk to a physical bank branch for the purpose of banking transactions. This is prevalent among Generation Z's older members and the Millennials, who dominate the workforce. The transformation to digital platforms is spearheaded by the increased competition that startups introduce and the consolidation of startups and banks.

Another banking trend currently evident is mobile banking, which is a requirement for some of the banking clients; there is an increase in the use of mobile banking. Most mobile banking users have indicated that they would research the bank's mobile banking capabilities before opening an account, and most mobile banking clients would change the bank if the bank offered an unsatisfactory banking experience.

Another trend evident in the banking industry globally is online banking, which is extremely convenient, and one of the two main ways that clients interact with the banks alongside mobile banking, but there are still banking clients who still want physical

branches. Even though banks have an intense belief in digital banking channels and services like mobile banking apps and chat boxes, which bring about a decline in branch visits, some banking clients still prefer to make deposits at the branches. These clients still prefer to withdraw cash at the branch; these are the clients who still prefer face-to-face interactions with the banking staff.

The banking sector also provides investment banking financial services, a type of service which entails a banking employee advising businesses, individuals, or government on the best way the organisation or individual can invest their funds. This financial service has been a human-to-human financial service, a mutually beneficial relationship between the bank and the client. With the increased utilisation of robot advisors, robotic process automation, and artificial intelligence, there is a new way of money management space. Investors can make wiser and more profitable decisions immediately using predictive analytics in conjunction with cost savings. Mergers and Acquisitions (M&A) targets can be identified using artificial intelligence.

The research that will be performed as part of this dissertation will be done on a specific South African Corporate Bank (SACB). The research aims to understand South African Corporate Banks' readiness for the Fifth Industrial Revolution (5IR).

The process of change, which is from an agrarian and handicraft economy to one dominated by industry and machine manufacturing, is known as the industrial revolution (Britannica, T. Editors of Encyclopedia, 2021). When the changes were introduced, new ways of doing things transformed society. The industrial revolution started in the 18th century in Britain, and it spread across the globe. The industrial revolution entails technological, socioeconomic, and cultural features. Firstly, technological features included the use of new materials, mainly the use of iron and steel. Secondly, the utilisation of energy sources, thirdly the invention of new machines, fourthly the factory system; there were also important developments in transportation and communication and an increase in the application of science in the industry. Implementing these changes made it possible to increase the utilisation of natural resources and the mass production of manufactured goods. In conjunction with technological changes, there were also new developments in nonindustrial sectors; these included agricultural improvements, economic changes, political changes, sweeping social changes, and cultural transformations.

The use of steam power and mechanisation in the 18th century introduced the First Industrial Revolution. The use of steam power for industrial purposes was a great breakthrough in increasing human productivity (Industrial Revolution - From Industry 1.0 to Industry 4.0, 2020). Developments like the steamship or the steam-powered locomotive brought about more massive changes due to humans, and products could be moved quicker in a few hours. The second industrial revolution began in the 19th century when electricity and assembly line production was discovered. During this revolution, innovations in steel production were invented, and petroleum and electricity also introduced public automobiles and aircraft. After the second industrial revolution, in the 1970s, in the 20th century, the third industrial revolution started; this was done through partial automation, which used memory-programmable computers and controls. After introducing these technologies, society could automate the entire production process without human intervention.

After the Third Industrial Revolution, the Fourth Industrial Revolution (4IR) was implemented, which is what we are currently in. The Fourth Industrial Revolution is built on the developments of the Third Industrial Revolution. This includes production systems, including computer technology that are expanded by network connection and contain a digital twin on the internet. Several aspects characterise the Fourth Industrial Revolution: digitalisation, Artificial Intelligence, Robotics, the Internet of Things (IoT), Blockchain, and Crypto, to name a few. The next industrial revolution that is going to take place after the 4IR is the Fifth Industrial Revolution (5IR).

The Fifth Industrial Revolution is based on the fourth industrial revolution. According to Forum (2019), the best practices will be bent back towards the service of humanity in the fifth industrial revolution, compared to the 4IR, which focused on dehumanisation, technology, and innovation. In the fifth industrial revolution, there is a clear combination between humans and machines in the workplace. The following are some of the characteristics of the fifth industrial revolution, according to Joseph (2020): there is a network of teams, virtual teams, distributed services, new business models, there are blurred business hours that are due to an expectation of increased access, there is reduced distinction between global and local models, business continuity is re-examined, there is deep multi-level cooperation between machines and people, innovation purpose and inclusivity and women are put at the forefront.

The Fourth Industrial Revolution is impacting the banking sector; previous studies show that this revolution brings opportunities and challenges. The challenges include

increased security risks and cybercrime; the breach of an organisation's information systems can cause reputational damage and financial losses, known as a cyber risk; there are also concerns regarding cybercrime, with the increase of the use of artificial intelligence, robotics, etc. In addition, cyber threats are becoming the norm, and items like ransomware, phishing, and data breaches are becoming more common threats, affecting the banking and finance industry.

Building relationships and trust is the second problem the Fourth Industrial Revolution has posed to the banking industry. With the 4IR, organisations are moving more towards an environment where all aspects of the business are digitalised, and there will be limited human interaction and contact; this means that building trust will be more difficult than before. The last challenge brought about by the fourth industrial revolution to the finance sector is increased competition caused by the fact that there is an acceleration of progress in digital technologies, which has led to increased competition amongst the banks in the finance sector (Greenwood, 2021).

The purpose of this study is to understand the readiness of South African Corporate banks for the fifth industrial revolution. It will investigate the degree that South African corporate bank is using the fourth industrial revolution, which is the foundation of the fifth industrial revolution.

1.2 Research context

The study of the readiness of the South African Corporate Bank is done in South Africa with one of the major corporate banks (SACB). The research being performed is to ascertain how much of the Fourth Industrial Revolution characteristics, which include Artificial Intelligence, Internet of Things, blockchain, genetic engineering, etc., are being utilised by the South African corporate bank, who mainly deal with businesses and corporates that are their main target market. This study is significant as it will indicate how ready corporate banks are for the Fifth Industrial Revolution.

1.3 Problem Statement

The advent of the Fifth Industrial Revolution (5IR), driven by the integration and partnership of Artificial Intelligence (AI) and human intelligence, demands the digitalization of most operations in organizations, including banks. The South African Corporate Bank is no exception, and as previous studies have shown, the Fourth Industrial Revolution (4IR) serves as a foundation for the 5IR, characterized by

innovations such as AI, robotics, cryptocurrencies, and blockchain. In this context, the problem statement of this study is to determine the readiness of South African Corporate Banks for the 5IR. Specifically, the study aims to assess how far these banks have progressed in the 4IR.

The global banking sector is currently witnessing significant trends such as the increasing adoption of mobile and online banking, which are fast becoming the preferred mode of banking for customers. For corporate banks, there is a shift from manual banking to digital banking, which is transforming the landscape of the industry. However, in South Africa, the historically profitable banking industry is facing challenges that can impact its profitability and landscape. These include the emergence of low-cost digital solutions offered by non-financial players, the launch of industry-specific banks, and the need for major banks to transform to address changing customer and technological needs in the 4IR.

1.4 Purpose of the research or rationale

The purpose of this study is to understand if the SACB is ready for the fifth industrial revolution, this will be done by understanding how the SACB employees apply the fourth industrial revolution principles, the principles include, Artificial intelligence (AI), Robotics, Big Data, Internet of things, etc. Also, it will be done by understanding how the fourth industrial revolution will affect the SACB.

1.5 Research objectives

1. The objective of this study is first to understand how South African Corporate Banks are using the principles of the Fourth Industrial Revolution.
2. The second objective of this study is to ascertain, based on the question above, if the South African Corporate bank is ready for the Fifth Industrial Revolution.
3. The third objective is to understand the gap between where the bank currently is from a digital perspective and the 5th industrial revolution expectations.

1.6 Research questions

Main Question

Is the South African Corporate Bank ready for the Fifth Industrial Revolution?

Sub-questions

a) What is the general understanding of the fourth and the fifth industrial revolution by the SACB employees?
b) How does the SACB apply the fourth industrial revolution principles?
c) How will the fourth industrial revolution affect the SACB?
d) What recommendations can be considered to facilitate the adaptions of the fourth industrial and fifth industrial revolution?

1.7 Research Design

Due to the exploratory character of this study, the mixed research method will be used. Many research problems are difficult for quantitative or qualitative approaches alone to adequately address. Studies using mixed methods, which combine qualitative and quantitative components, can be a useful strategy for thoroughly examining your research subject. Utilizing both quantitative and qualitative research approaches have its advantages. Quantitative research may address concerns about breadth (how many, to what extent, how often), while qualitative research can address questions about depth (why and how), (Medicine, 2020). The aim of this study is to explore the phenomena to gain insight to the readiness of the South African Corporate Bank for the Fifth industrial revolution.

1.8 Significance of the study

Limited research has been conducted about the impact of the fourth and the fifth industrial revolution on the South African banking industry, after the completion of this study, there will be an expansion of knowledge of the impact of the fourth and fifth industrial revolution on the South African banking industry. This study will foster critical thinking and analytical skills which will be brought about by the findings from this study. This study will also assist in defining the academic, career interest and personal interests around the South African Banking industry more specifically with regards to different industrial revolutions, more specifically the fourth and fifth industrial revolutions.

1.9 Delimitations of the study

According to “How to present study limitations and alternatives” (2020), limitations are constraints on the research design or methodology; these factors will impact the research findings. The limitations of this specific study in question are presented by the time constraints and the lack of previous research studies that have been done on

this topic of the readiness of South African Corporate banks on the fifth industrial revolution.

1.10 Chapter Organisation

Chapter 1: Introduction

This first chapter includes the introduction of the research, the problem statement, and the distinction of the study. In this chapter, the different industrial revolutions are presented, the trends currently evident in the banking sector are explored and analysed, and the research objectives and questions are indicated. The importance of the study and the delimitations are defined.

Chapter 2: Literature Review

This chapter considers a literature review on global trends and the consequences of the fourth and fifth industrial revolutions on South African corporate banks.

Chapter 3: Research Methodology

The third chapter deliberates on the research design and the logic for the research process, including assessing the design criteria to ensure the correct process is followed and assessing the design standards to ensure the desired research outcome is reached. Different concepts of scenarios and scenario planning will be presented as a methodology.

Chapter 4: Presentation of Results

In this fourth chapter, the study's findings are discussed, the study's participants are described, and the results of the analysed data are clearly outlined. The results are presented in different ways, including charts.

Chapter 5: Analysis and Discussion of Results

The study's findings are discussed in this chapter, and the results are compared with previously published data presented in the literature review (Chapter 3).

Chapter 6: Conclusion and Recommendations

In this final chapter, the conclusions are made on the case study, and recommendations are also discussed on what can be done to address the research problems that have been identified in the first chapter; also, the limitations of the study are discussed, and lastly, the recommendations of future studies are also discussed.

1.11 Conclusion

This chapter covers the background of the research regarding the readiness of the South African Corporate banks for the fifth industrial revolution and where the banks currently are with the implementation of the fourth industrial revolution. The research context and objectives are defined and analysed accordingly, the research problem has been defined in this chapter, and the chapter organisation is clearly defined and specified.

Chapter 2: Literature Review

2.1 Introduction

The summary of studies related to a particular area is research that identifies and summarises the different relevant research conducted on a specific topic, known as a literature review (Academy, 2022). In this section of the research, case study the current and existing literature which relates to the research problem of understanding the readiness of the South African Corporate bank for the fifth industrial revolution by dividing the body of knowledge into four broad areas. Firstly, the definitions of the different industrial revolutions are discussed in detail using the existing literature. The second area focuses on technological acceptance, including the theories of technological acceptance, the factors that promote technological acceptance, and the factors that hinder technological acceptance. The third area focuses on the impact of the different industrial revolutions on the global banking industry and the impact of the different industrial revolutions on the global industry. The fourth and final area reviews the literature on the impact of the fourth industrial revolution on the South African banking industry.

2.2 Definitions

The generic term that is used to describe the emergence, during the transition from a pre-industrial to an industrial society, of modern economic growth, which is a sustained and substantial increase of the Gross Domestic Product per capita in real terms, is known as the industrial revolution (Vries, 2008). The first industrial revolution of coal, iron, steam, and railways started in Britain from the 1750s to the 1850s (Groumpos, 2021). During the first industrial revolution, different new industrial sectors had already started showing an increase in productivity. It had an increased pace of development and a higher growth rate (Vries, 2008). However, due to frequent wars, bad harvests, and structural economic change taking time, there was a combined effect on reducing the total growth figures.

Between the 1850s and the 1920s, the second industrial revolution (IR2), also known as the American Industrial Revolution, started (Mohajan, 2020). Various great inventions came with IR2; electricity, running water with indoor plumbing, electrical communication technologies, alloys, petroleum, and other chemicals, the chemical industries, and combustion engines were the great inventions during the second industrial revolution. The US industry was affected by the development of steel and oil

refining, and the inventions of transportation and communications technology changed business practices and the daily lifestyles of many people. The rates of infections and death from many diseases were reduced by the invention of medicine and medical instruments, and then there was a significant improvement in public health. During the 2IR, around 33 million people, mainly laborer's, migrated to the USA to seek more economic opportunity, which caused the cities in the United States to be overcrowded. Dangerous working conditions, long working hours, child labor, and wage discrimination created labor dissatisfaction; additionally, wage cuts and labor railroad strikes broke out in many cities in the United States.

In the 1900s, the Third Industrial Revolution (3IR), also known as the Digital Revolution, followed. This revolution also came with inventions such as digitisation using electronics and computers, the spread of automation, the invention of the internet, and the discovery of the nuclear energy (Ward, 2019). 3IR led to the advancement of Telecommunications, which led the way for an increase in extensive globalisation; this enabled the industries to offshore production to low-cost economies and radicalise business models worldwide.

The current industrial revolution, which is the Fourth Industrial Revolution, is marked by a couple of inventions which include digital transformations, personal connected devices, digitalisation, data analytics, automation, the industrial Internet of things, and Artificial Intelligence technologies (Ward, 2019). An introduction is made between the information technology (IT) standards and industrial automation; the devices decrease in size, and the devices become smarter. During this industrial revolution, lines between the physical, digital, and biological spheres are explored, and global industries are uprooted. Different organisations and factories utilise technology such as big data analytics, the cloud, and the IoT to allow for the enablement and efficiency of communication between different players and connect objects in a production line. The Fourth Industrial Revolution might be the revolution that digresses from non-renewable energy sources but is entrenched instead in smart cities empowered by the wind, sun, and geothermal energy.

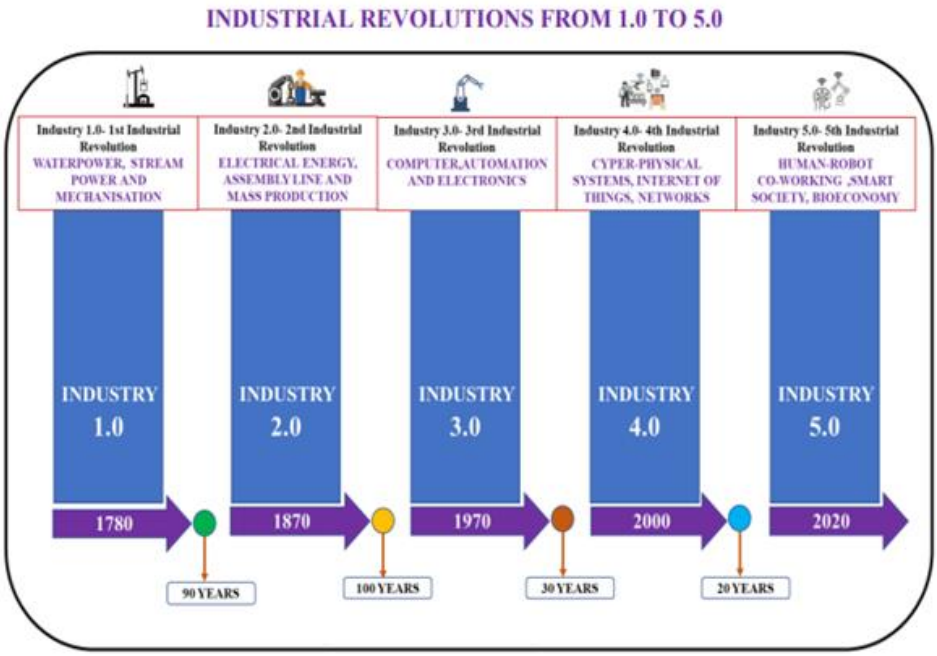


Figure 1 - Industrial Revolution from 1.0 to 5.0

Source: Adapted from (George & George, 2020)

After the Fourth Industrial Revolution, the Fifth Industrial Revolution (5IR) will be in effect; during the Fifth Industrial Revolution, a manufacturing sector transformation that will ignite a series of actions that might change the nation will be seen. This revolution is expected to be the development of the modern manufacturing process (Figure 2.1), which will allow man and machine to perform tasks together, joining the distinctive reasoning abilities of the employees and the accurate, technical expertise of robots which will allow for an innovative culture into the workplace. This revolution carries customer satisfaction and allows for the creation of a new market. There will be a distinction brought about by the collaboration between human beings and machines; the critical objective will bring this about to provide additional value to production by creating customised products that can satisfy customer requirements (George & George, 2020).

