



PHD/DISSERTATION/RESEARCH REPORT – FINAL SUBMISSION CHECKLIST FORM

Name of Candidate:	Bongisa Mahlulo
Person/Student Number:	0511379V
Qualification:	Master of Management in Innovation Studies
Date submitted to Faculty:	2 November 2020


FINAL SUBMISSION CHECKLIST

Two unbound hard copies of Research Project/ Report/Thesis – to submit upon request (After COVID-19 Lockdown restrictions have been lifted)	
Electronic copy of final research in PDF format (CD/USB) – submit via email	✓
Completion letter <i>(signed by supervisor)</i> – submit via email	✓
ETD form <i>(completed in full and signed where necessary)</i> – submit via email	✓
ETD payment receipt <i>(only if research accounts for 50% or more of the qualification)</i> – submit via email	✓
For PHD candidates ONLY	
Citation from Supervisor <i>(required for graduation)</i> – submit via email	
Confirmation of publishable manuscript <i>(students registered from 2014 onwards)</i> – submit via email	

FACULTY STAMP

RECEIVED BY (STAFF): _____

NAME OF CANDIDATE: Bongisa Mahlulo

CANDIDATE'S SIGNATURE: 



ACKNOWLEDGEMENT OF FINAL RESEARCH SUBMISSION TO FACULTY

FACULTY STAMP

CANDIDATE'S NAME: Bongisa Mahlulo

PERSON/STUDENT NUMBER: 0511379V

QUALIFICATION: MM-IS

RECEIVED BY (STAFF): _____

STAFF SIGNATURE: _____

Please Note:

- Necessary information on graduations may be found on the EGO webpage: <https://www.wits.ac.za/graduations/>
- Candidates are required to check that their information is accurate on the Student Self-Service portal: <https://self-service.wits.ac.za/>
- Outstanding fees must be cleared to avoid your name from falling off graduation list.
- Your Servicing Faculty Office may confirm your inclusion on the upcoming graduation ceremony.



The impact of human resources technology on organisational effectiveness in South Africa

Bongisa Mahlulo

A research report submitted to the Wits Business School in the University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in the field of Innovation Studies

Johannesburg, 2020

ABSTRACT

The purpose of this study is to investigate the perceived influence of the advanced HR technology on organisational effectiveness in South African companies. This advanced technology is used globally, and the implementation is localised to meet South African legislative requirements. The study covers the impact of disruptive technology in human resources (HR) and how it influences organisational effectiveness. The increasing digitalisation of functions is transforming how the human resources department provides a service to internal customers. There are rapid changes in managing HR processes due to advances in technology.

Organisations implement human resources technology to automate and enable HR processes such as recruiting, onboarding, performance management, learning, compensation, remuneration, succession and development. The alignment between people, process and technology is a crucial part of the implementation. There is an expectation that this alignment should have an impact on organisational effectiveness. The purpose of implementing HR technology is to improve the efficiency of the HR department, streamline HR processes in relation to the HR operating model and strengthen HR as a strategic partner to achieve organisational success.

The growing literature on the introduction of HR technology has explored a range of broad goals of efficiency, strategic orientation, service delivery and standardisation. The study explores the influence of adopting latest modern technology on organisational effectiveness. The study was conducted with two organisations that have adopted modern technology. Structured interviews, case comparison of the intended goals for implementing HR technology, perceived outcomes and influence on organisational effectiveness of these companies was analysed.

In conclusion, evidence from both literature and the data collected from interviews confirm that defining strategic objectives is the foundation to identify business initiatives and provides a clear criterion on measuring organisational effectiveness. Furthermore, there is a limitation in providing quantitative evidence of the direct impact of implementing HR technology on organisational effectiveness due to the fact that the measurement of the outcomes is performed in isolation of other business functions, i.e., not in a holistic manner to include finance, procurement, sales & operations, and research & development initiatives.

This study went further to discover that modern technology has an impact on employee data, engagement and experience, not only transaction-based HR services. In return, employee data provides the ability to produce predictive analytics that help to support the strategic business objectives.

KEY WORDS

Adoption

Disruptive technology

Digitalisation

Human resources technology

Organisational effectiveness

DECLARATION

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



Signature:

On this 30 June 2020.

BONGISA MAHLULO

Name

DEDICATION

To my inspiration, my two children, Munashe and Shamiso.

ACKNOWLEDGEMENTS

Firstly, I would like to thank my family for being understanding and walk with me during this journey. The support and words of encouragement when times were tough will be cherished forever.

Secondly, I would like to thank my supervisors, Dr Diran Soumonni and Prof Terri Carmichael, for their guidance and support when conducting the research. I struggled with the section on literature, your patience and direction helped me through this journey.

This study wouldn't be possible if my former employer didn't open their doors and allowed me to engage with them on this topic. I'm grateful for the opportunity.

Lastly, I would like to thank my colleagues (work and studies) and peers in my professional career Sivuyile Faltein, Vukile Nduli, Tshifhiwa Dombo and Yagnesh Jeeva. Your contribution is greatly appreciated.

TABLE OF CONTENTS

Chapter 1: INTRODUCTION	1
1.1 PURPOSE OF THE STUDY	1
1.2 CONTEXT OF THE STUDY	1
1.3 SIGNIFICANCE OF THE STUDY	2
1.4 PROBLEM STATEMENT	3
1.5 DELIMITATIONS OF THE STUDY	4
1.6 ASSUMPTIONS	4
1.7 DEFINITION OF KEY TERMS	4
1.8 CONCEPTUAL FRAMEWORK	5
1.9 RESEARCH QUESTIONS	11
1.10 OUTLINE AND STRUCTURE OF THE REPORT	12
1.11 CONCLUSION	13
Chapter 2: LITERATURE REVIEW	14
2.1 INTRODUCTION	14
2.2 EVOLUTION OF HR	14
2.3 ADOPTION OF TECHNOLOGICAL INNOVATION IN HR	16
2.4 HR AND ORGANISATIONAL EFFECTIVENESS ALIGNMENT	17
2.5 CRITICISM OF DISRUPTIVE INNOVATION THEORY	19
2.6 SUMMARY	21
2.7 THEORETICAL FRAMEWORK	21
2.7.1 HR TECHNOLOGY DISRUPTIONS	22
2.7.2 CRITICISM OF HR TECHNOLOGY DISRUPTIONS	24
CHAPTER 3: RESEARCH STRATEGY AND METHODOLOGY	28
3.1 INTRODUCTION	28
3.2 RESEARCH STRATEGY AND DESIGN: QUALITATIVE RESEARCH	28
3.3 SELECTION OF PARTICIPANTS	28
3.4 RESEARCH METHODOLOGY	29
3.5 DATA ANALYSIS	32
3.6 LIMITATIONS OF THE STUDY	32
3.7 ETHICAL CONSIDERATIONS	33
3.8 COMPONENTS OF TRUSTWORTHINESS	33
3.9 SUMMARY	34
CHAPTER 4: PRESENTATION OF FINDINGS / RESULTS	35

4.1 OVERVIEW	35
4.1.1 BRIEF INTRODUCTION.....	35
4.1.1.1 Background Profile of Respondents and Process Followed	37
4.2. PRESENTATION OF FINDINGS AND DATA RESULTS	37
4.2.1 Key strategic objectives.....	38
4.2.2 Initiatives that impact HR	40
4.2.3 Delivery of HR services	42
4.2.4 Innovation in HR	44
4.2.5 Data-driven insights	45
4.2.6 Measure organisational effectiveness.....	48
4.3 SUMMARY OF DATA PRESENTATION.....	49
4.3.1 Strategic objectives	49
4.3.2 HR service delivery	50
4.3.3 Innovation in HR	51
4.3.4 Data-driven insights in HR	51
4.3.5 Measure organisational effectiveness.....	52
CHAPTER FIVE: ANALYSIS AND DISCUSSION OF THE RESEARCH FINDINGS.....	53
5.1 INTRODUCTION	53
5.2 BACKGROUND	53
5.3 DISCUSSION OF RESEARCH STUDY	53
5.3.1 Key strategic objectives and measurement of organisational effectiveness.....	53
5.3.2 HR service delivery	55
5.3.3 Innovation in HR	57
5.3.4 Data-driven insights	59
5.4 SUMMARY OF THE DISCUSSION.....	60
CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS	63
6.1 INTRODUCTION	63
6.2 MAJOR FINDINGS.....	63
6.3 KEY CONCLUSIONS OF THE STUDY	66
6.4 RECOMMENDATIONS FOR BUSINESS / STAKEHOLDERS	69
6.5 SUGGESTIONS FOR FUTURE RESEARCH.....	71
REFERENCES.....	72
APPENDICES.....	78

LIST OF ABBREVIATIONS & ACRONYMS

CHRO	Chief Human Resources Officer
CIO	Chief Information Officer
COO	Chief Operations Officer
ERP	Enterprise Resource Planning
HR	Human Resources
HRIS	Human Resources Information Systems
KPI	Key Performance Indicator
LOB	Line of Business
OA	Organisational Ambidexterity
OE	Organisational Effectiveness
SOE	State-owned Enterprise
SOP	Standard Operating Procedure

LIST OF TABLES

Page No

Table 1 Common and distinctive characteristics

4

LIST OF FIGURES		Page No
Figure 1	How to Assess Disruptive Technologies	6
Figure 2	The disruptive innovation model	8
Figure 3	Conceptual Framework	11
Figure 4	HR Evolution Waves	16
Figure 5	HR and Business Metrics	19
Figure 6	Theoretical Framework	26
Figure 7	Key strategic initiatives	38
Figure 8	Initiatives that impact HR	40
Figure 9	HR service delivery	42
Figure 10	Innovation in HR	44
Figure 11	Data-driven insights	45
Figure 12	Measure organisational effectiveness	48

Chapter 1: INTRODUCTION

1.1 PURPOSE OF THE STUDY

The purpose of this study was to investigate the perceived influence of the advanced HR technology on organisational effectiveness in South African companies. The advanced technology that the study focuses on comprises of social media, HR applications that are available on a mobile device, analytics and cloud technology. The study covers the perceived influence of these disruptive technologies in Human Resources (HR) and how they influence organisational effectiveness (OE). The components of organisational effectiveness that are covered in this study are productivity and sales data for firm performance, as well as HR outcomes relating to talent recruitment, performance management and retention figures. The growing literature on the introduction of HR technology has discussed a broad range of goals in efficiency, strategic orientation, service delivery and standardisation. The study explored the influence of the adoption of modern HR technology on organisational effectiveness.