Also, during the Fifth Industrial Revolution, the start of an experience-driven manufacturing economy will be focused on providing satisfying customer experiences. In this revolution, there will be harmonious collaborations between humans and machines (robots) rather than competition (Noble, Mende, Grewal, & Parasuraman, 2022). Each manufacturer might have several important features and concerns about the fifth industrial revolution.

The fifth industrial revolution focuses more on the symbiotic interaction of machines and humans; this revolution is expected to continue with the push that is driven toward an increase in technologically advanced human-machine interfaces (George &George, 2020). The fifth industrial revolution will improve integration, enabling superior and faster automation combined with the power brought about by human intelligence. This also means that the robots will not take control of the manufacturing plants soon. The move from the fourth to the fifth industrial revolution means more focus will be on human manufacturers. The move also brings about the best in both the machines and human domains, and advanced technologies such as the internet of things (IoT) and big data will be used by humans and machines, bringing about more efficiencies. The fifth industrial revolution is also aimed at combining cognitive computing abilities with human intelligence and ingenuity in collaborative processes. During this revolution, humans will work safely and efficiently in conjunction with industrial robots. In previous revolutions, industrial machinery (robots) operated independently, in isolation, from employees. The fifth industrial revolution is still in its formative years. The manufacturers must proactively organise different ways to include machine and human workers to capitalise on the unique advantages that can be received as this revolution develops (George & George, 2020).

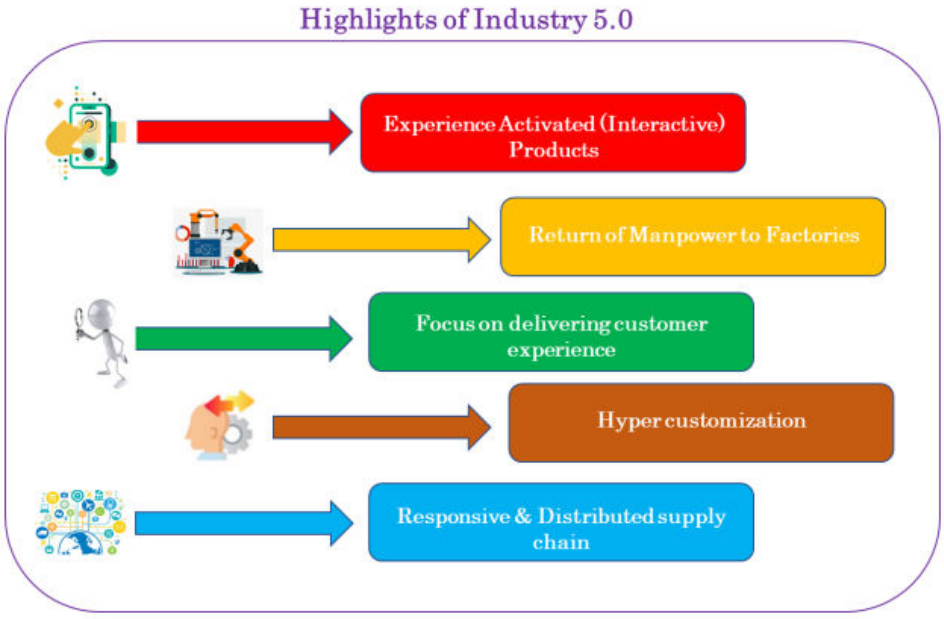


Figure 2 - Highlights of Industry 5.0

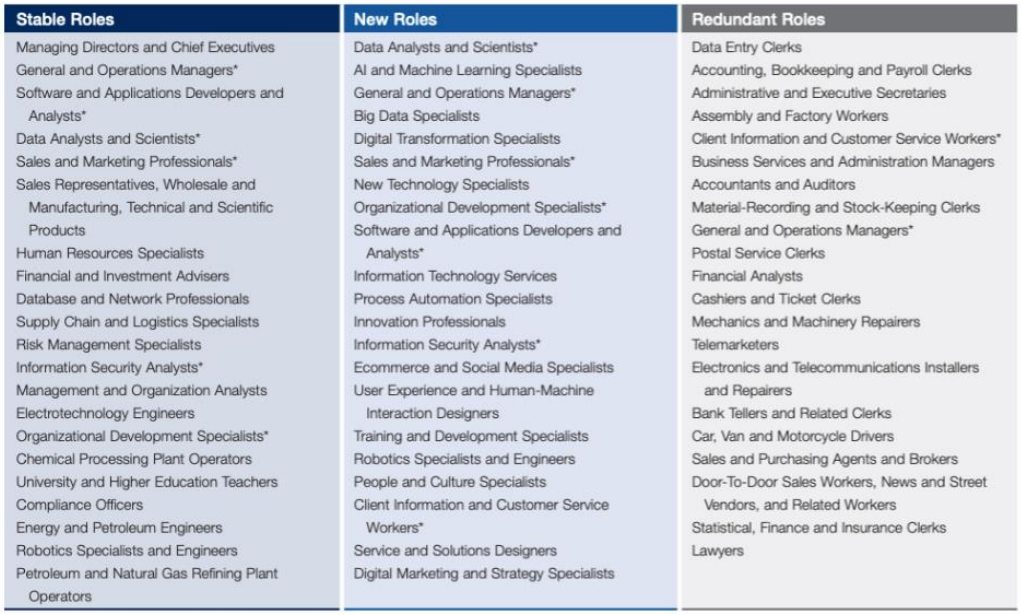
Source: Adapted from (George & George, 2020)

2.3 Fifth Industrial Revolution

The concept of harmonious human-machine cooperation is central to the Fifth Industrial Revolution (5IR), with a particular emphasis on the welfare of the many stakeholders, according to (Noble, 2022) The former statement is oversimplified and does not explain the complexity and magnitude of the fifth industrial revolution. According to (McGinnis, 2020) different technologies that have been advanced and are currently being used in the fourth industrial revolution, namely, Artificial Intelligence (AI), cloud computing, and big data, will still be used with machines and will still be automotive in repetitive, monotonous tasks. These tasks will enable staff to pay attention to human-centric abilities, including creativity, critical thinking, innovation-conscious thinking, decision-making, complex problem-solving, analytical, and critical thinking, influence, and leadership.

According to (Noble, 2022)The fifth industrial revolution will introduce the following; more people will be working from home, the concept of working from home will be something that more people are familiar with, and it will be something that people will be comfortable doing. Machines, instead of humans, will perform the less interesting administration tasks. There will be widespread implantable technologies for health and other purposes, the use of 3D printing will be increased, and customer experience will use chatbots more frequently. Without a doubt, robots are more consistent than humans, and they are also more effective at repetitive tasks; the problem with robots is that they are unable to adapt, and they are also unable to think critically, which is what sets humans apart from robots. However, robots cannot perform certain things, such as understanding body language and culture. Therefore, the collaboration between robots and humans will be invaluable, improving the lives of everyone in the organisation.

The below table shows how the fifth industrial revolution will impact existing jobs and how the fifth industrial revolution will create new jobs.



Stable Roles	New Roles	Redundant Roles
Managing Directors and Chief Executives	Data Analysts and Scientists*	Data Entry Clerks
General and Operations Managers*	AI and Machine Learning Specialists	Accounting, Bookkeeping and Payroll Clerks
Software and Applications Developers and Analysts*	General and Operations Managers*	Administrative and Executive Secretaries
Data Analysts and Scientists*	Big Data Specialists	Assembly and Factory Workers
Sales and Marketing Professionals*	Digital Transformation Specialists	Client Information and Customer Service Workers*
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Sales and Marketing Professionals*	Business Services and Administration Managers
Human Resources Specialists	New Technology Specialists	Accountants and Auditors
Financial and Investment Advisers	Organizational Development Specialists*	Material-Recording and Stock-Keeping Clerks
Database and Network Professionals	Software and Applications Developers and Analysts*	General and Operations Managers*
Supply Chain and Logistics Specialists	Information Technology Services	Postal Service Clerks
Risk Management Specialists	Process Automation Specialists	Financial Analysts
Information Security Analysts*	Innovation Professionals	Cashiers and Ticket Clerks
Management and Organization Analysts	Information Security Analysts*	Mechanics and Machinery Repairers
Electrotechnology Engineers	Ecommerce and Social Media Specialists	Telemarketers
Organizational Development Specialists*	User Experience and Human-Machine Interaction Designers	Electronics and Telecommunications Installers and Repairers
Chemical Processing Plant Operators	Training and Development Specialists	Bank Tellers and Related Clerks
University and Higher Education Teachers	Robotics Specialists and Engineers	Car, Van and Motorcycle Drivers
Compliance Officers	People and Culture Specialists	Sales and Purchasing Agents and Brokers
Energy and Petroleum Engineers	Client Information and Customer Service Workers*	Door-To-Door Sales Workers, News and Street Vendors, and Related Workers
Robotics Specialists and Engineers	Service and Solutions Designers	Statistical, Finance and Insurance Clerks
Petroleum and Natural Gas Refining Plant Operators	Digital Marketing and Strategy Specialists	Lawyers

Figure 3 - How the 5IR will impact current jobs and create new jobs

Source: Adapted from ("Future of Jobs Survey", 2018).

Figure 2.3 describes the roles that will be redundant, those that will be created, and the stable roles that will remain when the industry moves toward the fifth industrial revolution.

2.3.1 Stable roles

According to (The Future of Jobs Report, 2018), the roles that will remain stable are management roles and chief executives, which are still required to manage the organisations. Software and application developers will still be required as these roles are still required from a software development perspective. Other roles that will be stable are databases and network professions, management and organisational specialists, information security analysts, and robotic specialists; these roles will still be required, and these roles will be stable as part of the fifth industrial revolution. Roles like university and higher education educators will still be stable even though the form of teaching will likely change from face-to-face interaction to online interaction.

2.3.2 Redundant Roles

With the introduction of the fifth industrial revolution, some roles will become redundant; these are roles that machines or computer programs, specifically built to cater for the functions, can perform. These include administrative roles such as data entry clerks, accounting clerks, bookkeeping clerks, payroll clerks, administrative secretaries, and executive secretaries. Other roles that are likely to be redundant

during the fifth industrial revolution include those that are more labor intensive such as assembly factory workers, general and operations managers, postal services clerks, mechanics, and machinery repairers, electronic and telecommunications installers, and repairers. This is because robots can perform these labor-intensive roles and will likely replace humans in such positions. Another set of roles that will probably be redundant during the fifth industrial revolution and be replaced by software applications that will be specifically desired to meet the requirements are customer service-based roles. These roles include cashiers and ticket clerks, telemarketers, bank tellers, and related clerks, sales, purchasing agents and brokers, door-to-door sales agents, news, and street vendors, statistical, finance and insurance clerks, fast food cooks, this is according to (Tippins, 2022)

2.3.3 New Roles

New roles will be created as the industry moves towards the fifth industrial revolution. These include positions such as data analysts and scientists, AI and machine learning specialists, big data specialists, new technology specialists, organisational development specialists, and innovation specialists. These new roles will assist the organisation in adapting to the new ways of doing things for the fifth industrial revolution. Other roles that would be beneficial include the e-commerce and social media specialist; this is one of the important roles that will be able to assist the organisation in sustaining its presence in the industry that the organisation is operating in, as social medial still plays a vital role in the fifth industrial revolution. Robotics specialists and engineers, digital marketing, and strategy analysts are still important in the fifth industrial revolution as they enhance the skill set available in the organisation. Lastly, the people and culture specialist is important in the organisation to ensure that the people in the organisation are still happy and catered for, and culture must not change due to the move from the fourth industrial revolution to the fifth industrial revolution, this is according to (The Future of Jobs Report, 2018)

2.4 Theories of technology adoption

The process of accepting, integrating, and using new technology in society is known as the technology adoption (Technology Adoption, 2022). The technology adoption process has a few steps, categorised by users. According to Sharma and Mishra (2014), it has been proven with different studies that technology adoption is not only related to technology but has advanced as a process that includes the scopes of the

user personalities and attitudes, social influence, trust, and different facilitating conditions. The examination of the individual and the choices that an individual makes to reject or accept a specific innovation are known as Adoption Theory (Straub, 2009). Occasionally with some models, adoption is not only the choice to embrace innovation but the extent to which the innovation is combined into the appropriate context. It is also a micro perspective on change, which focuses overall instead of the pieces which make up the whole. No single model can assist in understanding the processes that an individual absorbs before adopting an innovation. Factually, the behavior change brings about an understanding of the adoption, (Taherdoost, 2018). Theories and models that have advanced for explaining the adoption of technology are listed below:

2.4.1 Diffusion of Innovation Theory

One of the most popular adoption theories is the Diffusion of innovations; according to Sahin (2006), a wide variety of disciplines used this model as a framework. This adoption theory is most appropriate when investigating technology adoption in higher education and educational environments. The idea of this theory is that four aspects influence the adoption of a new idea: Innovation, communication channels, time, and social system. There are five stages to the diffusion process: knowledge, persuasion, decision, implementation, and confirmation. This will affect six different categories of users: innovators, early adopters, early majority, late majority, laggers, and leap-froggers (Sharma & Mishra, 2014). The theory is depicted below:

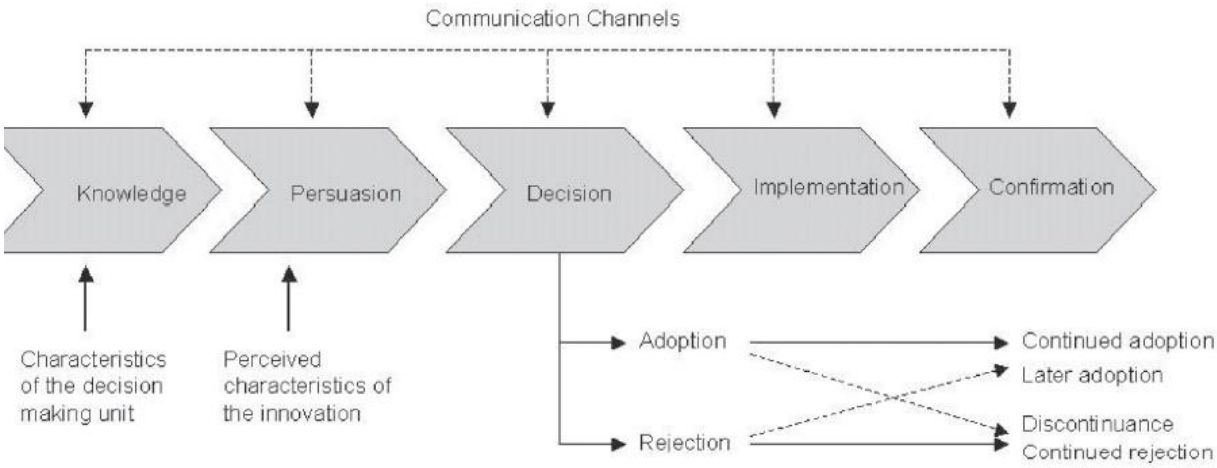


Figure 4 - Diffusion of Innovation Theory

Source: Adapted from (Rogers, 1960).

2.4.2 Theory of Reasoned Action and Planned Behavior

Theories that mainly focus on the theoretical constructs concerned with individual motivation factors as elements of the possibility of performing a specific behavior are known as the Theory of Reasoned Action and the Theory of Planned Behavior (Glanz, Rimer & Viswanath, 2008). The best predictor of behavior is behavioral in intention as assumed by both the Theory of Reasoned Action and the Theory of Planned behavior, which in turn is determined by attitude toward the behavior and social normative observations about it. The Theory of Planned behavior is an extension of the Theory of Reasoned Action and includes an additional construct: perceived control over performance is the behavior. The above theories focus on the constructs of attitude, perceived control, and subjective norm; they explain a large portion of the variance in behavioral intention and predict different behaviors.

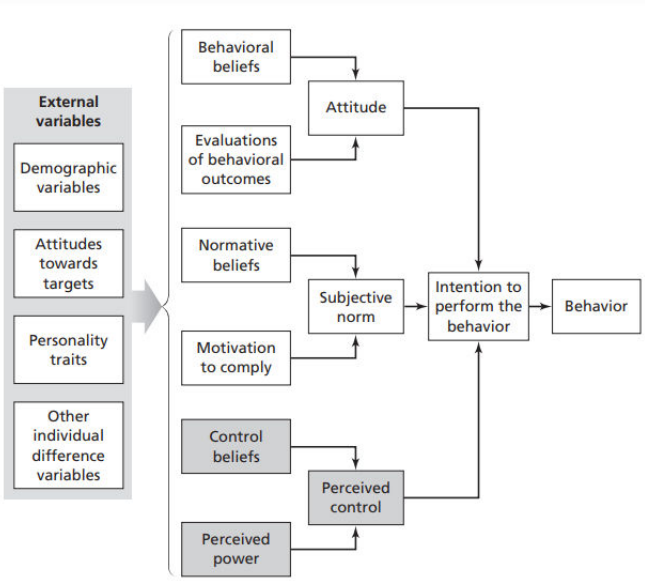


Figure 5 - Theory of Reasoned Action and Planned Behavior

Source: Adapted from (Glanz, Rimer & Viswanath, 2008).