1.2 CONTEXT OF THE STUDY

Due to advances in digital technology, the human resources department is transforming and introduced rapid changes in managing HR processes. Digital technology enables enormous amounts of information to be compressed on small storage devices that can be easily preserved and transported. Companies see the potential in using digital technology to achieve transformation (Fitzgerald, 2014).

Bondarouk & Brewster (2016) are some of the scholars that have conducted research on the evolution of HR technology. According to Accenture (2017), the following HR trends have been identified:

- **Human resources go digital**

HR departments are seizing ownership of IT systems to achieve business outcomes and drive organisational change.

- **Human resources become decentralised**

Digitisation decentralises HR activities to users and embeds them in the business.

- **Human resources know the business**

Digitisation empowers HR to mine employee data for insights, so that it can 'market' internal messages more effectively.

- **Human resources add value**

As HR becomes more technology-based, it can help strategically position the business (Accenture, 2017). The content addresses how organisations are undergoing profound transformations to accommodate the varying expectations of a multigenerational workforce and the increasing influx of artificial intelligence enabled business processes. According to Livingston (2018), artificial intelligence will play a stronger role in human resources functions like recruitment.

1.3 SIGNIFICANCE OF THE STUDY

The aim of this study was to investigate the perceived influence of disruptive technologies in HR on organisational effectiveness. The study considered the components of effectiveness in an organisation and if the advanced HR technology adoption has a perceived influence on these components. The data collected provided insight to HR professionals on how the alignment of business and HR strategy is of importance in realising the benefits of constant HR technology innovation. Currently, a broader discussion and categorisation of digital changes in HR is limited within the literature. There is still a focus on e-HRM, which encompasses the automation of various HR functions, for example e-Recruiting, e-Learning and e-Performance to mention a few. These developments are more transactional than being focused on HR transformation, holistically.

However, Strohmeier & Stefan (2014) concluded that reviewing the literature yields three focal areas that might be briefly labelled as “digital employees”, “digital work” and “digital employee management”. HR is faced with the challenge of integrating the various generations of the workforce, “millennials” (Deal et al, 2010) or “net generation” (Tapscott, 2008). The last digital impact as defined by Strohmeier & Stefan (2014), is “digital employee management” and refers to the planning, implementation and application of digital technologies to support and network the HR profession. Innovation in HR technology is evolving, taking a direction of using social, mobile, analytics and cloud-based technology; artificial Intelligence to manage the employee lifecycle of attracting, engaging and retaining talent in HR; and delivering predictive analytics to assist an organisation in decision-making. Through cloud, mobile, and social medial platforms, the fourth era of HR technology deployment has the potential to dramatically impact how organisations use HR technology and how organisations recruit and select employees (Johnson, Lukaszewski, & Stone, 2016).

According to these authors, the evolution of HR technology has four eras namely, 1) mainframe, 2) client server, 3) ERP and Web-based systems, and 4) cloud-based systems. The growing literature on the introduction of HR technology has discussed a range of broad goals (Ruel et al., 2004; Marler, 2009), efficiency, strategic orientation, service delivery and standardisation.

According to Strohmeier (2007), few scholars have examined empirically whether organisations are achieving their goals. Likewise, Ulrich (2013: 16-17) argues that the next agenda for HR is to add value and delivering results. Academic research has is limited with regards to converting confidence in HRM technology into tangible results and have a narrow firm performance-oriented agenda (Brewster, 2016). This study examined the elements of organisational effectiveness and the ways in which the adoption of HR technology has an influence on these elements.

1.4 PROBLEM STATEMENT

There are rapid developments with regards to HR technology and organisations are under pressure to keep up with these changes to realise HR as a strategic partner and improve business competitiveness. For more than four decades, organisations have increasingly adopted HR technology in the hope of achieving administrative and strategic benefits (Tanya Bondarouk, Parry, & Furtmueller, 2017). These benefits are identified as HR efficiency and effectiveness achieved by standardisation of HR processes, improved quality of HR services to the employees, HR cost savings due to reduction in paperwork and an effective administration; and alignment of the HR function with corporate strategy.

Other studies show that HR professionals were unsuccessful in using technology to initiate and support strategic decisions (Dery & Wailes, 2005). The adoption of the advanced HR technology is on the agenda of chief HR and IT executives and translating this investment to organisational effectiveness is the challenge they are facing. The study will examine the intended goals of implementing advanced HR technology, perceptions of outcomes and perceived influence on organisational effectiveness. According to Westerman (2017), transformation should be the focus, not technology adoption. Technology does not provide value to a business in and of itself, however, technology's value comes from doing business differently because technology makes it possible (Westerman, 2017). New tools are introduced but

organisations often fail to review their processes and HR models to align with the new technology.

1.5 DELIMITATIONS OF THE STUDY

- The study will be limited to two large organisations in Gauteng that have adopted the advanced HR technology. The two organisations are in different sectors, one is in the public sector and the other in the private sector.
- The scope will cover representatives from the HR and IT departments.

Table 1 Common and distinctive characteristics

Similarities	Differences
Strictness on Governance and Compliance	Sectors
Progressive organisations	HR Technology
Business transactions	HR Operating Model

Source: Researcher's own

Table 1 illustrates a summary of the common and distinctive characteristics between the two organisations.

1.6 ASSUMPTIONS

The following assumptions have been identified:

- Organisations are aware of the leading HR software companies.
- Organisations are familiar with the HR trends.
- HR strategy is taken into consideration when analysing business performance.

1.7 DEFINITION OF KEY TERMS

Adoption - is a means of creating change in the organisation to ensure adaptive behaviour and is intended to change the organisation so that it maintains or improves its level of performance and effectiveness (Damanpour & Schneider, 2006).

Digitalisation - is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business (Gartner, 2017).

Disruptive technology - is one that displaces an established technology and shakes up the industry or a ground-breaking product that creates a completely new industry (Bower & Christensen, 1995).

Human Resources technology - any technology that is used to attract, engage, retain, and maintain human resources, support HR administration, and optimize human resource management (Bulmash, 2006).

Organisational Effectiveness - is broader and captures organisational performance, plus the plethora of internal performance outcomes normally associated with more efficient or effective operations and other external measures that relate to considerations that are broader than those simply associated with economic valuation (either by shareholders, managers, or customers), such as corporate social responsibility (Richard, Devinney, Yip, & Johnson, 2009).

1.8 CONCEPTUAL FRAMEWORK

The study followed the theory of disruptive technology as initially pioneered by (Bower & Christensen, 1995). Disruptive technologies are unexpected technological breakthroughs that require organisations to radically rethink the way they do business. Christensen describes two types of technologies: sustaining technologies and disruptive technologies. Sustaining technologies are technologies that improve product performance, these are technologies that most large companies are familiar with. Disruptive technologies occur less frequently, but when they do, they can cause the failure of highly successful companies which are only prepared for sustaining technologies (Christensen, 1997).

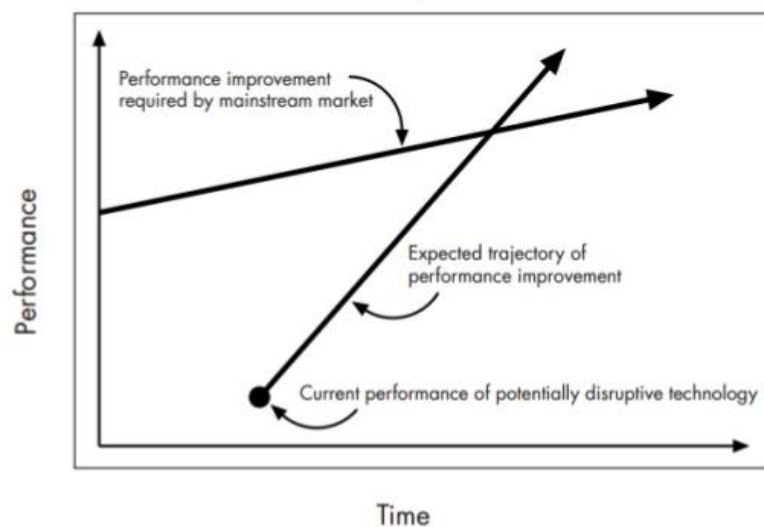
Christensen & Raynor (2003) replaced the term disruptive technology with disruptive innovation with the argument that few technologies are intrinsically disruptive or sustaining in character, rather it is the business model that the technology enables that creates the disruptive impact. According to Yu & Hang (2010), “a technological innovation that has superior performance in key dimensions with a relatively low-cost structure would directly invade the mainstream market and cause more serious destructive effects than a normal disruptive innovation that focuses on low cost but initially lower performance” (p. 439).

This is in contrast of disruption innovation theory as disrupters start by appealing to low-end consumers and then migrate to the mainstream market. According to theory, disruption is a process. Disrupters tend to focus on getting the business model right, than merely the product. This process can take time.

To elaborate further on disruptive innovation, Christensen, Raynor & McDonald (2015) describe “Disruption” as a process whereby a smaller company with fewer resources can successfully challenge established incumbent business. The authors warn against conflating a disruptive innovation with any breakthrough that changes an industry’s competitive patterns. They argue, different types of innovation require different strategic approaches.

According to the theory, disruptive innovations originate in low-end or new-market footholds as illustrated in Figure 2. The opportunity is created because companies tend to continuously improve products and services for their most profitable and demanding customers, and in the process neglect their less-demanding customers. In traditional conceptual frameworks, disruptive innovation (DI) could occur in any established marketplace as a result of technological or non-technological factors (Li & Suominen, 2018).

How to Assess Disruptive Technologies



Source: (Bower & Christensen, 1995)

Figure 1: How to Assess Disruptive Technologies

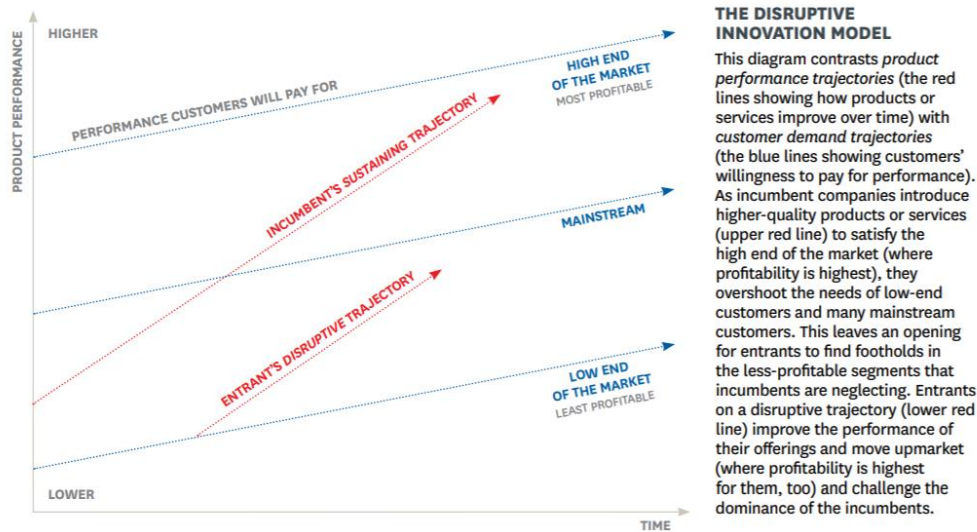
Figure 1 illustrates how the disruptive technology theory can be assessed. The assessment is based on the level of performance and the trajectory of performance improvement that customers have historically enjoyed and are likely to expect in the future. Based on an estimated initial performance level, if a technology is disruptive, the point will lie far below the performance demanded by current customers. The

theory of disruptive technology will be used in this study within the context of disruptive technologies that have impacted the HR function. HR is facing changes in the work environment due to globalisation, workforce diversity, mobility of employees, organisation of work, evolution and advances in technology.

According to Bersin (2014), there are nine HR technology disruptions that have been visible in recent years including *self-service* functions for employees, managers and job candidates. The HR technology disruptions are the following:

1. The accelerating revolution of performance management.
2. Real-time engagement evaluation and its intersection with performance and feedback.
3. Growth in people analytics.
4. Evolution of the learning market.
5. A new landscape for talent acquisition.
6. Growth in contingent workforce management, gig work, and part-time work environments.
7. The growth of team management tools and their merger with HR tools.
8. Wellness and fitness apps and their potential merger with employee engagement.
9. Digital HR: self-service, artificial intelligence, and robotic process automation.

Within the list of HR technology disruptions listed by Bersin (2014), there is a combination of sustaining and disruptive technologies. The impact or lack thereof of the HR technological disruptions will be explored further under the literature review section.



Source: (Christensen, Raynor & McDonald, 2015)

Figure 2: The disruptive innovation model

The disruptive innovation model as illustrated in Figure 2 can be equated to managing potentially disruptive innovations in software companies: transforming from on-premises to the on-demand (Kaltenecker, Hess & Huesig, 2015). This transformation process requires strategies to manage the change. Software companies are repeatedly faced with game changing technological innovations.

According to Johnson et al. (2016), by using a Software as a Service (SaaS) model, cloud computing allows companies to use a provider's applications on a cloud infrastructure. This point is further discussed in section 2.7.1 - HR technology disruptions.

1.8.1 The link between HR technology and Organisational Effectiveness

The advanced technology that the study focused on comprises of social media, HR applications that are available on a mobile device, analytics and cloud technology. An emerging phenomenon is the use of information technology and human resources as strategic tools to achieve business competitiveness, in the context of this study, human resource technology shapes an interaction between human resource management and information technology. HR technology has become a critical factor in making business competitive and effective (Aggarwal & Kapoor, 2012). Organisational performance dominates the strategic management literature. However, in the study, a broader construct of organisational effectiveness was adopted.

Organisational performance encompasses three specific areas of firm outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc.) (Richard et al., 2009). The link between HR and organisational performance is categorised into three primary groups related to HR: HR outcomes, operational outcomes and financial outcomes. The study focused on productivity and sales data for firm performance. The HR outcomes are related HR practices in an organisation, such as employee skills and abilities, employee attitudes and behaviour and staff turnover (Jiang, Lepak, Hu, & Baer, 2012). According to Ploy-hart & Moliterno (2011), HR theory emphasises that HR is a central driver of organisational performance when the return on investment in HR exceeds labour costs. Zhou, Hong & Liu (2013) affirm that research showed a positive effect of general human resource management (HRM) systems on general firm performance.

The research undertook an integrative approach to compare the main effects and examine the interaction effects of HRM systems on influencing firm innovation and performance. The published research generally reports positive statistical relationships between the greater adoption of human resources practices and systems with business performance (Albella Campesino, 2016). Abston & Stout (2006), explored and reviewed literature on the various definitions and terminology used for organisational effectiveness.

Cameron & Whetten (1983) defined organisational effectiveness as, “a broader construct that captures organisational performance, but with grounding in organisational theory that entertains alternate performance goals” (p. 25).

The authors revisited their original work in (Whetten, 2013) presenting differing perspectives of multiple organisational effectiveness models. Note that the terms, ‘performance’ and ‘effectiveness’ will be used interchangeably in this research report.

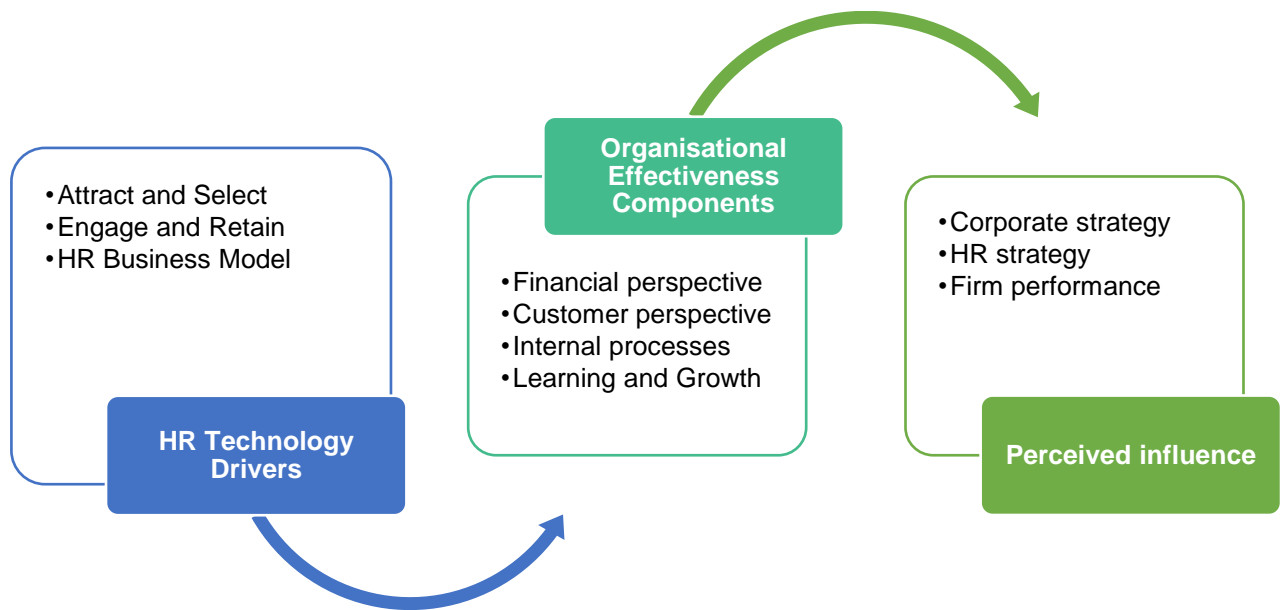
A distinction that was used in a study by Henri (2004), will be adopted. Organisational effectiveness represents the *outcome* of organisational activities while performance measurement consists of an *assessment tool* to measure effectiveness. This definition has been adopted, as it is in line with the study in terms of determining the HR technology implementation, which is an organisational activity and the perceived influence on organisational effectiveness outcomes.

Further studies on the link between organisational performance and HR have been conducted by Singh, Darwish, Costa & Anderson (2012). Albrecht, Bakker, Gruman, Macey, & Saks (2015) designed a strategic engagement model to illustrate how an organisation's HR influences its performance outcomes.

A framework that has been widely used to measure performance goals within individual firms is the balanced scorecard. The balanced scorecard is a framework used to identify the company strategy, cascaded into the financial perspective, customer perspective, internal processes, learning and growth perspectives (Kaplan & Norton, 1996). These key performance areas are further broken down into the objectives, how the objective is measured, the targets and initiatives that are planned to achieve the key performance area. The balanced scorecard framework is produced by companies as evidence of the firm performance data, representing the organisational effectiveness component of the study. The study examined whether HR technology has a perceived influence on the key performance areas. An example of the balanced scorecard framework is included in Appendix A.