*Note: Upper light area shows the Theory of Reasoned Action; the entire figure shows the Theory of Planned Behavior

The individual's attitude determines the individual's beliefs about the outcome or attributes of performing the behavior, weighted by evaluations of those attributes of outcomes. Therefore, an individual with strong beliefs that positively valued outcomes will result from performing the behavior will have a positive attitude towards the behavior. Contrariwise, an individual who strongly believes that negatively valued outcomes will be produced from the behavior will have a negative attitude.

2.4.3 The Social Cognitive Theory

The fundamental resource in clinical, educational, developmental, health, social, and personality psychology has become the social cognitive theory. Its application is diverse in areas such as emotional disorders, mental and physical health, school achievement, social-political change, and career choice (Norman, 2015). Forethought extensively guides human motivation and action; this is according to the social cognitive theory. A couple of critical factors that influence the behavior of individuals is outlined in this theory, shown below (Figure 2.6).

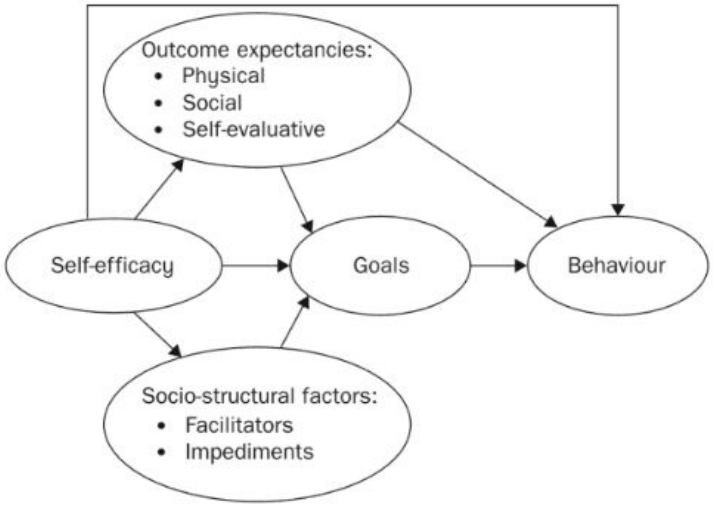


Figure 6 - The Social Cognitive Theory

Source: Adapted from (Luszczynska and Schwarzer, 2020).

2.4.4 Technical Adoption Model

The model that has been widely used in technology studies is the Technology adoption model. Some strengths lie in this model (Mishhra, 2014)

, these strengths include the simplicity of the model, and the simplicity of this model has two constructs which include perceived usefulness and the perceived ease of use, which is used to predict the extent of adoption of new technologies at an individual level as illustrated below:

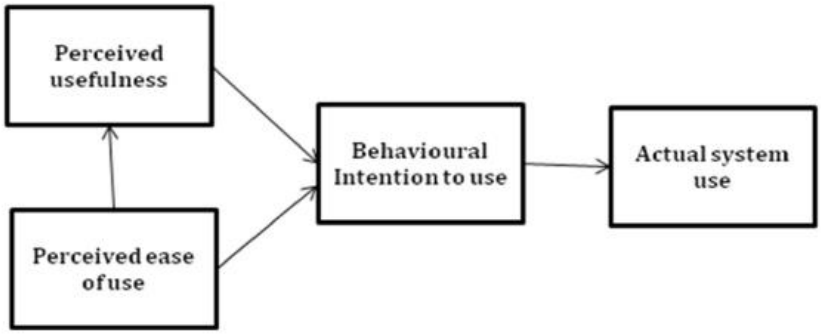


Figure 7 - Technical Adoption Model

Source: Adapted from (Davis, 1989).

The above constructs were derived from Bandura's Self-Efficacy Theory (1982); these constructs define the perceived usefulness of use as the judgments of how well one can execute courses of action needed to deal with the prospective situation.

2.4.5 The model of PC Utilisation

The theory of human behavior is used as a base for the theory of PC utilisation, which differs from the Theory of Reasoned Action since it distinguishes between the affective and the cognitive components of attitude. Cognitive components of attitudes belong to beliefs, and according to the theory, behavior is determined by what people like to do, which are attitudes, and what they think they should do, which are social norms, what people have usually done, which are habits and by the expected consequences of their behavior. The primary purpose of the Theory of PC Utilisation is the utilisation of the PC by a worker where the use is not mandated by the organisation but is contingent on the user's option. In such environments, this theory suggests that when an employee uses the computer, the worker will be influenced by different factors, including his feelings towards the PC, social norms regarding the use of the PC at the workplace, and general habits related to the computer. The above constructs are illustrated in the below figure (Figure 2.8).

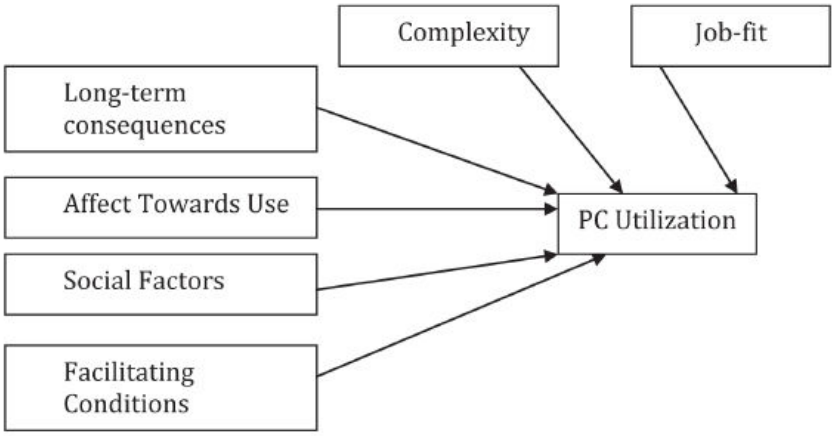


Figure 8 - The model of PC Utilisation

Source: Adapted from (Thompson et al., 1991).

2.4.6 Extended Technology Adoption Model (TAM) 2 Model

Venkatesh and Davis (2000) extended the Technology Adoption Model to include the additional key determinant of the TAM, s perceived usefulness and usage intention constructs in their extended model. Social influence and cognitive instrumental processes are some of the additional constructs of the TAM model, which are demonstrated below (Figure 2.9):

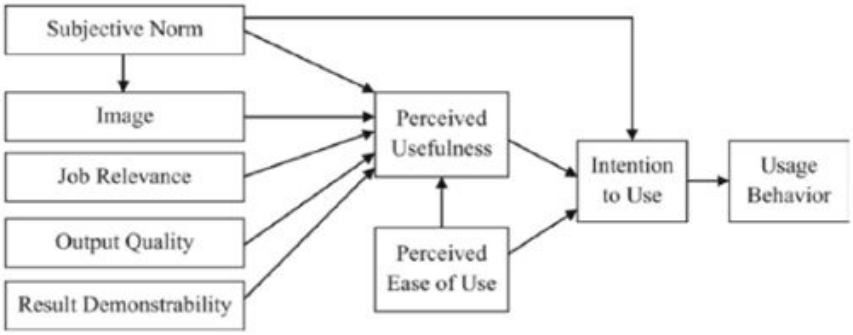


Figure 9 - Extended TAM2 Model

Source: Adapted from (Ventakesh & Davis, 2000).

2.5 Factors that promote technological acceptance

According to Talukder (2012), previous studies have shown that an individual's adoption of technology does not only depend on the individual's attitude, but the organisation's policies also play a role; the organisation's approaches and actions also play a role in the individual's adoption of technology. Facilitating conditions include the availability of training and provision of support, and the organisation factors include

the training materials and incentives. The factors from an organisational level include managerial support, training for the employees, and incentives. Organisational influences can motivate employees to adapt to innovations. However, individual factors are critical in the employee's adaption to innovation. This refers to the employee's or the individual's cognitive interpretations of innovation. Previous studies have found that individual factors such as perceived usefulness, prior experience, image, enjoyment of innovation, and personal innovativeness have a major impact on the individual's adoption of an innovation or technology. A new technology used by others in an individual's social environment is expected to play an important role in adopting new technology. Social influence is the extent to which members of a social group impact one another's behavior in new technology.

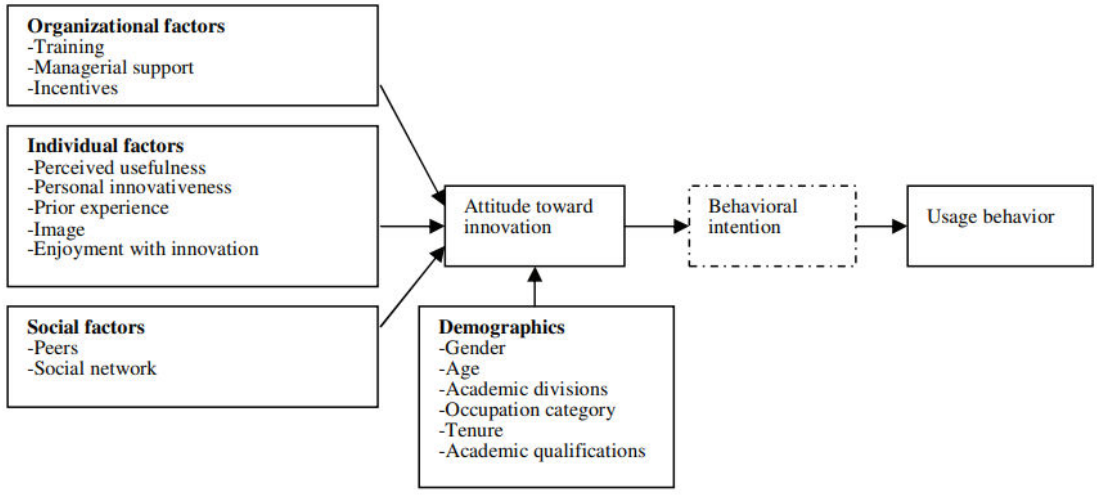


Figure 10 - Factors that promote technological acceptance

Source: Adapted from (Talukder, 2012)

According to (Talukder, 2012), the organisation must provide the necessary training and managerial support for the technology to be adapted. If the organisation wants the employees to adopt the new technology, the organisation must also provide some incentive to promote the adoption of the new technology. Secondly, there are individual factors that can promote technology adoption; these include perceived usefulness. If the individual perceives the technology as useful, it will be easy for the user to adapt to the new technology. Personal innovativeness if the individual is innovative, innovation will be easily adaptable. Thirdly, social factors can also promote the adaption of new technology, including individuals' peers and social networks. These three factors will impact the attitude towards the innovation, which will impact the behavioral intention and usage behavior.

Previous articles have been published regarding the five factors influencing the technology adoption rate (Marketing, 2018) five characteristics influence a person's decision to adopt or reject an innovation. Firstly, the relative advantage, this first factor identifies the technological adoption or innovation over the previous generation, for example, how the new version of the cellphone is better than the previous one. The second characteristic is compatibility; how compatible is the innovation to the individual's life, and can the innovation be integrated easily into a person's life? The third characteristic is how complex is the innovation or the new technology; will it be easy to use? The fourth characteristic is trialability, and this is how can this new technology be experimented with compared to it being adopted by the user. Users who have difficulty using this new technology are less likely to adapt. The last characteristic is observability, how visible is the new technology to others; when a new technology is more visible, this will drive communication among the individual's peers and personal networks, creating a more positive reaction.

There are five other factors for successful technological adoption; this is according to Dinnison (2015). The following is another set of factors that promote technology adoption, firstly, leadership support; for individuals to adopt new technology in an organisation, there must be leadership support. This support must come from the executive and the administrator level. The support will help foster an organisational culture where new technology is encouraged. This allows for a level of risk and the strengths of the overall potential for success. When an organisation is willing to allow some time for trial and error that is needed because not all the technological changes' efforts lead to success. The second factor that promotes technology adoption is stakeholder involvement; the involvement of the different stakeholders is of the utmost importance for the successful adoption of new technology. When different stakeholders are involved with new technology, there is easy communication, allowing for an easy transition. The third factor is training. To sustain the use of the new technology, there must be ongoing use to stimulate the future expansion of technology. Training is a critical factor that is needed, the knowledge base that has been developed over time can be exhausted, and on the other side, new training opportunities may be identified by adding new personnel and the new perspectives they bring. The fourth factor is the resources and financial support; IT leaders must budget for the technological change that is being introduced in an organisation, or else the organisation will be caught drifting in a rapidly moving current with little control of

the destination. The last factor is the support from the overall community; it is important to have support from the overall community, including people within the organisation from all levels.

2.6 Factors that hinder technological acceptance

Businesses and organisations often encounter resistance or hindrances to technology acceptance, including the following:

2.6.1 Buy-in from stakeholders and employees

According to (Scalerandi, 2022) the value of the technology is understood by the IT leaders whom investors have trust and hope in. In addition, the employees, and the stakeholders, including executives in the organisation, may not understand the value of the technology. Individuals fear change, and when they are presented with new tools and systems they are required to use, they have the potential to resist the change. Therefore, changing their mindset and attitudes is important, but this does not happen overnight. One of the hindrances of technology adoption is the buy-in from stakeholders and employees.

2.6.2 Lack of an effective Strategy

To achieve a smooth transition from a physical to a digital workplace, businesses must have a clear strategy in place beforehand. The application of the strategy will ensure that the transformation is successful. On the other hand, a subpar strategy could produce disastrous results. The digital revolution signifies a huge shift away from the status quo for humans. Along with disrupting workflow, the sudden move could have an impact on the employees.

As a result, it's crucial to keep your cool and move at a steady pace. Ensure that the process is inclusive of all those who will be impacted by it, that the objectives and expectations are articulated clearly, and that everyone is informed of the specifics and actively engaged in the process. It will be much simpler to implement the change without impacting anyone once everyone is aware of the specifics of the procedure and how it will work (Wilson, 2022)

2.6.3 Cost

Numerous organisations desire to participate in digital transformation but do not believe they have the necessary funding to acquire and implement new technologies, cost can be another hindrance to the adoption of new technologies. Adopting new technology has many advantages, but most firms lag for one reason: budget. Successful technology adoption demands some initial expenditure for onboarding and deployment. Some business owners consider it to be an extra cost that is not worthwhile. Most firms will avoid a solution unless it is affordable and well-proven, this is according to (Vinugayathri, 2022)

2.6.4 Economic factors

Another barrier to the adaption of technology is economic factors, according to (Kapler, 2021), these factors include the lack of funding for the implementation of the new technology, the inability to obtain finance from outside sources, ignorance of the process of obtaining funds to execute the innovations, inadequately conducted financially analysis or in nonexistence of the financial analysis and the lack of experience in financial analysis.

2.7 Impact of the Fourth Industrial Revolution on South Africa

According to Makamase (2018), the World Economic Forum's founder and executive chairman, Prof. Klaus Schwab, developed the idea of the Fourth Industrial Revolution (4IR), which describes the growing fusion of technology with the physical and biological spheres and how this will forever change how people interact with one another and their environment. Since then, different economic and political agendas have been centered on this occurrence. Cyril Ramaphosa, the president of South Africa, stressed the importance of preparing the country for the fourth industrial revolution and the need to adapt and seize the opportunities it offers in his 2019 State of the Nation Address (SONA). However, according to Prof. Schwab, "organisations could not adapt; governments might not use and control new technology to harness their benefits; changing power would bring significant new security issues; inequality may develop, and communities may divide."

Also, according to Alabi (2022), the Fourth Industrial Revolution has caused grave concerns about human development in industrialised and developing nations. Even if the Fourth Industrial Revolution has the potential to improve human well-being in novel and sustainable ways, over half of Africa's workforce is susceptible to digital wave

developments. Using time-series data spanning 2003 and 2019, the study looked at how the fourth industrial revolution affected countries in sub-Saharan Africa. The fully modified ordinary least squares (FMOLS) technique was used to analyses the data. The conclusion of the study revealed that the fourth industrial revolution was positively impacted by human development; however, this influence is negligible. This case study raises awareness of the actions required to hasten the creation of a skilled, necessary, and competitive labor force for industry 4.0.

Lekhanya (2019) adds that a number of earlier studies demonstrate that the Fourth Industrial Revolution (4IR) is already here because technology is ingrained in everything we do, more than half of the world's population is online, and the global economy is expected to be 60% digital by 2022. There is little empirical evidence available regarding the readiness of nations, particularly South Africa (SA), and if and how they have planned, organized, and/or prepared for this revolution. Concerning societal re-skilling, infrastructure improvements, technological advancements, human resource preparation, and economic re-capitalization, nothing is clear as of yet. This study seeks information and knowledge about innovative approaches for 4IR in South Africa with the goal of helping to close this research gap, and the extent of perceived readiness and various factors confronting the country's readiness in the coming industrial revolution.