The pioneers of the balanced scorecard have expanded this framework and included key performance indicators and how they are linked to an organisation's strategy (Kaplan & Norton, 2001). The extended balanced scorecard includes a further breakdown regarding performance areas. For instance, the financial perspective has a sub-section of revenue growth and productivity strategy, further broken down into increased customer value, improved cost structure and improved asset utilisation. An example of the strategy map forms part of Appendix B.

The study does not focus on the deeper level represented by the strategy map regarding organisational effectiveness. However, the balanced scorecard framework is incorporated as part of the overall conceptual framework.



Source: Constructed based on the literature review

Figure 3: Research Approach

The conceptual framework is presented in a diagram, as depicted in Figure 3. It covers HR technology drivers that influence the implementation of HR enablement. HR functions of attracting, selection, engaging and retaining talent driven by the HR business model are features of HR technology. The study investigated the perceived influence of HR technology on organisational effectiveness. Analysing the components and the perceived influence against HR practices will form part of the study. Ultimately, the overall purpose of the study investigated whether there is alignment between HR activities and business strategy outcomes.

1.9 RESEARCH QUESTIONS

The research questions that were addressed are the following:

How is innovation in HR perceived to influence organisational effectiveness?

Sub-questions:

1. What is the perceived role of a cutting-edge technological HR innovation in improving organisational effectiveness?
2. Is the adoption of a potentially disruptive technological innovation decisive in making HR a strategic partner to business? If so, under what conditions is this the case?

3. Organisations operating globally are forward-thinking when it comes to HR processes and technology adoption. What are the challenges facing organisations in South Africa regarding readiness for a disruptive innovation in HR?

1.10 OUTLINE AND STRUCTURE OF THE REPORT

Chapter 1: Introduction

This chapter covers the foundation for a research proposal. The purpose of the study is described, context and background to what informed this study is also highlighted, critical research questions and sub-questions to explore the study have been defined, limitations and assumptions are covered.

Chapter 2: Literature Review

This chapter presents a review of the literature based on key concepts related to the problem statement and research questions. The literature review focused on empirical study on whether the advanced HR technology has an impact on organisational effectiveness and the challenges facing organisations on the adoption of HR technology.

Chapter 3: Research Methodology

Chapter 3 presents and discusses the research methodology that was used for the study in relation to the framework introduced in Chapter 1 and 2.

Chapter 4: Presentation of Results

This chapter presents the summary of the data collected from the interviews held with the participants at the two case study organisations, subject matter experts in HR technology and transformation as well as document analysis.

Chapter 5: Analysis of Results

This chapter presents details of the research findings from the interviews contrasting with literature and the insights from the researcher.

Chapter 6: Conclusions and Recommendations

This chapter draws conclusions from the key research findings and provides factors that affect organisational effectiveness through the implementation of HR technology and outlines future research directions. Conclusions are then drawn and potential opportunities for future research identified.

1.11 CONCLUSION

The purpose of the study, problem statement, research questions and key concepts have been identified and linked to the conceptual framework that will provide guidance on how to build and support the study. Chapter 1 provides the foundation for the study.

Chapter 2: LITERATURE REVIEW

2.1 INTRODUCTION

Digital technology has been challenging the traditional ways of delivering HR services within the private and public sector organisations for more than a decade now (TV Bondarouk & Ruel, 2009). HR technology is increasingly being used by small, medium, and large employers to meet the needs of its stakeholders. According to Bulmash (2006), what sets high-performing organisations apart from others is how they use technology to deliver HR services.

The HR function, with its newly developed strategic focus, is expected to demonstrate a measurable impact on business results. This view was initially expressed in a study by Huselid (1995), whereby he evaluated the link between what he referred to as systems of High-Performance Work Practices and business performance. These practices he referred to include recruitment and selection practices, performance, training and development, compensation and employee involvement. He concluded that these practices have an impact on employee outcomes which is turnover and productivity; and business financial performance with highlighted limitations to competitive strategy.

2.2 EVOLUTION OF HR

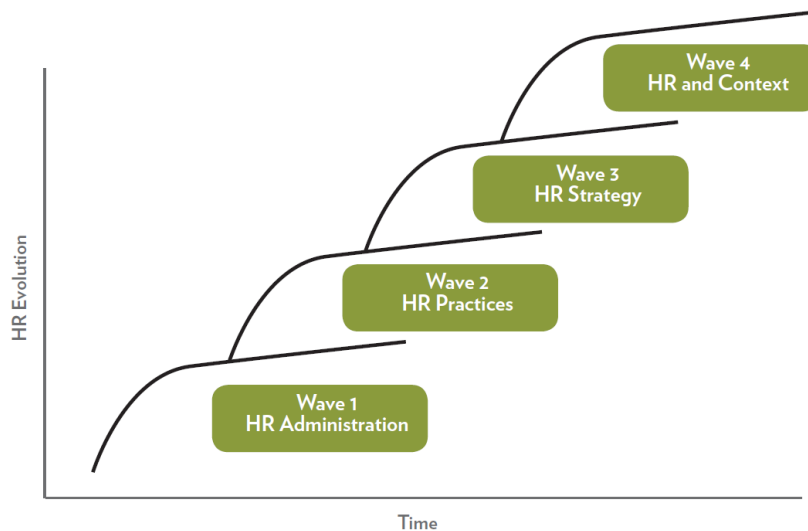
The HR function consists of processes, policies and practices involved in attracting, engaging and retaining talent that is required to accomplish organisational objectives (Stone, Deadrick, Lukaszewski, & Johnson, 2015). The HR goals of an organisation are the following:

- Attract – which covers the employer branding, recruitment and on boarding processes.
- Engage – this function includes setting employee objectives through the performance management process, training and development, mentoring and coaching.
- Retain – effective rewards and recognition, career development and opportunities.

The HR goals embed the employee value chain, the hire-to-retire concept (Tregear, 2010), and the HR business model provides guidance on how these HR goals are managed and executed.

The HR value chain provides a link between the business strategy and HR processes required to deliver business value (Sparrow, Hesketh, Hird, Marsh, & Balain, 2010). The evolution of the HR function has been marked with arguments that HR needs to be a strategic partner to create value in organisations. Critical questions that have been argued, and have to be asked, include what does being a strategic partner entail? (Lawler III & Mohrman, 2003). Advancement in technology has decreased the HR administrative functions, providing a given HR department with more time to focus on building the talent capabilities required to support the business strategy and outcomes; and utilise analytics to provide data-driven insights in decision-making. It is not clear whether HR is playing this role. Another important aspect of HR evolution is to advance the role of HR as a business partner. According to Ulrich (1997), to fulfil the business partner role of HR, focus should be placed on evidence, outcome-based tasks and clear measurement systems. Appendix C illustrates the business partnering model framework.

HR's journey has been lamented with arguments that with developments in technology and dynamic business environment changes, the HR function continues to be more administrative, rather than playing the business partner role. Ulrich (2015) illustrates the journey of HR through waves 1-4 as depicted in Figure 4. Wave 4 is an interesting concept of HR, which increases its understanding of the business context, thereby defining the HR values through the eyes of the customer and investors (outside/in). This wave is aligned to this study of investigating how to assess HR effectiveness with respect to organisational performance. This approach was previously presented by Fletcher (2005) in his work on human resources in the digital age. There is a strong focus on HR executives to prove and measure their contribution to business value. This focus has resulted in the rise of HR technology that focuses on creating value for the business and the continued need for HR transformation.



Source: (D. Ulrich & Dulebohn, 2015)

Figure 4: HR Evolution Waves

2.3 ADOPTION OF TECHNOLOGICAL INNOVATION IN HR

Technology is playing a critical role in assisting organisations deliver HR services, as a result many organisations have adopted HR technology in the hope of achieving strategic benefits (Tanya Bondarouk et al., 2017). According to Chakraborty & Mansor (2013), organisations are becoming strongly dependent on HR technology to increase the function's effectiveness. An investigation was conducted on Human Resources Information System adoption determinants in Singapore and Australia (Teo *et al.*, 2007; Troshani *et al.*, 2011). Innovation adoption studies follow the diffusion of innovation theory which was mainly provided by Everett Rogers, beginning in 1962 (Teo, Lim, & Fedric, 2007). However, Teo et al. (2007); Troshani et al. (2011) and Bondarouk et al. (2017) identified the following factors that influence the innovation adoption:

- **Organisational Factors**

Organisational factors are those that represent organisational characteristics which influence adoption of HRIS. Technology competency of the workforce regarding HR domain knowledge, technical IT and communication skills is a combination that is regarded as a key driver for HRIS adoption. Management commitment is another key driver for HRIS adoption and organisation size was also found to impact HRIS adoption. Organisation size can have both a positive and negative effect as the bigger the organisation, the more complex HRIS adoption and its flexibility can be affected.

According to Troshani et al. (2011), the last organisational factor for the adoption of HRIS is the degree of centralisation. It impacts adoption when decisions are made at higher hierarchical levels in the organisation as employees at administrative levels feel coerced into accepting a solution that might not necessarily be an organisational fit.

- **Technological Factors**

Technological factors focus on the manner in which technology characteristics can influence adoption (Yang, 2007). Gains refer to the benefits that organisations expect to receive upon the adoption of a particular technology, and include increased levels of service quality, efficiency, and reliability (Oliveira & Martins, 2010). On the other hand, barriers include innovation complexity and its compatibility with organisational technology competency systems (Rogers, 2003).