According to (Malatji, 2022) for many South Africans, the age of lifetime employment is likely coming to an end because of technological advancements. This will have an impact on the continuously expanding population. The 4IR will have an impact on the employed population through job loss. The first, second, and third revolutions, particularly in industrialised nations, destroyed employment while also generating new ones and new industries. Due to the development of technological workplace amenities during the Fourth Industrial Revolution, fewer jobs are created. Revolutions inevitably cause disruption because the 4IR can demolish one industry or sector while completely establishing other ones. People are being laid off because their services are no longer necessary while other industries are destroyed. Robots can never replace the emotional and personal encounters that people need to have with other people. Although technology may be prepared, not all South Africans are necessarily ready for such advances.

People have always desired to make their lives better and simpler, (Savica Dimitrieska, 2019) to accomplish that, they employed a variety of strategies,

equipment, machinery, and help from others. People alter their lives, their jobs, and their interpersonal relationships to achieve it. Revolutions are the collective term for all these sudden, jarring societal upheavals that occurred over a specific time and profoundly altered human life. There have been three revolutions in human history that have had a significant impact on all facets of life. The Fourth Industrial Revolution (4IR), which is affecting all fields of study, economies, and industries, is defined by several novel technologies that combine the physical, digital, and biological worlds. The 4IR will radically alter how people live. It encompasses a wide range of topics, including artificial intelligence (AI), the Internet of Things (IoT), robots, autonomous driving, 3D printing, nanotechnology, biotechnology, materials science, energy conservation, computing, etc. The goal of this essay is to thoroughly describe the benefits and drawbacks of the Fourth Industrial Revolution and to caution readers to comprehend it and prepare for it. It is crucial for all nations to comprehend the 4IR, its new technologies, and the challenges they pose.

2.8 Impact of Covid-19 on the Fourth Industrial Revolution

According to Ojo-Fafore, Aigbavbao, and Thwala (2021), the Fourth Industrial Revolution (4IR) is steadily gathering speed across a broad spectrum, and as it does so, innovations are developing at a faster, more effective rate and more broadly available than ever. However, the Covid-19 pandemic has caused a change in the conventional practices in all spheres of human endeavor, particularly in the socio-economic one. In addition to reviewing research on pandemics and their impact on industrial revolutions, this case study examines the impact of Covid-19 on the growth of the fourth industrial revolution in the Southern African region. Additionally, a review of the literature on the fourth industrial revolution, the Covid-19 pandemic's spread, and how it affected Southern Africa's participation in the fourth industrial revolution will be done.

According to (Landry Signé, 2020), the Fourth Industrial Revolution's innovations, from mobile technology for data collection and contact tracing to artificial intelligence for medical diagnostics, provide practical and efficient solutions to deal with the speed, extent, and impact of the Covid-19 pandemic. However, these technologies are not equally disseminated throughout the world, which places developing nations and their vulnerable populations at a significant disadvantage regarding their ability to reduce risk and halt the spread of the illness.

(Agbehadji, Awuzie, & Ngowi, 2021) An unprecedented number of lives have been lost because of the existential threat known as COVID-19, which has also caused aircraft delays, business closures, and other problems. The recent COVID-19 pandemic waves necessitate a full examination of these technological interventions, even though many researchers have emphasized the significant advantages of 4IR technologies in suppressing the pandemic. The COVID-19 pandemic effect has had an impact on the cyber-physical world as well, and in this review, we emphasize the key points to aid in managing the effects of succeeding COVID-19 waves in these settings. This paper's goal is to review the use of 4IR technologies during the COVID-19 pandemic waves and to draw attention to their drawbacks. Robots have also been used in manufacturing by businesses to minimise physical interaction between people. In order to minimize infection, the mining industry has automated its work operations by utilizing smart health bands, smart disinfection tunnels, and walk-through sanitization gates. However, a number of issues have been identified as barriers to the adoption of 4IR technology, including low-skilled staff, data privacy concerns, a lack of funding for data analysis, problems with data administration, and many more.

The explosion of 4IR technologies necessitates strict legislation pertaining to comprehensive data privacy for regulated IT enterprises. These findings have important ramifications for developing policies to combat any pandemic breakouts in the future.

Since the coronavirus sickness become a pandemic in March 2020, it has prompted unusual thinking, (Dominique, 2022). The epidemic has compelled the entire world to alter the standards in terms of how people live, work, play, and conduct business, as well as in areas like health and education. As digital solutions emerge to save the day, the globe has drawn toward cutting-edge technology and an inescapable embrace of the 4thIR. Scholars debated the benefits and drawbacks of the fourth industrial revolution prior to the epidemic. The frequently cited claim is that the 4th Industrial Revolution is a force for disruption and a threat to people's way of life because people are being replaced by machines. However, the 4thIR has been able to handle the unprecedented difficulty that has gripped the entire world thanks to the current effects of COVID-19. The paper expanded the discussion on using the 4thIR in the context of the current COVID-19 pandemic by using South Africa as a focal study and using a variety of literature sources. The study examined the adoption of the 4thIR prior to the COVID pandemic in South Africa, followed by a discussion of the

4thIR's development since the pandemic's start, and ended with a prediction for the adoption of the 4thIR in post-COVID South Africa.

2.9 The banking industry in South Africa

Given that a sizeable fraction of the population has a bank account, South Africa has made enormous strides in increasing access to financial services, even though active utilization is still comparatively low, according to the (Analytics, 2022). In 2021, more than 81% of South Africans older than 16 had use of a bank account. However, sincere access to financial services is still scarce, as seen by the low levels of account use. People from low-income households controlled 40% of dormant accounts, according to the 2021 Finscope study, and another 19% of those individuals withdrew the entire balance as soon as it was deposited. The biggest banks continue to retain more than 85% of the sector's deposits, further illustrating how consolidated the banking industry is. The banking industry is evolving because of increased competition from recently founded banks, tech-enabled start-ups, and an increase in the number of retailers offering credit products and other financial services. Tyme Bank, Discovery Bank, and Bank Zero, three recent entrants, have significantly contributed to the reduction of banking fees as well as the introduction of various distribution channels (for example, utilising retail storefronts) and the establishment of creative value propositions for clients.

According to (ADV RATINGS, 2022)The Republic of South Africa (RSA) is home to 67 banks, comprising 50 foreign bank subsidiaries, branches, and representative offices, as well as 17 indigenous banks. The three newest challenger banks, Discovery, TymeBank, and Bank Zero, debuted in 2019. The nation's central bank is the South African Reserve Banks (SARB), which has its main office in Pretoria. With approximately 650 stockholders, it is privately held. One of the eight central banks with private shareholders is the SARB. 2019 saw the announcement by President Cyril Ramaphosa that the government will nationalise the central bank. With over 60 million citizens, the Republic of South Africa is the largest nation in Southern Africa.

Furthermore, according to (Miyajima, 2022) financial institutions all over the world have increased their holdings of the local national debt as a result of the current COVID-19 pandemic, strengthening the link between the health of the financial system and the level of sovereign debt, or the "financial sector-sovereign nexus." The Prudential Authority's growing attention to the associated dangers and the fact that the

nexus in South Africa is still only moderately high but rising provide comfort. It is possible to look at potential regulatory action options to lower such hazards. However, if the necessary structural changes and budgetary cuts are not made, dangers related to the relationship between the financial system and the sovereign will increase.

For this paper, South African Corporate Banking will be the research topic. According to (Majaski 2021), the type of bank that serves a diverse clientele - small to medium-sized local businesses with a couple of million in revenue to large corporations with billions in sales and with offices across the country- is known as a corporate or business bank. This term originated in the United States to distinguish corporate banking from investment banking in 1993. Even though these services were repealed in the 1990s, corporate and investment services have been offered under the same umbrella by most banks worldwide, including South African banks. The majority of the big five banks have divisions called the Corporate and Investment banks. Corporate banks offer services and products to financial institutions, including trade finance, employer services, and equipment lending, treasury, and cash management services.

2.10 Impact of the fourth industrial revolution on the SA Banking Industry

In developed countries, many changes caused by the industrial revolution are already being affected in the banking sector, including customer behavior shifting towards fast-tracking digital services adoption (Rahman & Abedin, 2020). During the World Economic Forum in 2016, it was explained that the traditional labor-intensive process of work would change to Automation and Digitisation, the advanced digital technology would remove the low-cost labor benefit, and the developed countries would bring back factories to their countries where robots will do all the actual work (Schwab, 2016).

According to Mamela, Sukdeo and Mukwakungu (2020), the banking sector must be inspired to re-skill their employees and introduce opportunities for re-skilling the banking institutions' employees in South Africa to adapt to the introduction of artificial intelligence technologies. The factors that contribute to the re-skilling required for the banking workforce to survive in the competitive labor market of the fourth industrial revolution is addressed by Mamela, Sukdeo and Mukwakungu (2020). The skills and competencies that will be on demand by the future banking workforces to enable the employees and the banks to be able to adapt to the aspects of the fourth industrial revolution successfully include different AI toolsets such as blockchain, machine

learning, nanotechnological innovation, robotics, biotechnology, cloud computing, etc. These AI tool sets can impact the employee's performance and productivity in different banking institutions.

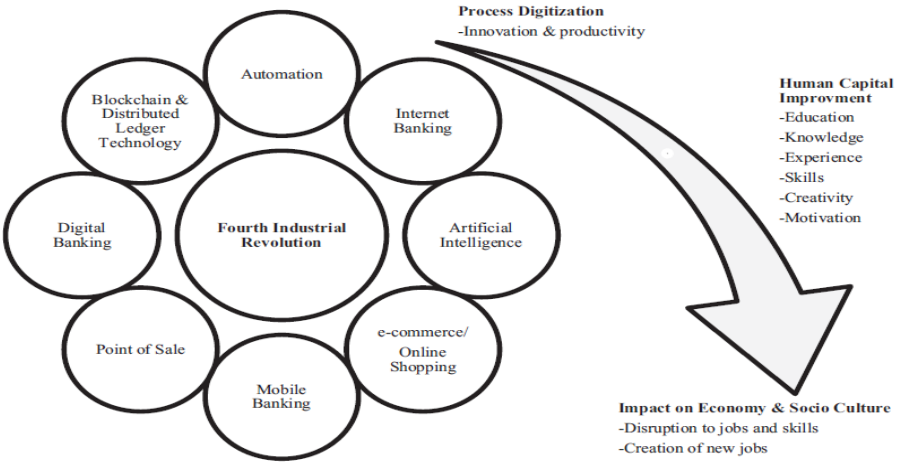


Figure 11 - Impact of 4IR on the SA banking Industry

Source: Adapted from (Rahman & Abedin, 2020)

Another study indicated that today's world is evolving extremely fast, and daily personal and professional activities had moved beyond when things were done physically (Moshime, 2021). The 21st century has been dominated by the introduction of digital and rapidly evolving technologies. If competitive involvement at the global level is to occur, this necessitates constant mobility with changes by government, industry, and society. This study aimed to investigate the effects of the Fourth Industrial Revolution and how they have affected South African banking's operations management sector. The researcher conducted the study using a combination of quantitative and qualitative research techniques. According to the respondents' responses, the adoption of Industry 4.0 in the South African banking sector will substantially impact the sector. Given numerous industry layoffs over the previous few years, the results also showed that those most impacted by the transformation were concerned about the future and their general job security.

Innovation in technology is occurring at an unparalleled rate. Almost every industry in every nation on earth is being disrupted by it (Bernstein, 2022). In the fourth industrial revolution, human and computer systems can interact more deeply than ever before thanks to technology developments like artificial intelligence and the "Internet of Things" 1. Fintech, or the application of technology in financial services, can lower costs and increase efficiency, enable seamless and real-time consumer transactions, and improve providers' understanding of

customer behavior and demands, enabling the personalisation of financial services. This industrial revolution, like all previous ones, brings with it a tremendous deal of uncertainty. Managing the implied trade-offs is a challenge for regulators and policymakers. While digital innovation has the potential to increase financial inclusion, it also has the potential to exclude consumer groups that are less literate in both digital and financial matters. Automation opens numerous prospects for increasing productivity, but it also has an impact on the skill sets required by financial institutions, potentially widening the gap between workers with high and low skill levels in the labor market.

(Mokoena, 2021) states that industry 4.0, or 4IR as it is commonly known today, is the evolution that delivers ease in the comfort of one's home as well as many benefits to businesses and the world when everything is digitalised, and human touch is decreasing. In terms of banking, industry 4.0 has simplified daily life so that people no longer need to physically visit banks to complete transactions, make deposits, submit queries, or even wait in lengthy lines that are unnecessary. Instead, convenience is now available at the touch of a button, saving people both time and money. The fourth industrial revolution—referred to as Industry 4.0 in this study—and its effects on the current operations management systems in the banking sector in the Republic of South Africa are topics that are explored. The researcher conducted extensive research about interest and conducted an in-depth analysis to learn more about the fourth industrial revolution, what it is when it began, and what it means for South Africa in the twenty-first century.

Also, according to (Mehdiabadi, 2020) the goal of the current article is to give a comprehensive overview of Banking 4.0's use cases in Industry 4.0. To create a strategy map for fourth-generation banks and gauge their preparation for Industry 4.0, this study analyses the technological trends in the Fourth Industrial Revolution. To highlight a distinct pattern of integration between Banking 4.0 and Industry 4.0, this article investigates a systematic review of fully integrated Banking 4.0 and the deployment of Industry 4.0 technologies. The effectiveness of these technologies as applied by successful international banks is one of this article's key characteristics. The findings demonstrated that Industry 4.0's Banking 4.0 is an integrative value creation system made up of six design tenets and fourteen technological trends. A crucial and significant road map will be the roadmap created for banks to enter Industry 4.0 and how they cooperate with industrial enterprises.

Since South Africa and Nigeria are the continent's two biggest economies, effective banking solutions are essential to their economic integration (Ajibade, 2020). For the African continent to flourish sustainably, banking institutions must be secure, efficient, and integrated. As a result, an empirical analysis of the development of research on banking systems and services was carried out. The study's objective was to assess the reliability of the research findings on banking systems considering their significance for the continent's economic sustainability throughout the fourth industrial revolution. The study used software clusters to show the findings of bibliometric analysis. The findings revealed that the key phrases from Google Scholar are rated higher than outputs from Scopus due to better visibility of outputs and potential citations.

According to (Sutherland, The Fourth Industrial Revolution – The Case of South Africa, 2019). After assuming office, South Africa's current president, Cyril Ramaphosa, included the Fourth Industrial Revolution (4IR) into his nation's economic strategy, prompting criticism for its WEF-inspired neoliberal language and concerns that it wouldn't create jobs. The term "4IR" refers to the combination of robotics, big data, the industrial Internet of things (IoT), artificial intelligence (AI), and 3D printing. Corporations will need to reconsider their tactics and automatically eat their own business models. It is intended to increase national competitiveness and bring manufacturing home for policymakers in manufacturing nations, potentially preventing developing nations from creating jobs by luring labor-intensive industries. It is expected to have complicated effects on employment and work, with the potential to widen inequality by reducing demand for workers with low skill levels. South Africa has a serious skills shortage as a result of flaws in its educational system, which limits the availability of the managers, researchers, and workers needed for 4IR. Inadequate infrastructure is another problem, which is a sign of corrupt state and government takeover. There are observable delays in data security and cyber security, and it has a poor track record for creating and enforcing regulations, particularly across departments.

2.11 Conclusion

This chapter has described the theoretical literature that is backing up this case study. The different industrial revolutions were also focused on, but more specifically the focus was on the fourth industrial revolution and the fifth industrial revolution. The

different technology adaption models and theories available literature was described, the available literature that touches on the factors that influence the adaption of technology, the factors that hinder he adaption of technology were also mentioned in this chapter. This research also adapted the impact of the fourth industrial revolution on South Africa, as well as the impact of the fourth industrial revolution on the South African banking industry. The next chapter which is focused on the research methodology for this case study will focus on the manner which the data in this case study will be collected and analysed.

Chapter 3: Research Methodology

3.1 Introduction

For every research project, a research design must be conducted. According to McCombes (2021), the research design is a framework used to address different research questions brought about by the research project. The creation of the research design includes the making of decisions about the research approach that will be used during the research, the research methodology that was used during the research project, the techniques that will be used when the data is collected for the research project, the process that will be followed when the data is analysed, the limitations of the study and the ethical considerations that must be taken during the research project. The research design will concern the research performed for the Readiness of the South African Corporate Bank (SACB) for the Fifth Industrial Revolution. What is described in this chapter is the research design, the choice of the methodology used, the population and sample method, the data collection techniques, and the analysis technique.