- **Environmental Factors**

Environmental factors describe the area where organisations conduct their business, and include industry characteristics, government regulation, and supporting infrastructure (Oliveira & Martins, 2010; Troshani et al., 2011). According to Rogers (2003) to adopt innovation, information about them must be available to prospective adopters. To realise the benefits of HR technology, the system must be adopted accurately and more effectively. The awareness of the human aspect with regards to communication, user acceptance and collaboration amongst teams is essential in the successful adoption of HR technology (Panayotopoulou, Vakola, & Galanaki, 2007; Tansley & Watson, 2000). In this study, factors that are considered in the decision to adopt HR technology were investigated.

Another aspect that needs to be considered with regards to the adoption of technological innovation in HR is the change in HR roles. Organisations are forced to modify or completely change ways of working and then reshape their business model (Mazurchenko & Maršíková, 2019). The authors also believe that “the adoption of advanced HR technology creates new tasks and roles for HR professionals and motivates them to develop strong HR technology competencies” (p. 76).

2.4 HR AND ORGANISATIONAL EFFECTIVENESS ALIGNMENT

There is an extensive amount of research suggesting that there is a relationship between HR and organisational effectiveness (Harter, Schmidt, & Hayes, 2002), but there is another argument that there is a missing link between HR practices and

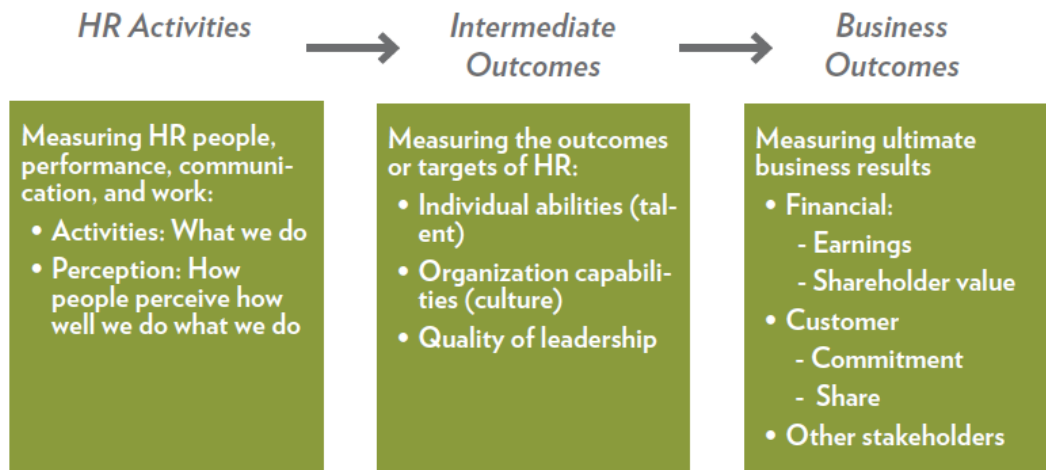
organisation performance due to inadequate measurement of HR practices (Wall & Wood, 2005). Furthermore, according to Wright, et al. (2005), there is a positive relationship between HR practices and organisational performance, but this statement is made with caution because according to their study, there is no proof of a causal relationship.

Core questions about the relationship between HR and organisational performance are still not answered. Human resources research has been conducted that indicates how employee performance impacts worker's attitudes and behaviour, however, there is limited research on the impact of HR on company performance like productivity and quality; and other measures such as sales and profit per employee (Guest, 2011).

A framework that provides a holistic approach to measuring HR and organisational performance link was proposed by Singh, Darwish, Costa Anderson (2012). They suggest that the inclusion of three essential components, with a performance measure as the dependent variable. According to Singh et al. (2012), financial measures which refer to net profits, return on assets, return on sales are suggested as an objective measure of performance. Identified independent variables include control variables of age and size of the organisation, structure and strategy related factors and the role of the HR director.

A strategic engagement model was designed to illustrate how an organisation's HR architecture influences its performance outcomes. This model is depicted in Appendix D. The model looks at HR engagement strategy that comprises HR practices, job, psychological and motivational factors; and the individual and organisational outcomes (Albrecht et al., 2015). The holistic approach of the model emphasises that HR practices and process must be integrated effectively for prescriptive models of a strategic HR link to organisational performance.

According to Becker (1996), a key question that needs to be answered is, "how effectiveness and HR should be measured" (p. 14). Ulrich & Dulebohn (2015) propose some HR metrics as illustrated in Figure 5. The figure provides an integrated approach that includes business context and stakeholder expectations, individuals (talent) and the organisation. This approach is further depicted in Appendix D. Business outcomes measurement criteria is aligned with the balanced scorecard framework that has been discussed.



Source: (D. Ulrich & Dulebohn, 2015)

Figure 5: HR and Business Metrics

Another aspect of HR and organisational effectiveness alignment that has been discussed in literature by Strohmeier (2017), is the identification of goals to introduce HR technology and the outcomes. Parry & Tyson (2011) examined the goals stated by organisations for the introduction of e-HRM, whether these goals were achieved. They found that e-HRM is introduced in order to improve efficiency, service delivery, standardization and organisational image, to empower managers and transform HR into a more strategic function. Efficiency, service delivery and standardisation goals were commonly realised.

The study was also conducted by Findıklı & Bayarçelik (2015) explored the perspectives of organisations to choose a HR application system and the observed organisational outcomes of HR managers. They discovered that time management, easy acquiring & access to personal data and reduce administration costs were the primary motivator for e-HR systems. An important aspect when defining goals is to implement the S.M.A.R.T principle – specific, measurable, specific and time-based goals in relation to a competitive environment (Reeves & Fuller, 2018).

2.5 CRITICISM OF DISRUPTIVE INNOVATION THEORY

In a review of literature with regards to disruptive technology, Danneels (2004), acknowledges Christensen's work on disruptive technology. However, he argues that there are aspects of the theory that need further research. Questions that Danneels is asking are: what makes a technology disruptive? What are the exact criteria for identifying a disruptive technology? Christensen uses an assessment based on the

level of performance and the trajectory of performance improvement that customers have historically enjoyed and are likely to expect in the future. Based on an estimated initial performance level, if a technology is disruptive, the point will lie far below the performance demanded by current customers. This is illustrated in Figure 1 on page 5 of this research report. Danneels debates that studies that have been conducted lacked common criteria to classify diverse types of technologies, disruptive or sustaining technology.

According to Tellis (2006), Christensen's definition of disruptive technology has ambiguity and there is a limitation regarding the logic of the sampling to test its validity. He argues further that disruption of incumbents is not due to technological innovation but lack of visionary leadership, this implies that the willpower of a leader to execute the vision. Christensen & Raynor (2003) replaced the term disruptive technology with disruptive innovation with the argument that few technologies are intrinsically disruptive or sustaining in character, rather it is the business model that the technology enables that creates the disruptive impact.

Given the change to disruptive innovation, Markides (2006), argues that Christensen is mistaken to treat all disruptive innovations as one. There are fundamental differences between disruptive technological innovation, disruptive business-model and disruptive product innovation. Markides further emphasises the point that these innovations have different competitive effects, produce various kinds of markets and require different responses from incumbents.

Daim, Hang & Yu (2011), made a criticism of the research on how to enable potential disruptive innovation from internal, external, marketing and technology perspectives. They included Human Resources as one of the Internal perspectives with sub-aspects of managers and employees with organisations having a challenge of matching disruptive innovations with the competence of managers. A further argument is that the success or failure of potentially disruptive innovations also affects employees because their capability in being part of a disruptive project is important. Organisations also seek outside expertise if there are limitations internally.

2.6 SUMMARY

The literature review covered the evolution of HR through the HR value chain. Identification of HR goals which are attract, engage and retain talent have been explored. HR technology disruptions that have emerged are changing the delivery of HR services and practices and a critical element in HR technology is the adoption to achieve goals that have been identified. Empirical research has been conducted regarding the relationship between HR technology and the impact on organisational effectiveness. It has been concluded that further analysis and study is required with clear measuring criteria to ascertain alignment.

New technology, a global economy and a shrinking workforce are among factors that have converged to push HR managers to the forefront and while no one really knows what lies ahead for business in the 21st century; “futurists say one thing is certain – human resource executives will play a vital role in helping business organisations compete” (Al-Dmour, 2014). The expectation is that HR is transforming data into insights and the ability to provide “quality” data that will transcend the need for information and focus key decision makers on relevant information that is meaningful to the business (Withers, Williamson, & Reddington, 2010).

2.7 THEORETICAL FRAMEWORK

The theoretical framework is grounded in disruptive technology theory. The concepts of the study cover the following:

- **Organisational Effectiveness Components**
 - Financial perspective
 - Customer perspective
 - Internal processes
 - Learning and Growth
- **HR Technology drivers**
 - HR business model
 - Talent Management
 - Employee retention
- **Perceived influence**
 - Corporate strategy
 - HR strategy
 - Firm performance

These concepts and constructs are embedded within the research questions. The study covers organisational effectiveness components that have been identified as financial and customer perspectives; internal processes; learning and growth and the relationship with HR technology. The drivers of technology cover the HR business model, talent management and employee retention. HR Technology is an enabler of these functions.

2.7.1 HR TECHNOLOGY DISRUPTIONS

HR technology that has been identified comprises of social media, HR applications that are available on a mobile device, analytics and cloud technology. Challenges that affect today's organisations include globalisation, growth, value chain for business competitiveness and HR services, technology building capability and attracting, retaining and measuring competence and intellectual capital (D. Ulrich, 1997); which is a result of changes in labour demographics, the 'war for talent' (Ready, Hill, & Conger, 2008).

According to Wiblen et al. (2010), the ability of organisations to effectively implement policies and practices associated with the management of talent can benefit from the use of information technology. "The range of technologies that can be used for this purpose is diverse, and within the academic and practitioner sphere it is referred to in a number of ways including e-HRM, web-based HR and Human Resource Information Systems (HRISs)" (p. 3).