3.2 Research Philosophy

Identifying the appropriate research methods based on the agreed research data collection and analytical method, which happens in the early stages of the research project, is known as the research philosophy (Rahman M. A., 2017). The different research methodologies are considered the main idea of representation of work received from the employees and translated from the research case study. Research philosophy is a big talking point, and it deals with different levels of research; the philosophy is engaged on all the different levels of the creation of knowledge for the research studies, which is why it is also responsible for the representation of the study assumptions and the norms, different studies must contain the research methodology which is the initial topic of research. The research philosophy consists of four main types of research philosophies, which include Pragmatism, this type of philosophy type is the main factor in the research phase for the epistemology and ontology types; they are also important in determining the research questions for the axiology, anthology, and epistemology research types, these research types also assist in determining the research questions. Positivism is the second type of research philosophy; this philosophy aims to adopt, enhance, and present the philosophical scene of the natural scientist. Realism is the third type of research philosophy, the type of epistemology

close to the positivism philosophy, which assists in developing knowledge, while realism assists in collecting research data and analysing the collected data. Lastly, the research philosophy, designed for a complex world like defining laws, why its value to divide complexity into smaller manageable laws is known as the Interpretivism philosophy (Team, What Is Research Methodology, 2022). The research philosophy utilised in this case study is the interpretive philosophy because this philosophy places significant importance on subjectivity.

3.3 Research Approach

The most used research approaches are the qualitative, quantitative, and mixed approaches, combining both qualitative and quantitative research methods. Collecting and analysing numerical data is the quantitative research approach (Bhandari, 2021); the researcher can use this method to make predictions, test actual relationships, patterns, and averages and generalise results to the wider populations. The second research approach is to interpret how people experience the world, collect, and analyses non-numerical data and understand concepts and opinions; this is the qualitative research method. This type of research is mostly utilised for humanities and social sciences studies. The third approach is the combination of the two approaches.

This research will analyse the readiness of the South African Corporate Bank for the Fifth Industrial Revolution using the Mixed Research Approach (which includes the Qualitative and Quantitative approaches). Different types of collection methods are used to collect data when the mixed research approach is used; these include interviews, surveys, focus groups, observations, and secondary research. There are also a couple of advantages to using the mixed research approach. Mixed Research methods allow for the triangulation or verification of information or findings from several sources or methodologies, so enhancing the validity or reliability of the research. As a result, the interpretation or understanding of the research may be improved. It may also enable the exploration or justification of the conclusions drawn from one approach using the information or outcomes of another. The quality or rigor of the research can also be improved by addressing the weaknesses or gaps of one approach with the strengths or advantages of another.

Conducting or assessing mixed-methods research for both researchers and practitioners, research can provide a variety of obstacles. These difficulties can include the need for extra time, money, experience, or knowledge to organize, carry out, and

report the study, as well as ethical, practical, or theoretical problems with the sampling, data gathering, analysis, and integration.

3.4 Research Methodology

According to Warren (2020), the practical way in which the researcher will systematically design a study that will guarantee valid results to address the research objectives and the aim is known as a research methodology. The researcher can use different research methods, including case studies, documents and records, observations, surveys, interviews, and focus groups. For this research, “Readiness of the South African Corporate Bank for the Fifth Industrial Revolution”, the case study method will be utilised as the research methodology. According to McCombes (2019), a detailed study on a specific subject, a group, a place, an organisation, or a phenomenon is known as a case study research method.

This research method is mostly used in clinical, business, educational, and social research. This type of method is usually involved in qualitative methods, including interviews, observations, and the analysis of primary and secondary sources, but it can also be used in quantitative methods. This method is good for evaluating, describing, comparing, and understanding the different aspects of the research problem. The research methodology was adopted because the researcher wanted to acquire an in-dept understanding of the readiness of the SACB for the fifth industrial revolution, in the natural and real-life context, the chosen methodology also allowed the research to be focused and manageable with the specific organisation that was being researched.

3.5 Research Population

The group of individuals from whom the intervention intends to conduct research and draw conclusions is known as the target population (Barnsbee, 2018). The target population for this study is the employees of SACB, who are from different employment levels, and the target population is from different demographics. The interview will be hosted online on the Teams platform, or the interviews will be face-to-face. The responses from the target population will be recorded using the Teams platform capability if the interviews are online; alternatively, the interview responses will be transcribed by the interviewer.

3.6 Data Collection Instruments

The process of gathering and measuring information on the variable of interest in a systematic fashion that allows a person to answer a stated research question, test hypotheses, and evaluate outcomes is known as the data collection (Data Collection, 2020). There are two methods of data collection, which are primary data collection methods and secondary collection methods. Primary collection methods are interviews, observations, focus groups, questionnaires, and surveys. Included under secondary collection methods are published texts, audio, or visual formats. For this research, the data collection methods of interviews, observations, documents, and records will be utilised.

3.6.1 Interviews

A qualitative research technique that involves asking open-ended questions to talk with respondents and collect elicit data about a specific question is known as an interview (Types and Methods of Interviews in Research, 2020). The person who conducts the interview is normally the subject matter expert who aims to understand the interviewee's opinions with a well-planned and executed number of questions and answers. These take a similar form to focus groups and surveys when it comes to the collection of information from the target market. There are three types of interviews in research: structured, unstructured, and semi-structured interviews. Further to the different types of interviews, there are also different types of interview methods; these include personal interviews, people meet face to face and have the interview; telephonic interviews, the interview conducted over the phone; and lastly, there are email or web page interviews. The interviews will be semi-structured and conducted online or through a web page for this research.

3.6.2 Secondary Data Sources

The information that would be collected from the primary data collection, which would have been done through conducting interviews, will be complemented by the secondary sources of data collection. Secondary data include printed text, published books, journals, and articles related to the study, (Blog, 2022)

3.7 Sample

3.7.1 Sampling methodology

A group of people or items taken from a larger population will be used for measurement, or research is a sample (Taherdoost, Sampling Methods in Research Methodology;, 2016). Sampling is used to conclude the populations from the sample;

it is important to use inferential statistics to determine the population's characteristics, which will be done by directly observing the specific portion of the population. The population sample is obtained for different reasons because it is usually not practical or rarely economical to use the entire population. There are different types of sampling used in research, probability, and non-probability.

3.7.2 Sample size

According to (Rahman M. A., 2017) selecting a sample size is an important step in research methodology. The act in question is the selection of the number of observers or replicates to be used in a statistical sample. Other times, the improvement in precision brought on by a larger sample size is insignificant or nonexistent. Sample sizes are evaluated based on the quality of the estimates that were produced. The sample size for descriptive research is different from that for experimental studies. Setting the sample size contributes to raising the bar for evidence-based research.

For this study, probability sampling will be utilised. Probability sampling is when the researcher picks the sample based on the impact on the research. The sample size of the research will be ten (10) participants, who are employees from the South African Corporate Bank. The participants will include employees who currently hold leadership and non-leadership positions. There are interviewees who have different demographics, which include, from a gender perspective, both male and female. Different ages have been included to be part of this study. The participants' cultural background is different: African and Western background. The study participants hold different roles in the bank, including Business Representatives, heads of department, Business Analysts, Developers, and System Matter Experts (SMEs). Their income varies; the income of participants is not the same because they hold different positions in the organisation.

3.8 Data Analysis

Data analysis is a process used by researchers to interpret data as a story and derive insights (Ibrahim, 2015). Different data analysis methods can be used when the mixed method research technique is used, including discourse analysis, thematic analysis, and content analysis. The collection of data is a continuous, iterative process. For this research, the information will be gathered to identify and get patterns of information to ascertain what the data mean. According to (Varpio, 2020) thematic analysis is a well-liked but commonly misunderstood method for analyzing qualitative data. For

qualitative researchers, it is a useful and approachable tool, but misunderstandings about the conceptual underpinnings of the method and vague definitions have made it challenging for researchers to adopt and use it. Researchers of all levels of competence can complete the assignment with rigor and thoughtfulness because to the powerful and flexible thematic analysis method. There are different approaches that can be used for thematic analysis, these approaches include the inductive and deductive approaches.

According to (Caulfield, 2019) the thematic analysis approach that includes the determination of themes by using data is known as the indicative approach, secondly the approach that involves preconceived themes from data, which is based on existing knowledge or existing theories. This approach that was taken for this case study is the indicative approach. The following steps were taken in the thematic analysis of the data: familiarisation, this includes the understanding of the data that is collected, before the data is analysed. Secondly, coding, this step includes the highlighting of the sections of the text, which is normally phrases or sentences. The third step includes the generation of themes, the codes that were created in the previous step are used to determine patterns then once patterns are identified then themes are generated. Fourth step that was implemented was the reviewing of themes, fifth step was to define and name the themes. The last and final step to the thematic analysis was to write up the analysis of data.

3.9 Validity and Reliability

The representation of the key aspects of the quality of research is done by validity and reliability (Chetty, 2020); when the research is handled meticulously, the validity and reliability parameters assist in distinguishing between a bad and a good research project. Validity and reliability also guarantee to the readers that the study's findings are trustworthy and credible. In this regard, the interview questions were reviewed by the supervisor and tested by a pilot group. The utilised study sample was sufficient in size and diverse from a demographic perspective. The reliability of the findings can be done by retesting the participants at a later stage of the project, by utilising the same interview question, or alternatively by administering similar types of interview questions to the same participants at a different stage of the research project.

One of the important factors that must be developed in research is credibility. It is regarded as one of most crucial factor or standards for determining trustworthiness.

This is since to demonstrate the veracity of the findings of the research study, credibility essentially requires the researcher to directly connect the findings of the research study with reality. As qualitative research acquires acceptance and importance, it must be conducted thoroughly and deliberately in order to produce meaningful and useful results. If qualitative researchers want the reader to believe that the data analysis was done in a precise, consistent, and thorough manner, this can be categorized as trustworthy, they must document, systematize, and disclose the techniques of analysis in sufficient detail to allow the reader to assess the process' credibility according to (Nowell, 2017). For this case study the techniques used were documented, systematised, and disclosed for sufficient analysis to allow the reader to access the processes of credibility of the case study.

According to (Moon, 2016) the consistency and the reliability of the findings from the research study and the degree that the research procedures are documented, which allow a person that is outside of the research to audit, follow and the evaluation the research process is known as dependability. For this case study the research procedures have been documented accordingly, and this will allow someone who is not part of the research project to follow and evaluate the research process. According to (Korstjens, 2018) the degree to which the findings of the research study findings can be confirmed by other researchers is known as confirmability. It is dealing with the establishment of the data and the interpretations of the findings and not illusions of the inquisitor's imaginations, but it must be obvious that it was derived from the data. Lastly when readers of the case study are provided with evidence that the findings of the case study are applicable to other contexts, populations, times, and situations this is known as transferability according to (Consultores, 2020). The transferability in this case study is established and visible.

3.10 Ethical Considerations

According to (Bhandari., 2021) Ethical considerations in research are a collection of guidelines that drive your study designs and practices. Scientists and researchers are required to follow a set of ethical guidelines whenever they collect data from individuals. The goals of human study typically include comprehending actual events, investigating effective treatments, examining habits, and improving lives in other ways. Both the topic you decide to examine and the methodology you choose for that research must take ethical issues into account.

Even though some of the questions pertain the current duties that the respondents perform at the SACB, no names or any form of identification, this brought about the element of anonymity for the participant of the study. Great care was made to guarantee that participants of the study were caused no harm by not put through them undue stress, humiliation, or physical suffering because of the questions from the interviews.

Additionally, before beginning the interviews, respondents were given an informed consent statement that guaranteed their privacy and made it clear that their participation was completely optional, and they had the ability to revoke it at any moment. An obligation was made by the researcher of confidentiality, which was to guarantee the safeguarding of the responses and the information provided by the participants this includes the protection of information from loss, theft, disclosure, or unauthorised access.

Additional information included the following:

- The Study's description and goal
- The participant's level of involvement
- The researcher's contact information

3.11 Limitations of the study

The study's limitations are the flaws or shortcomings that can lead to the unavailability of resources, the flawed methodology, and the small sample size. All studies have some limitations that need to be considered when a study is being performed, including this study. The sample size selected for this case study was small since the interviews were conducted with employees from one bank and not different banks, making it difficult to get a larger sample size. The second limitation of the study is the lack of previous research studies regarding South African Corporate banks and the different types of industrial revolutions.

3.12 Conclusion

This chapter provided an overview and a description of the methodology that was used in this case study, the research philosophy was discussed in depth and a description was given of why the research philosophy was chosen. The Research approach was also discussed and the benefits of the utilisation of the research approach were discussed in this chapter. The research methodology we specified and the justification

for the use of this methodology were clearly stated the research population was described accordingly, and the data collection methods will be given which are interview and secondary data sources. The sample size was described also the sampling methodology was discussed. The data analysis was also discussed, the validity and reliability of the case study wad discuss, the ethical considerations of the study were discussed in full detail and lastly, the shortcomings of the research project were clearly presented.

Chapter 4: Presentation of Results

4.1 Introduction

In this chapter, the findings of the study will be discussed, the participants of this case study will be described, and there will be a clear outline of the results of the data being analysed. The results are presented in different ways, including charts and graphs. Specifically, for this case study with the SACB, ten participants were interviewed, the below results were generated regarding the Readiness of the SACB for the Fifth Industrial Revolution.

4.2 Demographics Analysis

Below is the participant's profiles table that lists the different demographics for each of the participants of the research project:

Participant	Race	Gender	Age	Occupation
A	White	Female	>55	System Matter Expert
B	Black	Male	25 - 34	Developer
C	Indian	Male	35 - 44	Systems Architect
D	White	Female	25 - 34	Support Analyst
E	Black	Male	35 - 44	Business Analyst
F	Black	Female	35 - 44	Department Team Leader
G	Indian	Male	25 - 34	Developer
H	White	Female	45 - 54	System Analyst
I	Black	Male	18 - 24	IT Graduate
J	Indian	Female	25 - 34	Human Resources Consultant

Figure 12 - Portfolio of Participants

A total of five males (50%) and five (50%) females participated in the interviews. There is an equal number of participations between the two gender types, this could be due to the interest that the employees have in the topic relating to the industrial revolutions.

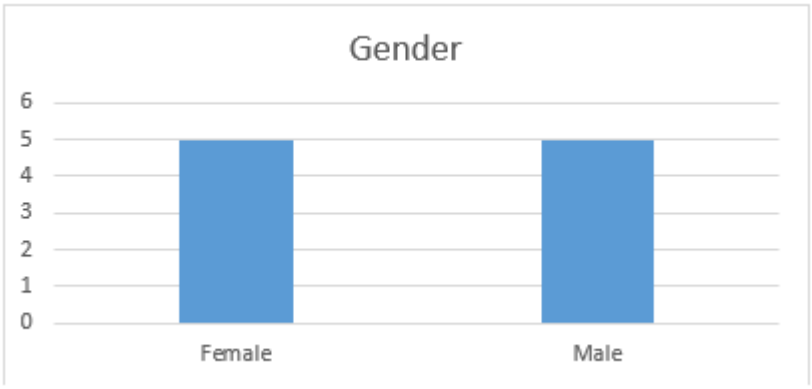


Figure 13 - Gender

The participants were between the ages of less than 56 and 23, this reflects the ages of the employees at the SACB, and the organisation hires employees in different age groups, from different generations.

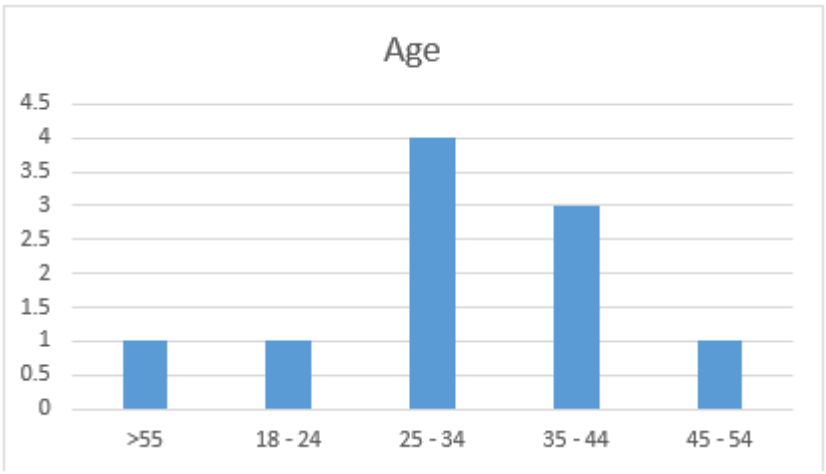


Figure 14 - Age

The participants that were interviewed were from different races which included White, African, and Indian. Which proves that the SACB is a diverse organisation that employs employees from different races.