The terminology that will be adopted for this study is HR technology and Bulmash (2006) provides the following comprehensive definition, "any technology that is used to attract, engage, retain, and maintain human resources, support HR administration, and optimize human resource management". This definition includes HR systems, and the advanced technology that has been described as disruptive (Bersin, 2014). According to Bersin (2014), there are ten HR technology disruptions that have been visible in recent years including *self-service* functions for employees, managers and job candidates. Another disruption is the availability of HR applications on a mobile phone. Data-driven insights is an ability to predict and model the workforce.

According to Edwards (2019), predictive HR analytics is the systematic application of predictive modelling using inferential statistics to existing HR people-related data in order to inform judgements about possible causal factors driving key HR -related performance indicators. Bersin (2014) stated that there is disruption with the emergence of assessment solutions based on “real time big-data,” rather than core psychological models. This is the inclusion of social media data, peer assessment data, and behavioral data which expand the world of assessment. As mentioned in Bulmash definition above, we look at technology introductions in the field of recruiting, learning and performance management.

Radical changes to recruiting, such as social and referral-based recruiting have become the norm (Stone et al., 2015), with LinkedIn, Facebook and Indeed as examples of social media recruiting platforms. There are changes in performance management solutions that are more agile, developmental, and transparent. According to Ravisha & Pakkeerappa (2015), electronic performance management systems (e-PMS), a web-based tool is being used by many organisations to monitor the performance of employees. There is a rapid shift away from the learning management system (LMS) as a “training administration system” to LMS as a “learning engagement platform.” According to Stone et al. (2015), in recent years, companies have used gamification to increase trainee engagement, learning, and the perceived ease of use of information systems. According to Bersin (2014), corporate learning, content, and collaboration have become fundamentally strategic to nearly every company. Cloud-based software is the modern innovation in technology adopted by the HR function with cloud computing delivering software to clients as a service (Johnson et al., 2016). Appendix C illustrates the evolution of HR technology.

HR must be enabled and supported by leadership to drive an innovation ecosystem in HR through culture, people and systems. According to Drucker (1998), the principles of innovation begin with analysing sources of opportunities. He discusses several sources of innovation, however demographic changes are of interest to this study relating to the HR technology disruptions involving, social media, mobile, analytics and cloud solutions. For instance, organisations are currently facing the retirement of many older workers and the challenge of recruiting and retaining young talent, often referred to as ‘millennials’ (Deal, Altman, & Rogelberg, 2010). This phenomenon brings the challenge of managing

generational similarities and differences at work in work values (Twenge, Campbell, Hoffman, & Lance, 2010).

2.7.2 CRITICISM OF HR TECHNOLOGY DISRUPTIONS

Empirical research has been conducted on the impact of advanced HR technology on the effectiveness of the HR function, achieving HR goals and the impact on organisational effectiveness (Gueutal & Stone, 2005). There are limitations that have been raised as argued by (Stone et al., 2015), in the areas of e-recruiting, e-learning and e-performance.

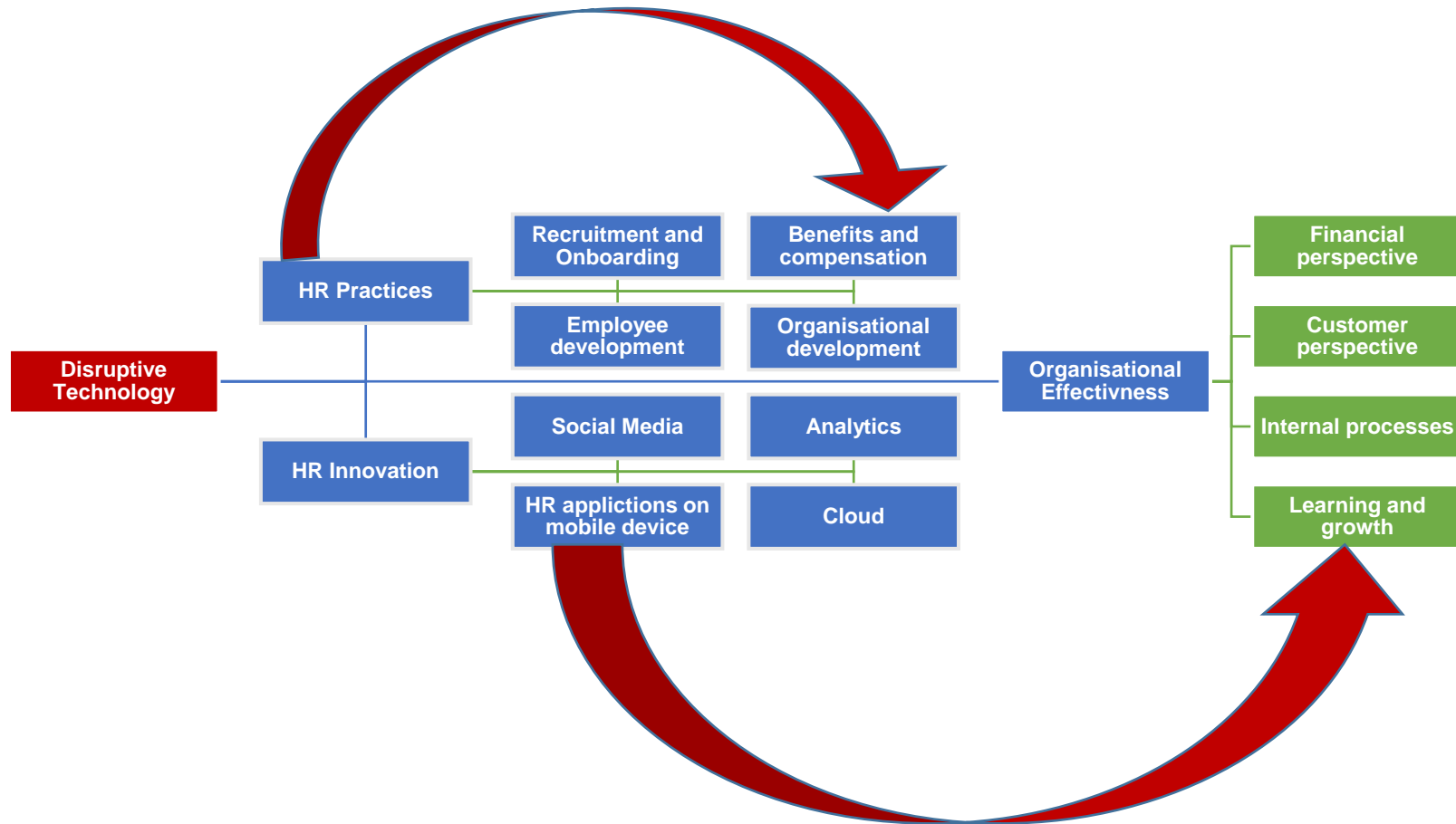
According to Dineen & Allen (2013), an important question surrounding e-recruitment is whether the technology enables organisations to increase the number of successful placements made or retention rate and little or no research has evaluated these effects. According to Capelli (2001), some evidence suggests that e-recruitment may increase the efficiency and lower the costs of the recruiting process. However, according to Stone et al. (2015), studies do not clearly indicate whether it helps organisations enhance the goals of attracting a large pool of talented and diverse job applicants.

Part of the HR value chain goal as mentioned above is to engage and retain talent. HR technology that enables this function is e-learning and e-performance. The capabilities not only offer online training, but provide different ways to deliver course content and support communication with trainees via video-conferencing and virtual learning (Welsh, Wanberg, Brown, & Simmering, 2003). Criticism of e-learning is whether it enhances employees' knowledge, skills and satisfaction levels. Some researchers argue that e-learning can be isolating, reduces communication and decreases trainee satisfaction (Johnson et al, 2009).

One of the most critical goals for HR is the effective management of employee performance. Primary areas where technology has been used to support the performance management process is for performance measurement and performance feedback (Stone et al., 2015). Limitations that have been identified for e-performance are that production increases, but quality decreases; being objective can outweigh importance of the performance process as the focus is on data captured, and lastly if the complexity of a task that is being measured is not accounted for in the system, employees working on more complex tasks risk poor

evaluations that do not accurately assess their skills and value (Johnson & Gueutal, 2011). There was the danger that the more HR becomes technology-focused, rather than employee-focused, the field of HR as a whole may be viewed as more of a management "tool" and less as a valued strategic partner (Stone et al., 2015).

Based on the discussion of the literature, the theoretical framework is shown in Figure 6.



Source: Constructed based on the literature review

Figure 6: Theoretical Framework

The theoretical framework is presented in a diagram depicted in Figure 6. The framework covers the basis of the study which is disruptive technology as pioneered by Bower & Christensen (1995). The theory of disruptive innovation will be used in this study within the context of disruptive technologies that have impacted the HR function. The HR innovation section covers the disruptive technologies that are perceived to disrupt HR, social media, mobility, analytics and cloud computing. Technology is playing an ever-increasing, significant role in how work gets done in organisations (Monastyrsky, Abumaizer, & Aymi, 2017).

It has been reported that there is an increase in the use of social networking sites such as Facebook by hiring managers and human resource professionals attempting to find more detailed information about job applicants (Brown & Vaughn, 2011). The most applied best practices in human resource management include talent management (attracting, selecting, training, developing, and retaining employees) and leadership (influencing employees to achieve organisational goals) (Šikýr, 2013). This statement supports the HR practice, HR value chain and the relationship to organisational outcomes, concepts that form part of the study.

The theoretical framework is based on the HR-shareholder value relationship model as originated by Becker et al. (1998). The model is depicted in Appendix F. It demonstrates how high performance work systems (HPWS) represent a systematic and integrated approach of managing human resources toward the alignment of HR functions and the achievement of organisational strategy (Wei & Lau, 2010). The concept of HPWS has also been used to determine the relationship between HPW and organisational ambidexterity. Organisational ambidexterity (OA) refers to the ability of an organisation to efficiently take advantage of existing market opportunities while creating and innovating to meet the challenges of future markets (Patel, Messersmith, & Lepak, 2013).