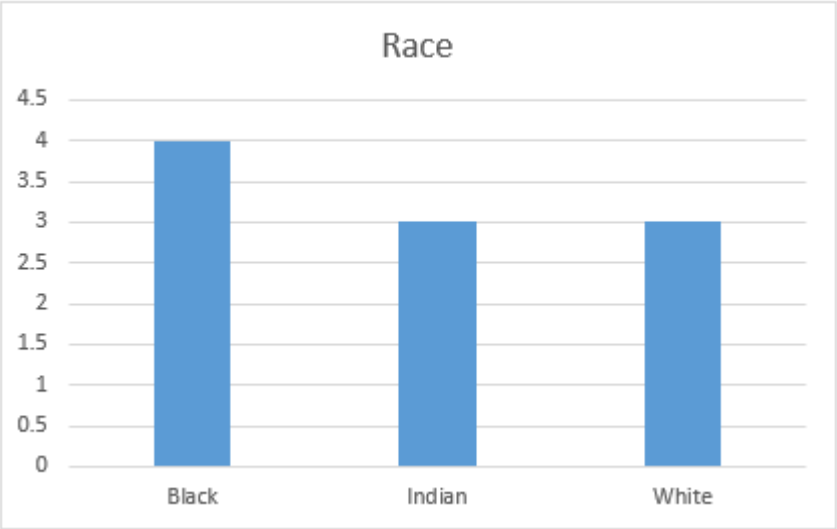


Figure 15 - Race

4.3 Presentation of findings

4.3.1 General Understanding of the fourth and fifth industrial revolution

Understanding fourth industrial revolution (4IR)

Respondents agreed that they are not specialists in the industrial revolutions, but they provided a high-level understanding based on their interactions with the said day-to-day operations at the SACB.

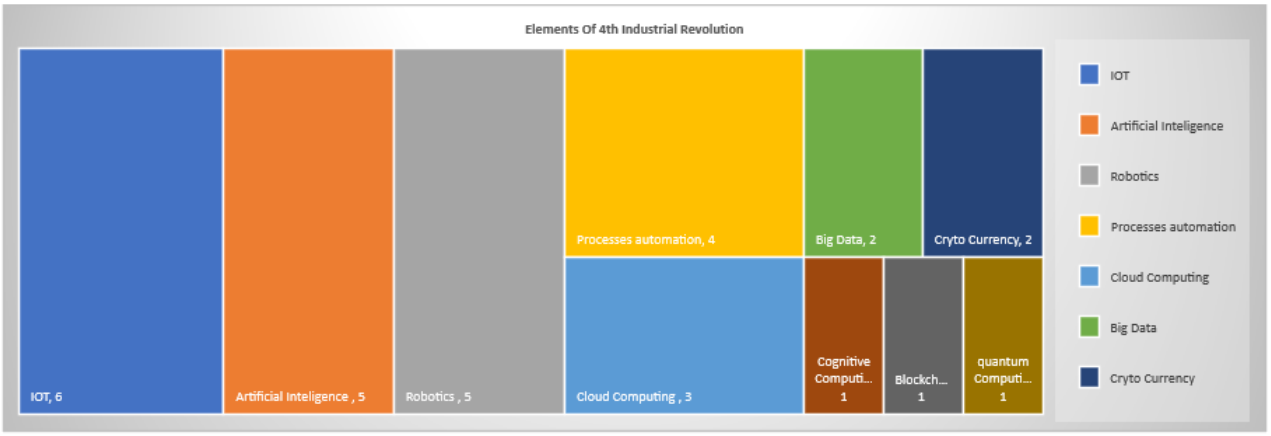


Figure 16 - General Understanding of Industrial Revolutions by SACB Employees

Research Participants used technology terminology to demonstrate their understanding of the 4th and 5th Industrial Revolutions. The above chart (Figure – 16) indicates that the Internet of Things (IoT) is the number one technological aspect

associated with the 4th Industrial Revolution, followed by Artificial Intelligence, Automation, and Robotics. Cloud Computing, Cryptocurrency, and Big Data followed these. Cognitive Computing, Blockchain, and Quantum were rarely mentioned.

Understanding fifth industrial revolution (5IR)

It was evident that only a few of the respondents were familiar with the concept of the 5th Industrial Revolution. Twenty percent (two) of the respondents associated the 5th Industrial Revolution with merging humans and technology and cloud computing and described it as augmented artificial intelligence.

Embracing technology

Most respondents indicated that the South African banking industry has fully embraced the concepts of the 4th industrial revolution. Although most respondents did not refer to the 5th industrial revolution, two who did were confident that South Africa is behind when coming to the 5IR.

"Technology drives revenues, business strategies are centered on tech innovations and best banks are those who place Fintech at the core of their business. The discussion around the fourth industrial revolution in SA is however a sensitive one. The digital divide, poverty, and illiteracy are some of the factors hindering the full adaptation of both the fourth industrial revolution and the fifth industrial revolution. Tech innovation and education are essential in promoting Africa's readiness to adapt newer technologies"

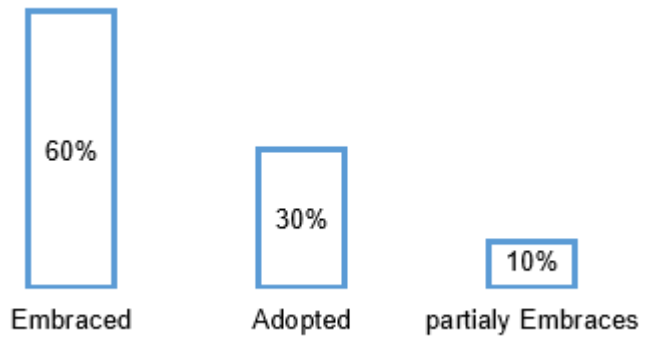


Figure 17 - Adoption of the 4IR principles by the SA Banks

Adoption of fourth industrial revolution (4IR) – global banking industry

Those who partially agreed that South African banks had fully adopted the aspects of the 4IR said so because they believe that some of the banks in South Africa are using elements of the 4IR and some of the banks are still operating with the old ways.

There is split of opinions regarding whether the global banking industry has embraced or adapted to the Fourth and Fifth Industrial Revolutions. Participants who believe that the global banking industry has embraced or adopted the Fourth or Fifth Industrial Revolution base their response on the significant differences witnessed by their clients and in their day-to-day operations as employees of the SACB. In their view, clients can transact internationally 24hrs (around the clock), and as employees, there are cloud computing solutions, artificial intelligence, and generally improved processes.

"On Fourth Industrial Revolution Global banking has made great leaps in adapting to the Fourth Industrial Revolution"

"As for the fifth industrial revolution*, the uptake has not had as much traction as the Fourth Industrial revolution since it's still in its infancy"*

Fifty percent (50%) of the respondents that believed that the global banking industry is partially and slowly adapting to the Fourth and Fifth Industrial Revolutions say it is due to underdeveloped countries who have not yet had the privileges of accessing and interacting with the 4IR; some used Crypto Currency as an example of progress made toward full adoption. Although the respondents have split views regarding the global banking industry, they all agree that progress has been made and hard work has been put in to arrive at the destination.

4.3.2 Utilisation of the Fourth Industrial Revolution Principles at SACB

To understand how the South African Corporate Bank is using the principles of the 4th Industrial Revolution, the researcher first asked if the participants understood what the 4th Industrial Revolution entails and if they have embraced and adapted the principles in the organisation.

Maturity of Adoption

Half of the respondents believed that the SACB is invested, embraced and adapted to the 4th Industrial Revolution, while the other half believed that although aspects of the 4th Industrial Revolution have been adopted, they still need to be implemented. In general, the respondents alleged that the 5th Industrial Revolution in the organisation is still in its infancy.

One group of research participants indicated that the organisation has adapted and implemented APIs, the Internet of Things, and Artificial intelligence; the organisation can also provide tailored services to their clients and focuses on data analytics. The

second group agreed that the adoption of the 4IR was partial. They indicated that although aspects of data analytics were adapted and rolled out to monitor clients' behavior in terms of banking activities and Robotics for voice biometrics and other tools to ensure the integrity of the data being shared with the clients and verification were deployed in the organisation, the main issue was that majority of the clients are over 50 years of age. They are not on par with the revolution. It was also recorded that although most aspects were adopted, critical processes are still manual and need to be automated to improve processes.

Completely	• Banks to be able to transact with each other on a global level • Significant improvement in the banking experience Services available 24hrs • High-ranking banks in different countries have started implementing 4IR processes, like cloud computing and artificial intelligence.
Partially	• Most under-developed/developing economies are still trapped in previous revolutions and have not come close to adapting to the vast changes introduced by these technologies. • Cryptocurrency hasn't been taken up aggressively in the industry. There are a lot of illegal transactions in crypto, which could be the reason why crypto hasn't been taken up aggressively • We went through the digitisation process globally as a banking industry. We are currently at the point where we are trying to digitise most of the processes

4.3.3 Impact of the fourth industrial revolution on the SACB

When the respondents were asked if the SACB's Corporate Bank department had adapted to the 4th Industrial Revolution, 70% indicated that it was partially adapted.

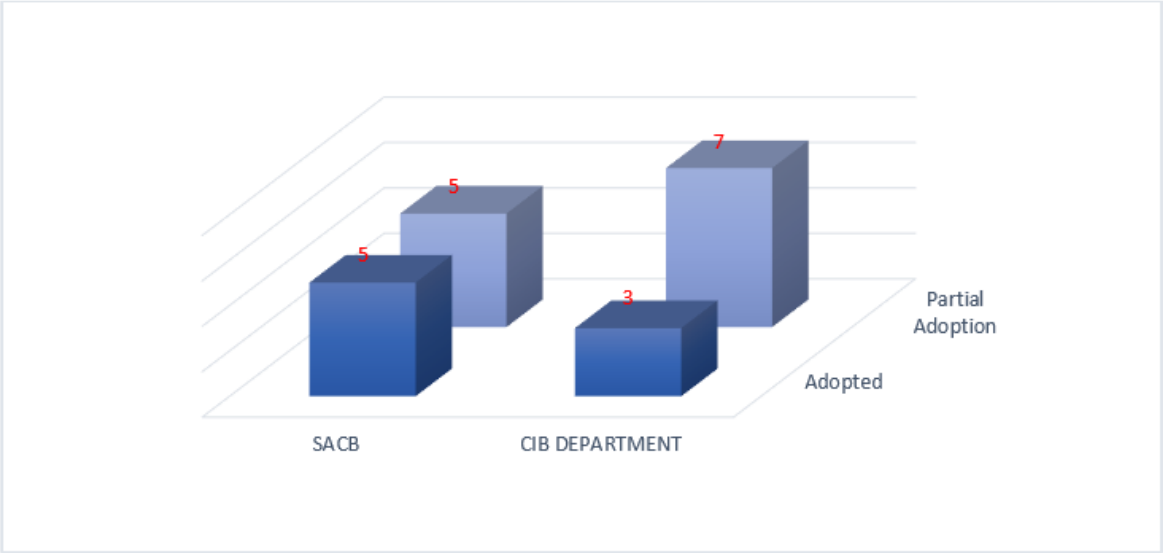


Figure 18 - Adoption of the 4IR at SACB and CIB Department

The reasons for partial adaptions were that the CIB teams continuously introduced newer technologies; however, the IoT and AI are not yet fully embraced. There are also more complexities when dealing with corporate businesses. Others emphasized that the alignment between the bank's speeds of executing the 4th Industrial Revolution is limited by the type of clientele. In general, the sentiments were that although strides have been made, there were areas that need improvement.

Thirty percent (30%) of the respondents were convicted of fully adapting to the 4th Industrial Revolution. That was evident because the changes in technology have been embraced from the team level, and aspects like APIs used on the different platforms are within the division, including the Web and the online App that the clients use. The organisation also fully uses big data and a data analysis team.

Artificial Intelligence and the Internet of Things were the top two 4IR aspects adopted by the Corporate Bank division of SACB (Figure 19), followed by Big Data and Robotics. Artificial Intelligence is mainly used for monitoring client behavior in terms of banking. Analytics is used mainly by the digital teams to serve the clients better based on their needs and to understand their requirements purely based on behavior. Robotics for voice biometrics is another tool used to ensure the integrity of the data being shared with clients as well as the verification of identity. One respondent indicated Cloud Computing has been adopted because there are several technologies used from the cloud.

"Blockchain technology has not yet been fully developed but the mention of the technology is growing day by day."

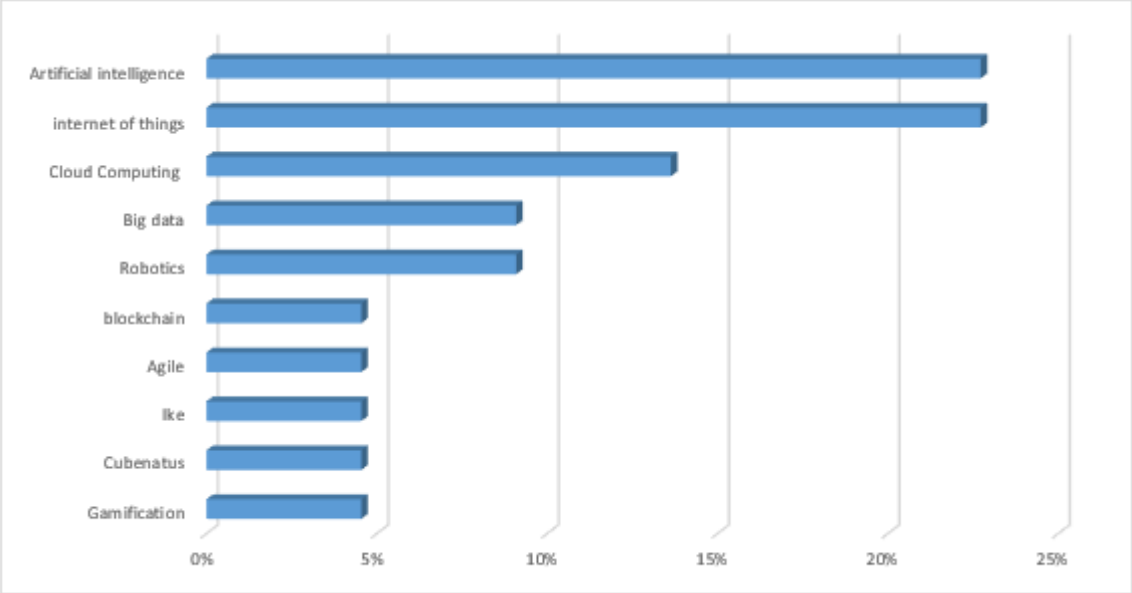


Figure 19 - Aspects of the 4IR that the SACB has adapted

4.3.4 Bridging the Gap

The last sub question of the study is what recommendations or suggested ways can be considered to facilitate the adaptions of the fourth and fifth industrial revolution

Impact or benefits of the fourth industrial revolution (4IR)

Most respondents noticed changes in processing times as the leading evidence of the 4IR (Figure 20). Speed of processing was followed by Time and Cost Savings. Customers are also better understood. Some respondents also felt that customer data is more secure, and the bank gained a competitive advantage.

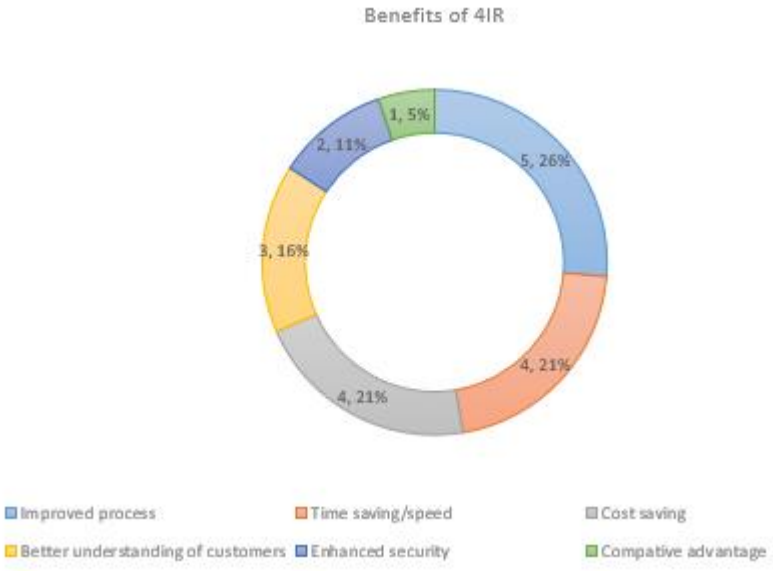


Figure 20 - Benefits of 4IR

Forty percent (40%) of the respondents identified Block Chain and 3D printing as the least adapted 4IR aspects. Artificial Intelligence and the Internet of things were the second least aspects adopted. One respondent indicated that the organisation had not embraced some of the aspects of the 4IR, and for some, even though they have been embraced, they are not fully mature to say that they can go paperless, and that the organisation is still working on systems like Mainframe.

It was also indicated that some core processes, like opening an account, are still manual. This process takes a week. Processes like onboarding can be automated

> *"Aspects have been adapted but not aggressively to improve the core processes"*

Hindrances that have prevented the SACB from adapting the previously mentioned 4IR aspects were identified as management readiness, non-supportive organisational strategy, and delays in executions. The recommendations to deal with the hinderances include management readiness for the new industrial revolution, change in strategy, and acceleration in execution of processes.

4.3.4 Readiness for the Fifth Industrial Revolution (5IR)

To ascertain that the SACB is ready for the 5th Industrial Revolution, the researcher first queried if the respondents understood what the 5IR entails and what it means to the organisation. Respondents provided an invariable response that there is no understanding of what the 5IR entails.

Embracing the fifth industrial Revolution (5IR)

Respondents believed that the 5IR is not yet embraced at their operational level, and some aspects are difficult or unclear. It is also believed that the impact of the Fifth Industrial Revolution will be delayed as it will take some time to adapt fully. Others indicated that it is not embraced in the bank because it is not embraced at a strategic level of the bank. Some respondents believed the bank has not embraced it because of a lack of interest and focus on economic issues.

Although all respondents agreed that the 5IR is not understood in the bank and has not yet been unpacked, 90% indicated it is more about the relationship between humans and technology and the advantages of that relationship. Some of the benefits indicated were cost-cutting, improved processing, and quality control (Figure 4.8).

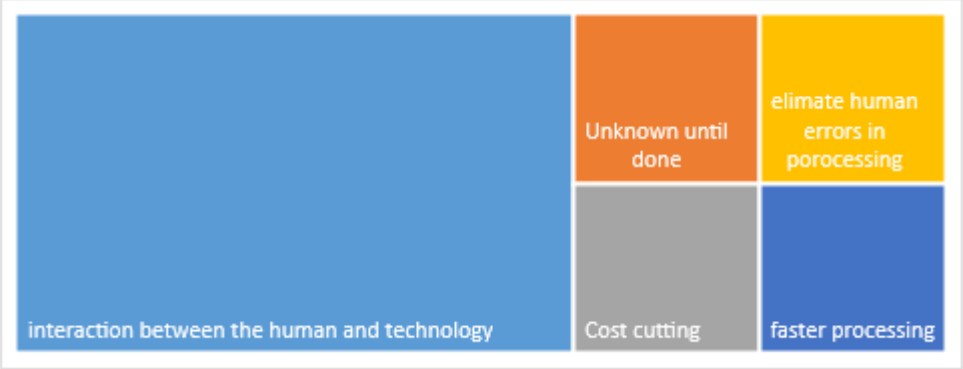


Figure 21 - Benefits of 5IR

Readiness of the fifth industrial revolution (5IR)

Eighty percent (80%) of the respondents felt that the SACB and the corporate bank department are not ready for the 5IR. One respondent indicated that the uptake of the 5IR will pick up the same way the SACB embraced the 4IR and the transformation from a conservative bank with a more robust and a quick to market approach. Only one respondent completely differed from the rest and indicated that the organisation was ready for the 5th Industrial Revolution.

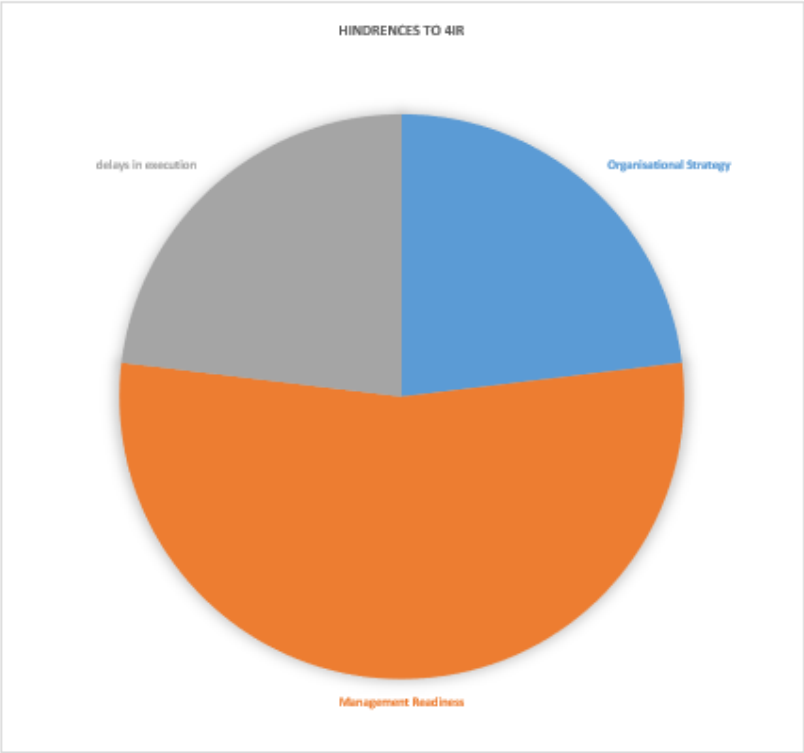


Figure 22 - Hindrances to the adaption of 4IR

SACB's Corporate Bank Maturity

The organisation's maturity level from the IT perspective seemed not to be at the expected level of the respondents. Some indicated that there was no appetite from an organisational perspective. For instance, Block Chain seemed to be delayed due to multiple analyses and research still being conducted. 3D printing is not used in the bank, and there is no full buy-in from the executives in the organisation to adopt some of the aspects. In addition, it was not part of the organisation's strategy to adopt some of the elements of 4IR.

"Leadership is mainly concerned about the traditional ways and culture of SA Corporate Bank since its inception. Although brick-and-mortar type of settings are no longer the only option (in fact other modern options are favored more), SA Corporate Bank's focal point is giving clients a personal experience by building face-to-face relationships. With software such as ZOOM and MS Teams, not only have virtual meetings become easy and convenient but they also signify a step in the right direction in as far as tech adaptation is concerned. However, SA Corporate Bank chooses to adapt the 'why change something that works' principle. This is a simple example of how long a road we must travel."

Next Action

When research participants were asked about the essential steps that must be taken, from an organisation's perspective, to implement or adapt the aspects of the 4IR that have not been adapted, 40% of the respondents agreed that a shift in the overall organisation's strategy would be beneficial to move to the adaption of the processes that have not been adopted. Additionally, management's appetite for the aspects of the 4IR should be improved. In some cases, like for the Block Chain, government regulation is required for full implementation. As shown is below (figure 23)

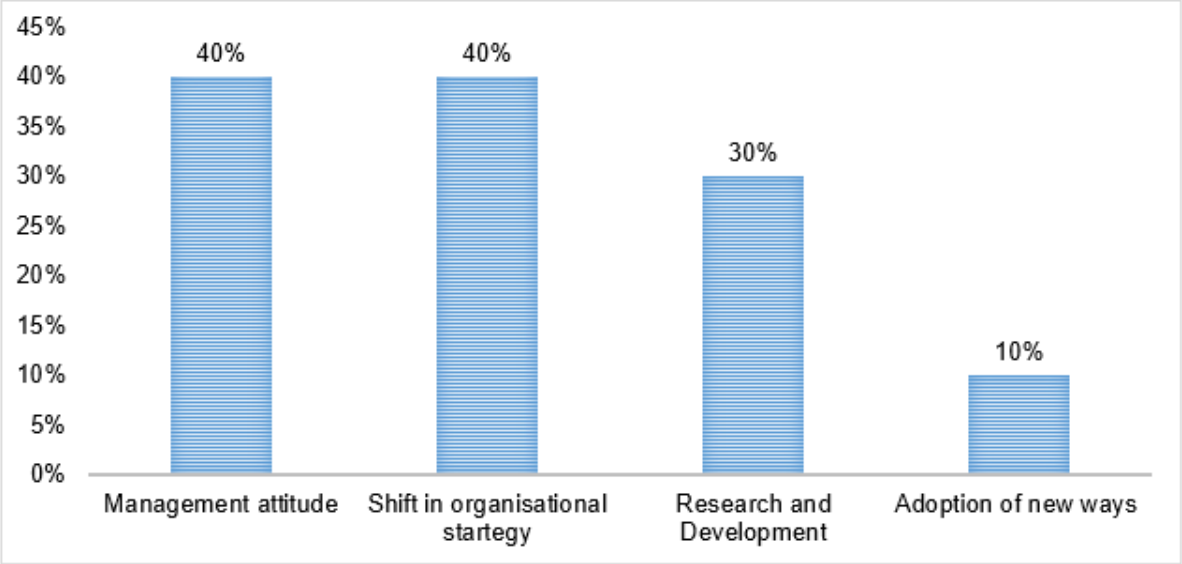


Figure 23 - Successful Implementation of Requirements

Half (50%) of the respondents disagreed that the current state of way of doing things in the local banks will align with the changes that are brought about by the 5IR, while 30% thought it would take a while before an alignment is achieved and that not all banks in South Africa have fully adapted to the 4IR (Figure 4.12). The last 20% agreed that there would be alignment.

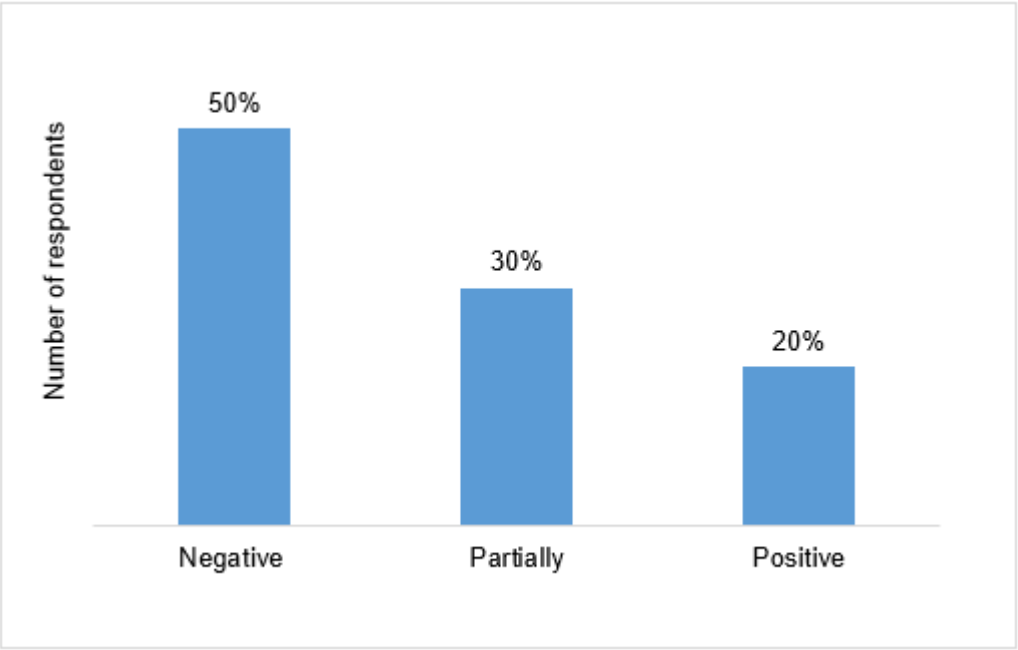


Figure 24 - Current state of doing things at SACB

4.4 Analysis of results in terms of research questions

The research had the following questions, firstly, is the South African Corporate Bank ready for the 5IR? The following are the sub-questions that form part of this case study.

Main Question

Is the South African Corporate Bank ready for the Fifth Industrial Revolution?

Sub-questions

a) What is the general understanding of the fourth and fifth industrial revolution by the SACB employees?
b) How does the SACB apply the fourth industrial revolution principles?
c) How will the fourth industrial revolution affect the SACB?
d) What recommendations can be considered to facilitate the adaptions of the fourth industrial and fifth industrial revolution?

Based on the feedback received from the interviews performed with the employees at a South African Corporate Bank, the organisation is not ready for the 5IR. Their ill-equipped stance is proven by the fact that employees do not understand what the 5IR entails and how it will benefit them as individuals. The employees also do not understand how the 5IR will holistically impact the organisation.

The first research sub-question was, is the South African Corporate Bank using the principles of the 4IR? Based on the responses provided by the interviewees, some of the principles of the 4IR have been adapted and implemented in the organisation, but what is concerning is the fact that some core processes have not been digitised. This is not a good sign because it affects the product being offered to the client; this prevents the client from accessing the product offering quicker since the turnaround time is longer.

The second sub-question for this case study was, are the employees of a South African Corporate Bank ready for the 5IR? The results show that the employees are not ready for the shift of the industrial revolution from the Fourth to the Fifth Industrial Revolution. The employees do not clearly understand what the Fifth Industrial Revolution entails. The last sub-question for this case study was, will the current way of doing things at a South African Corporate Bank align with the principles of the 5IR? Based on the feedback, interviewees think there are still some gaps between what has been prescribed by the 4IR and its principles currently being utilised at the South African Corporate bank. The principles are not being used in totality; some aspects have not been adopted, some have been partially utilised, and others have been adapted and implemented accordingly.

4.1 Conclusion

This chapter presented the results of the interviews conducted with the employees of a South African Corporate Bank. This was in accordance with the research objectives and problems defined in chapter one of this study. The demographics of this sample represent the targeted population, which was South African Corporate Bank employees, which included employees from different levels, races, and ages.

Chapter 5: Discussion of Results

5.1 Introduction

This section discusses the findings presented in the previous chapter (Chapter 4). The reason for the discussion of the results is to understand the extent to which the interpretation of the emerged findings from the key informants' perspectives in the previous chapter link to the reviewed literature presented in Chapter 2. The perspectives all concern the 4IR, the 5IR, and a South African Corporate Bank. The qualitative analysis method of coding was utilised to derive the findings where the background either supported or opposed the research questions that are obtainable in Chapter 1. The linkage of the findings to the study's objectives, presented in Chapter 1, is another important element that is brought about in this chapter. The central point of this case study is to understand the readiness of the South African Corporate Bank for the fifth industrial revolution.

5.2 Research Main Question

Is the SACB Ready for the Fifth Industrial Revolution?

- Understanding of the Fifth Industrial Revolution
- Use of the principles of the Fifth Industrial Revolution
- Benefits of the use of the principles of the Fifth Industrial Revolution

To understand if the SACB was ready for the Fifth Industrial Revolution, the employees of the SACB were asked if they understood the 5IR. As previously stated in Chapter 2, as part of the literature review, the 5IR focuses more on the interaction between humans and machines. Since the 5IR focused more on doing things with machines, this revolution aims to bring back the collaboration between humans and machines. The expectation is that this revolution will drive technologically advanced human-machine interfaces. This is stated in the second chapter of the literature review.

The 5IR entails that there will be a focus more on human manufacturers. This also brings out the best of both the machine and human domains. Advanced technologies, such as the Internet of Things and Big Data, are also brought about, which humans and machines will use to bring about more efficiencies. The 5IR also combines cognitive computing abilities with human ingenuity and cleverness in collaborative processing. When this revolution occurs, humans will work safely, efficiently, and effectively in conjunction with industrial robots. During the previous revolutions, the

robots were operated independently from the employees. However, in the 5IR, which is currently being formulated, the manufacturers have an obligation to proactively organise different ways to include machines and human workers with the aim to capitalise on the unique advantages that can be received as this revolution continues to develop.

The employees at the SACB provided different responses when probed about the 5IR, which concluded that the employees did not understand what the Fifth Industrial Revolution entails. The employees believed that the aspects of the 5IR were difficult to understand and unclear. The employees also believed that the 5IR impact would not be felt immediately and that its adaption would take time, considering where the organisation currently is from an adaption of the principles of the 4IR, which has not been fully embraced in the organisation.

The major consensus from the employees is that the Fifth Industrial Revolution is not fully understood within the organisation, and this revolution has not yet been unpacked from an organisational perspective. Most of the employees indicated that the 5IR is not fully understood, and the employees are not interested in understanding what it is about, because they do not understand how it will impact their daily functions at the bank.

In chapter 2 the literature review was presented with included the different types of adoption models, one of the adoption models that was discussed was the Technical Adoption model. This model suggests that the adoption of technology is dependent on the attitude that is linked to it; the attitudes are determined by the ease of use of the technology and the perceived usefulness of the technology. The findings of the study are aligned with the TAM model, which is why the leadership of the SACB must provide the necessary training and support for the employees to understand the impact of the different revolutions, specifically the fourth and fifth industrial revolutions, this will give sight of what the revolutions are about, and this will change the attitudes of the employees, and once the employees have been supported by the employers for this change, the employees will see the usefulness of the technology. The model states that once the employees perceive the system as being useful, and there is ease of use there is then a behavioral intention to use the actional system or technology. Basically, once the leadership has provided the necessary support this will change the attitudes of the employees toward the technology.

5.3 Research Sub Question 1

What is the general understanding of the fourth and fifth industrial revolutions by the SACB employees?

Keynotes:

- Employees are familiar with the Fourth Industrial Revolution
- Employees are not familiar with the Fifth Industrial Revolution
- Employees do not understand the impact of the Fifth Industrial Revolution

The findings of the case study suggest that even though the employees of the SACB agreed that they are not specialists in the different industrial revolutions, they provided a high level of understanding based on their interactions with the daily operations in the SACB. The findings also suggest that some of the principles of the Fourth Industrial Revolution are currently being utilised at the South Africa Corporate Bank. The principles include the Internet of Things, Cloud Computing, Artificial Intelligence (AI), Automation, and Robotics. Some of the aspects of the Fourth Industrial Revolution were not mentioned by the employees, and these principles include Cognitive Computing, Block Chain, and Quantum Physics.

Existing knowledge does suggest that the South African banking industry has adopted some of the aspects of the Fourth Industrial Revolution. This revolution has impacted the South African banking industry by introducing the following: Automation in the banking environment, internet banking, AI, digital banking, mobile banking, e-commerce, or online shopping.