CHAPTER 3: RESEARCH STRATEGY AND METHODOLOGY

3.1 INTRODUCTION

This chapter describes the research strategy and methodology that will be followed to answer the research questions.

3.2 RESEARCH STRATEGY AND DESIGN: QUALITATIVE RESEARCH

The research methodology that was adopted for this study is qualitative research. The selection design was a simple interpretive study whereby interviews will be conducted and a comparative analysis of the intended goals of implementing HR technology, perceived outcomes and influence on organisational effectiveness of the selected companies were conducted. Observations and documents relevant to the research question were reviewed. Primary and secondary data was gathered to answer the research questions and the study examined how organisations are achieving their goals using HR technology.

Two companies that have adopted advanced HR technology formed part of the study. Primary and secondary data provided a synopsis of the company strategy, HR operating model and strategy; in comparison to business results. Literature on the introduction of HR technology has discussed a range of broad goals - efficiency, strategic orientation, service delivery and standardisation.

3.3 SELECTION OF PARTICIPANTS

The participants for this study were purposively selected according to the key players and decision makers or their appointed representatives of the companies that have been selected. The similarity about the selected companies is because they have implemented various applications of advanced HR technology. The companies are based in Gauteng, South Africa. The participants were interviewed to get the strategic plans of the organisation and HR, implementation roadmap of HR technology, perceived outcomes and how the company implemented measurement criteria of organisational performance.

3.4 RESEARCH METHODOLOGY

The research methodology that was adopted for this study is a qualitative approach. Qualitative research begins with how and why questions: its ultimate purpose is learning. To inform the questions, the researcher collected data – the basic units or building blocks of information. Data are images, sounds, words and numbers. When data is grouped into patterns, it becomes information. When information is put to use or applied, it becomes knowledge (Rossman & Rallis, 2003).

According to Cooper, Chenail and Fleming (2012) there are three key dimensions of qualitative research study learning experiences - affective, cognitive, and experiential. Qualitative research was suitable for this study because:

- It provides depth and detail. In this study, we obtained information regarding intended goals of implementing HR technology, perceived outcomes and how organisational performance was impacted.
- It creates openness. Once the participants are open and comfortable during interviews or interaction, they might raise other points initially not considered.
- Stimulated recall. This provides insight on the perception about HR, the role of HR technology and the strategic direction of an organisation. Stimulated recalls help to elicit “task-specific strategy descriptions with corroborating evidence of their use” (Assiri, 2016, p. 2).

3.4.1 Case Study method

Case study research is appropriate when little is known about a phenomenon, current perspectives seem inadequate because they have little empirical substantiation, or if they conflict with each other or common sense (Eisenhardt, 1989). This case study method investigated the perceived influence of the advanced HR technology on organisational effectiveness. The context that was provided by the case analysis is fundamental to the conclusions. The conceptual and theoretical frameworks formed the basis for the context of the study.

The study was conducted on the analysis level of sector and HR concepts. The researcher decided to do a comparative study based on the idea that HR principles and policies are standard in both the public and private sector. However, variances are displayed in practice.

There is an observation that public sector organisations lack the discipline in managing processes, governance, operating in a structured environment and enforcing accountability and responsibility on employees. The private sector, on the other hand, is regarded as performing better in these areas. The study provided the dynamics and offers a holistic perspective.

The comparison was based on the HR technology that both organisations have implemented, the expected and actual outcomes and whether there was an impact on organisational effectiveness. Focus was also drawn on the methodology and process followed when the organisations embarked on a HR technology implementation journey. The study examined any similarities and differences; and whether they had any influence on organisational effectiveness.

3.4.2 Data Collection and instrument

Data was collected using the following methods:

- Interview the participants.
- Information from the following documents:
 - Integrated annual report for the past two previous years that consists of the company strategy, targets, sales and productivity data.
 - Transformation report for the past two previous years that includes an organisation's transformation framework, drivers and talent management figures.
 - The information was analysed to determine whether there has been an increase or decline regarding the data.
 - Information regarding HR technology that has been implemented. The interviews and document reviews provided data in answering the research questions.

Research Question

How is innovation in HR perceived to influence organisational effectiveness?

Sub-questions:

1. What is the role of a cutting-edge technological HR innovation in improving organisational effectiveness?

2. Is the adoption of a potentially disruptive technological innovation decisive in making HR a strategic partner to business? If so, under what conditions is this the case?
3. Organisations operating globally are forward-thinking when it comes to HR processes and technology adoption. What are the challenges facing organisations in South Africa with regards to readiness for a disruptive innovation in HR?

3.4.2.1 Population / sample 1:

- The population for the study was limited to two organisations in the public and private sector, one organisation in each and based in Gauteng.
- The sample was from the two organisations. The type of sampling that was used is critical case sampling. According to Koeber & McMichael (2008), in critical case sampling, the researcher selects “a case that exemplifies a theoretical or practical problem” (p. 460). The research collects samples that are most likely to provide the information that is required. This sampling method will provide compelling insight into a phenomenon (Koeber & McMichael, 2008). This method permits logical generalisation that, if true for this case, is likely to be true for other cases.
- The state-owned enterprises (SOE) that form part of the public sector and the banking industry, which is in the private sector, are regulated and legislated sectors that conform to compliance and governance principles. Those are the selection criteria used for these cases regarding similarities.

3.4.2.2 Population / sample 2:

- The second sample was from process owners and senior leaders within the two organisations, their insights and contributions were relevant to the topic. The participants that provided data are the following: senior and executive managers in HR enablement, service delivery and transformation, technology, process specialist and strategic HR projects.
- Additionally, six subject matter experts in HR solution advisory, HR service delivery, and technology and quality assurance, were also interviewed.
- The second population sample represents the purposive sampling method. According to Etikan, Musa & Alkassim (2016), with purposive sampling the

researcher identifies and selects willing participants that have the knowledge and experience concerning the study. These individuals are proficient, well-informed and have the ability to communicate their experiences and opinions in an articulate, expressive, and reflective manner.

3.5 DATA ANALYSIS

One of the most important steps in the qualitative research process is analysis of data. Increasing the rigour and trustworthiness of the findings from qualitative data is accomplished through three different procedures: (a) using more than one type of analysis, (b) assessing interrater reliability, and (c) member checking (Leech & Onwuegbuzie, 2007). The semi-structured interview is the format of the interview template. The type of analysis is thematic analysis, whereby the themes of the data may or may not be in the literature.

From the literature review, it was stated that there is no consensus regarding how the link between HR and organisational performance is established. There is an existing link between productivity and financial performance, thus the theme of the data collected from the study cannot be presumed in this regard. An interpretivist paradigm was adopted, as multiple possible interpretations of reality as experienced will be performed.

3.6 LIMITATIONS OF THE STUDY

The limitations of the study are those characteristics of design or methodology that will impact or influence the interpretation of the findings from the research (Price & Murnan, 2004). Lack of available and/or reliable data will be a possible limitation for the study. The study was a form of benefit realisation of implementing advanced HR technology for the selected organisations. Accountability and responsibility were challenged, and some participants were not willing to share data. The tool that was used to collect the data was another limitation. After completing the interpretation of the findings, a discovery that the way in which data was gathered inhibited the ability to conduct a thorough analysis of the results was uncovered. An example was regret at not including a specific question on the interview template that, in retrospect, could have helped address an issue that emerged later in the study.

The question about who the sponsor of the programme was. This question is related to the HR programme being holistic enough to include other business functions such as finance, operations and research and development, instead of just focusing on HR. This limitation was addressed indirectly as the organisations shared that as part of the programme, a steering committee that consisted of a representative from finance was established. The mandate of the committee was to oversee the programme and ensure that amongst other things corporate governance was adhered to. Minutes of the committee meetings were documented.

3.7 ETHICAL CONSIDERATIONS

The study followed the ethical principles as outlined in the Wits policy document as it subscribes to the research integrity standards set out in the Singapore statement (Resnik & Shamoo, 2011). The Singapore statement is as a global guide to the responsible conduct of research. There are principles and professional responsibilities that are fundamental to the integrity of research, wherever it is undertaken; the ways in which these principles are implemented are outlined in the next section, 3.8.

Responsibilities that are applicable to the study have been extracted:

- Honesty has been applied in all aspects of the research. The declaration has been signed as confirmation.
- Integrity: The research proposal has been formulated with integrity. The researcher takes full responsibility for the trustworthiness of the research.
- Research Methods: Appropriate research methods have been employed.

An interview request letter signed by the researcher and supervisor as displayed in Appendix H was sent via email to the respondents requesting participation in this study. Their response was confirmation of participation.

3.8 COMPONENTS OF TRUSTWORTHINESS

There are questions about issues of trustworthiness in qualitative research. As such, four aspects of trustworthiness that the researcher must establish are the following: credibility, dependability, transferability, and confirmability (Lincoln & Guba, 1985). Credibility essentially asks the researcher to clearly link the research study's findings with reality to demonstrate the truth of the research study's findings.

A credibility technique that was applicable to the study was the triangulation of sources. This refers to the comparison of people with different perspectives, which are private and public sector participants for this study. Another source is that participants were interviewed at different points in time.

The dependability of the study ensures that the research findings are consistent and could be repeated. This is measured by the standard by which the research is conducted, analysed and presented. Existing theory, models, concepts and frameworks that are part of the research will ensure that should an external researcher repeat the inquiry, she or he will achieve related results.

3.9 SUMMARY

This chapter has focused on the research methodology that was applied in the study. It further explained, in detail, the research methodology that was selected and the reasons for selecting the qualitative research method.