The introduction of these principles in the banking sector has impacted the economy and the socio-culture. The impact is the disruption of existing jobs and skills and the creation of new jobs in the specific industry in which the new skill set is being enhanced as new technologies are being created. There is also a human capital improvement, which includes the improvement in education, knowledge, experience, skills, creativity, and motivation.

The findings of this case study also suggest that even though the employees of the SACB understand what the 4IR principles are and what this revolution entails, the employees do not have enough information regarding the 5IR and what this revolution entails., The employees also do not have enough information regarding how the 5IR

will impact the organisation in the future and the benefits that the fifth industrial revolution would bring about.

There is currently not much knowledge base regarding the impact of the 5IR on the banking industry and how it will benefit the organisation.

5.4 Research Sub-Question 2

How does the SACB apply the fourth industrial revolution principles?

Keynotes:

- Usage of the Fourth Industrial Revolutions principles
- Which 4IR principles are being used at the SACB?
- Benefits of the use of the principles of the fourth industrial revolution

The second research question for this case study was about using the 4IR principles at the SACB. In addition to this question, further understanding is required to recognise which principles are utilised at the SACB. To understand how the principles of the 4IR are used at the SACB, the employees were asked if the 4IR has been embraced and adapted by the SACB. Half of the respondents agreed that the organisation has embraced and adopted the revolution in question, and half of them agreed that the principles of the revolution had been embraced, but they still need to be implemented in the organisation.

In Chapter 2, the factors that promote technology acceptance were discussed; these factors are divided into three: organisational, individual, and social. These factors also play a major role in adapting technology at the SACB. For example, organisational factors play a significant role in the acceptance of the principles of the 4IR, including training. The question is, is sufficient training provided to the employees for the organisation to be able to implement the principles of the 4IR?

Secondly, are any incentives currently being offered to employees to adapt and embrace the 4IR in the organisation? From the discussions with the employees, there are currently no incentives to encourage employees to embrace the changes introduced by the 4IR. Managerial support is the last organisational factor that contributes to the factors that promote technology adoption. When there is managerial support, it allows the employees to embrace technological change at a quicker pace. The management at the SACB does provide managerial support for their employees to embrace technological change. That is one of the best aspects of working for the

SACB; the managerial support is impressive, and the management supports the employees.

According to the literature, individual factors such as perceived usefulness also play a role. If the individual employee finds the technological change useful, the employee will be encouraged to embrace the change. In the case of the principles of the 4IR, one of the most used is Cloud Computing; the employees and the organisation have adopted this aspect because they have perceived this principle as being useful for them as individuals as well as from an organisation's perspective. The employees perceived this principle as useful, which is why it is currently being adapted and embraced easily.

Other individual factors impact the acceptance of technological change; these include the enjoyment of the innovation and the prior experience. The latter means that if a client has had prior experience with the use of the technological change, this makes it easier for the employee to accept the technological change, the image of the individual, and lastly, personal innovativeness of employee, if employees are innovative this will allow them to accept innovation more easily and swiftly, in the case of the SACB, most of the employees are innovative which is why the employees of the SACB have embraced and accepted the principles of the 4IR.

Another factor influencing the acceptance of technological change is social factors, including peers and social networks. If the employees of an organisation are people that use social networks, they will be influenced by what they view on social media, and this will also influence if they accept a technological change. Once all the different factors have been combined, they determine the attitude toward the innovation; what also impacts the attitude towards the innovation is the demographics of the employees, which include gender, age, academic divisions, tenure, and academic qualifications. The attitude towards the innovation determines the behavioral intention, which determines the usage behavior. These factors have impacted the adoption of the principles of the Fourth Industrial Revolution in the SACB, but the organisation's management drives the implementation of the principles of the Fourth Industrial Revolution. This is done by deriving the organisation's strategic goals; if the organisation's strategic goals align with the principles of the fourth industrial revolution, this will be evident in the implementation of the principles of the Fourth Industrial Revolution within the organisation. As part of this case study, the employees highlighted that the organisation has adapted and implemented APIs, the Internet of

things, and Artificial Intelligence; the organisation has also provided tailored services to their clients and focused on data analytics. One set of employees agreed that the technological changes had been partially adapted, and another set of employees agreed that the adoption of some principles of the 4IR had been partially adopted; the employees indicated that even though the aspects of Data Analytics which is a principle of the Fourth Industrial Revolution has been adapted and rolled out to monitor clients behavior in regards to banking activities, robotics for voice biometrics and other tools to guarantee the integrity of data that is being shared with clients and the verification were deployed in the organisation. The main hindrance was that most of the clients are over the age of 50 years, and the employees were not aligned with the later revolutions. It was also recorded that although most of the aspects were adapted, critical processes are still manual and still need to be automated to improve the way of doing things.

The employees also highlighted the benefits introduced by the 4IR in the organisation. These benefits include cost-cutting, improved processing, and quality control. This is the feedback received from the SACB employees interviewed as part of this case study.

5.5 Research Sub Question 3

How will the fourth industrial revolution affect the SACB?

Keynotes:

- Gaps between other industrial revolutions and the Fifth Industrial Revolution

Another research question that this case study aimed to answer is if the current processes of the SACB will align with the changes brought about by the 5IR. This can be done by identifying the current gaps between the 5IR expectations and the 4IR principles. Most of the employees that were part of this study noticed a couple of changes when the principles of the 4IR were implemented, including reduced processing time followed by time and cost savings. With the implementation of some of the principles of the 4IR principles, the SACB can easily understand its customers. This is made possible by the data analysis that is being done in the organisation, customer data is more secure, and the banks also manage to get a competitive advantage. According to the results, some of the aspects of the 4IR were identified as the least adapted in the organisation. These include items like 3D printing, which is because this aspect would not be highly utilised in a financial institution, and secondly,

Block Chain as it is still being investigated and has not been fully regulated in South Africa. An employee highlighted that the organisation had not embraced some of the aspects of the 4IR since it has not fully matured to implement a paperless system. The organisation is still working on systems like the Mainframe.

Another response indicated that some of the other core processes in the bank are still manually intensive. Items like opening an account and the onboarding of clients are still manual processes, and these processes can be automated. As mentioned in Chapter 2, there are a few hindrances that can prevent technology adoption. These include no buy-in from stakeholders and employees, onboarding of users, no clear and objective goals for implementing the technological change, and the cost is also a hindrance to technology adoption.

Specifically, for this case study for the SACB, there are a couple of hindrances that have prevented the adoption of the 4IR. This includes management not being ready to digitise some of the organisation's core processes fully, proving that the organisation is not ready to embrace the 4IR from an organisation perspective. The organisation does not have a supportive organisational strategy, and lastly, another hindrance to the technological changes is the delays in the execution.

The hindrances of the technological changes at the SACB are causing the gaps between the 4IR and the 5IR transition. The fact that some aspects still haven't been adopted enhances the gap.

5.6 Research Sub Question 4:

What recommendations can be considered to facilitate the adoption of the fourth and fifth industrial revolutions?

- Hindrances to the adoption of the principles of the fourth industrial revolution at the SACB

As discussed in the previous chapter, a couple of hindrances were identified as to why the fourth industrial revolution principles have not been adopted at the SACB. These hindrances include management readiness, non-supportive organisational strategy, and delays in the execution of strategy. To allow for the adaption of the fourth industrial revolution principles in the SACB, there must be buy-in from the leadership of the organisation, when there is buy-in, this will translate into the reviewing of the

organisational strategy from the top management, which will translate to the quicker execution of strategies in the lower levels of the organisation.

5.7 Conclusion

In this chapter, a couple of items were discussed. The discussion points covered the different research questions defined in the first chapter; the research questions were then linked to the findings, which were derived from interviews with the employees of the South African Corporate Bank. Linking the research questions and the literature review has assisted in understanding what knowledge is currently available for this current topic of the readiness of the South African Corporate bank for the Fifth Industrial Revolution.

Chapter 6: Conclusion and Recommendations

6.1 Introduction

This chapter discusses the major findings of the study, the concluding remarks, and the recommendations for future research. The qualitative mode of inquiry was used for this research; different factors were explored to understand if the South African Corporate Bank was ready for the 5IR.

6.2 Summary of the research objectives and major findings

6.2.1 The research objectives

In Chapter 1, the research objectives were extensively discussed. The research objectives for this case study were first to understand how the South Africa Corporate Bank uses the Fourth Industrial Revolution principles. The principles include Artificial Intelligence (AI), Robotics, the Internet of Things (IoT), Big Data, Cloud Computing, additive manufacturing, cryptocurrency, and Blockchain technologies. The second research objective was to understand if the South African Corporate Bank was ready for the 5IR. The last objective of this case study was to understand the gap between South African corporate in terms of the digital perspective and the 5IR expectations.

6.2.2 Linking Research objectives with the Major findings

Interviews were conducted with the South Africa Corporate Bank employees; after that, data analyses were done on the data presented to answer the research questions and to meet the study's objectives. In Chapter 4, the study's findings are presented, and the research objectives are linked to the study's findings below.

The first research objective was to understand how the South African Corporate Bank uses the principles of the 4IR. One group of respondents indicated that they do understand what the 4IR entails. These respondents indicated that the organisation has adapted and implemented some of the principles of the4IR, but not in totality. The principles that have been implemented include the Internet of Things, Artificial Intelligence, and APIs. The organisation is also able to provide tailored services to its clients and put focus on data analytics. The second group of respondents agreed that the principles of the 4IR have been partially adapted to the organisation. However, some aspects of data analytics have been adapted and rolled out to monitor client

behavior in terms of banking activities. Robotics for voice biometrics and other tools to ensure the integrity of data being shared with clients and verification were deployed in the organisation. The main issue is that most of the clients over the age of 50 are not on par with the revolution. This is causing some drawbacks in adopting some aspects of the 4IR because the bank is still trying to cater to the older generation. The bank uses some aspects of the 4IR; not all principles have been adapted and implemented.

The second research objective is to understand if the South African Corporate Bank is ready for the 5IR. From the responses received from some of the organisation's employees, the South African Corporate Bank is not prepared because the principles of the 4IR have not been fully adopted and implemented in the organisation. Also, the South African Corporate Bank employees do not fully understand what the 5IR entails, do not have a clear understanding of how the revolution will benefit them as employees and do not have a clear understanding of how the 5IR will benefit the organisation.

The final objective of this case study was to ascertain the gap between the South African Corporate Bank from a digital perspective and the 5IR expectations. The South African Corporate Bank is currently using the 4IR principles. However, there are still some important processes that are still not automated, and these processes include onboarding processes. When clients are being on boarded, there are still manual processes in place, which causes delays in the onboarding of clients and causes frustrations from a client's perspective. This is just one example of the manual processes still in place. Presented with how the onboarding process is currently being performed at the South African Corporate Bank proves that the bank is not fully digitised and not ready for the 5IR. The Fifth Industrial Revolution will bring together automated processes with the human element. Therefore, if the processes have not been fully automated, then this basic principle of the 5IR will not be met.

6.3 Drawing logical conclusions from the data that was interpreted

Based on the above link between the research objectives and the findings, the below conclusions can be drawn regarding the readiness of the South African Corporate Bank for the 5IR. Firstly, the South African Corporate Bank uses some aspects of the 4IR, but not all principles are used. This means there are still gaps that are in place. Some aspects, such as 3D printing, cannot be utilised in the organisation based on the nature of the business. However, some aspects utilised in the financial sector are

not being utilised in the SACB like Cryptocurrency. This is because regulatory requirements still need to be defined from an industry perspective. But there are still other principles that the bank can use that have been regulated but are not fully utilised. There are still important processes in the bank that are still manually intensive and have not been automated. The principles of the 4IR can be used to digitise some of these processes to save time for the employees and the clients.

Another conclusion that can be drawn from this case study is that the employees of the South African Corporate Bank do not understand what the 5IR entails. They do not understand how this revolution will impact their daily tasks and how it will benefit them and the organisation.

Lastly, there are gaps currently in place with the digitisation and readiness of the 5IR. Some factors contribute to preventing the adaption of some aspects of the 5IR. These hindrances include the non-supportive organisational strategy, if the organisation does not have a strategic goal to adapt the aspects of the 4IR, this will filter down to the lower levels of the organisation, and it will not be easy to implement the adaption of the aspects of the 4IR.

6.4 Recommendations

There were five research questions that were defined in the first chapter of this case study, the questions were firstly the main research question, is the SACB ready for the fifth industrial revolution? Based on this case study, the answer is that the SACB is not ready for the fifth industrial revolution, the recommendation that is proposed to prepare the employees for the fifth industrial revolution is that the organisational strategy for the organisation must include the implementation of the principles of the fourth industrial revolution, and there should be training that is provided by the organisation to prepare the employees for the upcoming revolution.

The first sub-question to this case study, is whether there is a general understanding of the fourth and fifth industrial revolutions by the SACB employees, and the findings are that there is knowledge regarding the fourth industrial revolution, but not much knowledge is evident for the fifth industrial revolution. The recommendation is that the organisation provides adequate training to the employees regarding both the fourth and fifth industrial revolutions, which will increase the knowledge of the revolutions, and will allow for easy implementation of the principles in the organisation.

The second sub-question for this case study was, how does the SACB apply the fourth industrial revolution? The findings from this case study indicate that even through the fourth industrial revolution principles are being utilised in the organisation, but the principles are not fully utilised. As per the previous recommendation, this is still true that for the employees to fully utilise the fourth industrial revolution principles, there needs to be adequate training that is provided to the employees to implement and utilise the principles.

The findings identified as part of this case study propose a supporting organisational strategy, management readiness for the fifth industrial revolution, and lastly, proactive execution of revolution principles. The first recommendation is that the organisation include the digitisation of the bank's core processes as part of the organisational strategy. When the bank's core processes have been digitised, this will assist in cost saving, efficiency, and time saving, and this will make the clients happy. Secondly, the organisation must add the implementation and adaption of the principles of the 4IR as part of its organisational strategy. If the principles are adopted and implemented, this will allow for an easy transition or shift from the Fourth to the Fifth Industrial Revolution.

If there is a drive from a strategy perspective, it will also drive the operational teams in the different areas to be proactive in executing the Four Industrial Revolution's different principles, allowing for buy-in from different levels of management in the organisation. Another recommendation is to have management readiness for the 5IR. The higher management of the organisation must be ready for the 5IR. Management must prepare the employees for the 5IR, proper training must be in place to inform and train the employees on what is expected from the 5IR, and the benefits of this revolution must be communicated accordingly to the employees. Firstly, the benefits of how the fifth industrial revolution will impact the employees and how the fifth industrial revolution will impact the organisation in totality.

6.5 Limitations of the Study

The sample used for this study included the employees of the South African Corporate Bank; the sample size was not enough due to the unavailability of some of the employees due to work commitments.

Another limitation of the study is the lack of previous research on corporate banks, their different functions, and how the different revolutions impact South African banks, specifically the corporate banks.

6.6 Suggestions for future research

This case study found that the principles of the 4IR have not been fully implemented at the South African Corporate Bank, and the bank is not ready for the 5IR. Further research should be done to understand how the principles of the 4IR can be implemented accordingly in different organisations, not just in the banking industry but in different industries in South Africa.

The same type of research can be done to understand the readiness of other industries. These include health, mining, education, etc. The study would be to ascertain if the industries are ready for the 5IR, ascertain the gaps that might be in place and lastly, how the gaps can be closed to prepare for the 5IR.

6.7 Conclusion

This case study aimed to understand the readiness of the South Africa Corporate Bank for the 5IR. The results indicate that the South African Corporate Bank is not ready for the 5IR. This was concluded because the employees did not understand what the 5IR entails, and they did not understand how it would benefit them and the organisation.

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7 APPENDICES

7.1 Interview Questions

1. What is your understanding of the Fourth Industrial Revolution (4IR) and (5IR)?
2. How do you think global banking industry has embraced or adapted to the 4IR and (5IR)?
3. How do you think the South African Banking industry has embraced or adapted to the 4IR and (5IR)?
4. How has Investec as an organisation embraced or adapted to the 4IR and (5IR)?
5. How has the Corporate Bank division in Investec Embraced or adapted to 4IR and (5IR)?
6. Which aspects of 4IR have been adapted in the Corporate Bank in Investec?
7. What have been the benefits of the adaptation of the aspects of 4IR for the corporate bank in Invested?
8. Which aspects of 4IR have not been adapted, e.g., Blockchain, IoT, AI, 3D Printing?
9. What are the hindrances that have prevented Investec Corporate from adapting the aspect mentioned above of 4IR that have not been adapted
10. What essential steps must be taken from an organisation's perspective to implement or adapt the aspects of 4IR that haven't been adapted?
11. Based on the discussion above regarding the 4IR, how ready do you think we are for the 5IR?
12. What benefits do you think the 5IR will bring to the Investec Corporate bank?
13. Are the corporate banks using the practices of the Fourth Industrial Revolution?
14. Do the employees understand what the Fifth Industrial Revolution entail and how will the fifth industrial impact the organisation?
15. Will the current state of the way of doing things in the local banks align with the changes that are brought about by the Fifth industrial revolution?