CHAPTER 4: PRESENTATION OF FINDINGS / RESULTS

4.1 OVERVIEW

This chapter represents research data gathered through structured interviews with Transnet and a second organisation's HR executives, specialists, subject matter experts in the field of HR technology and transformation. The second organisation is a private firm that asked to be kept anonymous. The evidence was also gathered from secondary sources, integrated annual reports and Deloitte global trends. The intent of the data collected was to understand the organisations' key strategic objectives, those that impact HR, delivery of HR services, innovation in HR and the role that data-driven insights play in decision-making.

Furthermore, it was to determine the impact that these factors have on organisational effectiveness. The data that was collected, together with findings for each research question was grouped, described and represented in a bar chart.

4.1.1 BRIEF INTRODUCTION

Transnet SOC Ltd is a large, state-owned enterprise (SOE) in South Africa, focusing on rail, port and pipelines. The company was formed by restructuring into business units, the operations of South African Railways and Harbours and other existing operations and products.

Transnet is made up of the following operating divisions:

- Transnet freight rail
- Transnet rail engineering
- Transnet national ports authority
- Transnet port terminals
- Transnet pipelines

The National Ports Authority provides port infrastructure and marine services at the eight commercial seaports in South Africa. Transnet port terminals was established in 2000, when Transnet's then single port division, Portnet, was divided into operations and landlord businesses, namely, SAPO (Transnet port terminals) and National Port Authority (TNPA). Since its setting up, Transnet port terminals have played a part in supporting the South African government's export-led growth strategy.

Most Southern African import and export commodities are handled through South Africa's six largest ports: Richards Bay, Durban, Saldanha, Cape Town, Port Elizabeth and East London. Transnet Pipelines, formerly known as Petronet, is the guardian of the country's pipeline assets and is currently servicing two key industries (fuel and gas) by transporting petroleum and gas products over changeable distances. Transnet Freight Rail, formerly known as Spoornet, is the biggest division of Transnet. It is a heavy haul freight rail company that specialises in the transportation of freight.

Transnet Engineering is dedicated to in-service maintenance, repair, upgrade, conversion and manufacture of freight wagons, mainline and suburban coaches, diesel and electric locomotives as well as wheels, rotating machines, rolling stock equipment, castings auxiliary equipment and services (Transnet, 2018).

Background about Transnet HR transformation programme

In 2011, Transnet embarked on a HR transformation programme planned to run for seven years. The purpose of the programme was to create a holistic employee-centred approach to attract and retain the best talent; and make the organisation an employer of choice. The organisation also intended to create one Transnet by standardising the processes and consolidating the multiple HR systems from the five divisions into a central system. The organisation planned to adapt organisational health and performance as the centre of the human resources strategy to ensure alignment.

The **second organisation** is an authorised financial services provider whose purpose and ambition are achieved through a pioneering business model that incentivises people to be healthier, to enhance and protect their lives ((DSY, 2018).

Background about HR transformation programme for the second organisation

The aim of the HR transformation programme journey was also to create a one HR solution and a single entry for all “people” activities. Standardisation, transparency and the ability to continuously align the business strategy to HR and contribute towards business performance were the drivers of the programme. The objectives of the programme were to promote employee engagement and provide improved employee experience through the availability of HR services on a mobile device for flexibility.

4.1.1.1 Background Profile of Respondents and Process Followed

A total of 16 participants were interviewed, five were from Transnet, five from the organisation in case study two and six were subject matter experts in the field of HR technology and transformation. The organisational representatives were involved during the HR transformation programmes in the respective organisations. These participants are senior and executive managers in HR enablement, service delivery and transformation, technology, process specialists, and strategic HR project managers. These are process owners and senior leaders within the two organisations, their insights and contributions were relevant to the topic.

Additionally, six subject matter experts in HR solution advisory, HR service delivery, technology and quality assurance were also interviewed. Their input was applicable due to their involvement and experience in HR technology and transformation programmes with customers globally. They also have insights with regards to HR trends affecting organisations globally.

4.2. PRESENTATION OF FINDINGS AND DATA RESULTS

This section presents the results of face-to-face qualitative interviews conducted with the selected personnel from the two organisations, analysis of the company documents, as well as the interviews with subject matter experts. For each research question, a description of the findings is presented followed by an illustration with a bar chart. The data represented is based on the research questions that were used during interviews, namely the key strategic objectives identified by the organisations, initiatives that impact HR, how advanced technology affects the delivery of HR services, newest innovation in HR, data-driven insights and measuring organisational effectiveness.

Coding was used to record the responses and data according to their relations. According to Gibbs (2007), coding is how you define what the data you are analysing is about. It is a way of indexing or categorising the text in order to establish a framework of thematic ideas about it.

4.2.1 Key strategic objectives

This section presents data in relation to key strategic objectives that were identified by the organisations. It also represents feedback from the subject matter experts in terms of what they have observed during their customer engagements. Figure 7 illustrates the responses to the question on key strategic objectives.

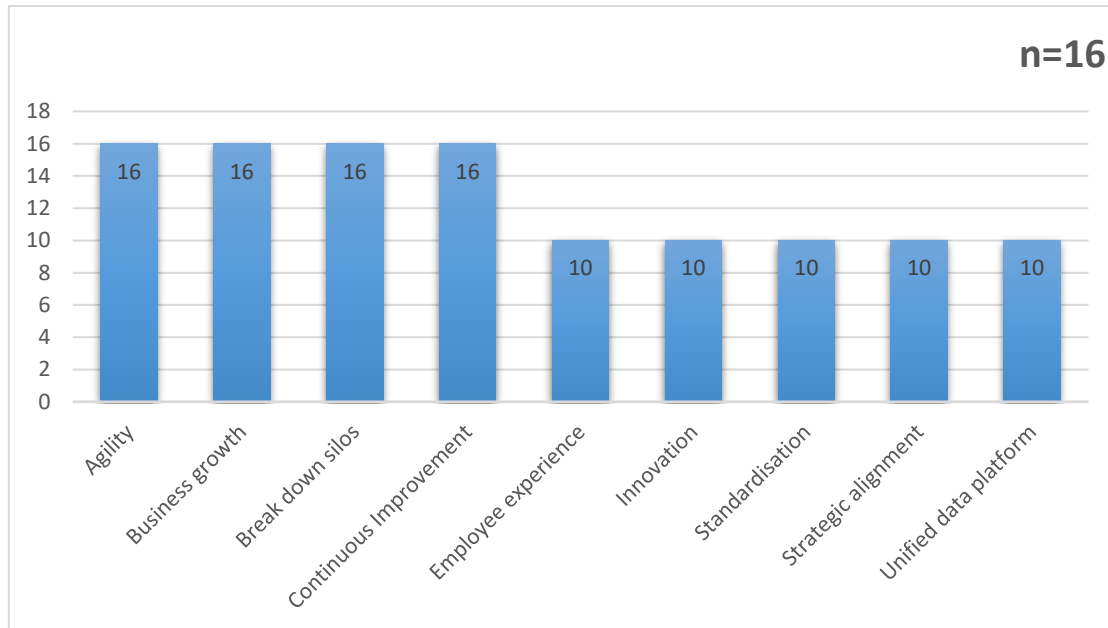


Figure 7: Key strategic objectives

There were common views regarding responses about the key strategic objectives of the organisations. Respondents indicated that key strategic objectives are the foundation of any company strategic objectives, programs and a roadmap that the organisation will embark on to achieve its objectives. The rapid pace of technological changes is putting pressure on organisations to rethink the way of doing business. Customers and employees expect personalised experiences when dealing with organisations.

According to one of the respondents:

“Lately, organisations have moved from being reactive to being proactive and therefore the research has shown that their strategies are mostly on the organisational effectiveness and information technology. They have rotated to the new ways of working and therefore strategise on opportunities that can help them improve on employee experience through HR transformation initiatives enabled by information technology strategy”.

To disrupt markets and create value for customers, the second organisation intends to use innovation. Seamless integration is key for a customer-centric organisation. This creates efficiency and supports a value-driven organisational culture.

The key strategic objectives simplified by the respondents support the named business objectives. The second organisation launched the 'Ambition 2018' which was about being a powerful force for social good, committing to expanding and deepening shared value with creative partnerships, products and customer experiences (DSY, 2018).

At Transnet, key strategic objectives are driven by the company's market demand strategy (MDS), a capital investment programme that was launched to expand rail, port and pipeline infrastructure. This will result in an increase in freight volumes especially for commodities like iron ore, coal and manganese. It will also lead to a significant modal shift from road to rail transport.

Four strategic imperatives have been identified, namely, critical logistics infrastructure and capacity, grow volumes, enhance customer satisfaction, and improve market share, operational efficiencies and productivity and financial stability. Factors under each of these imperatives touch on the key strategic objectives that have been identified by the respondents in a simplified manner. To further ensure delivery on the MDS mandate, strategic focus areas that have been identified are:

- Developing digitally enabled solutions to meet market needs.
- Maintaining a skills and talent pipeline for employees.
- Strengthening research and development.

Agile, digital, admired and united are strategic thrusts that will be used as the foundation to measure the achievement of the objectives (Transnet, 2017).

According to subject matter experts, the key strategic objectives that they have seen emerge in the last five years of their customer engagements are continuous improvement, breakdown silos and agility. These objectives are drivers of business growth for the customers they have engaged with across industries. In their observation, the rapid technological changes and the necessity to improve employee experience are the reasons why HR executives are reimagining their HR functions which will impact the business and add value to the customers.

4.2.2 Initiatives that impact HR

This section presents data in relation to initiatives that impact HR from the key strategic objectives that were defined by the organisations. It also represents feedback from the subject matter experts in terms of what they have observed during their customer engagements. Figure 8 illustrates the responses to the question on initiatives that impact HR.

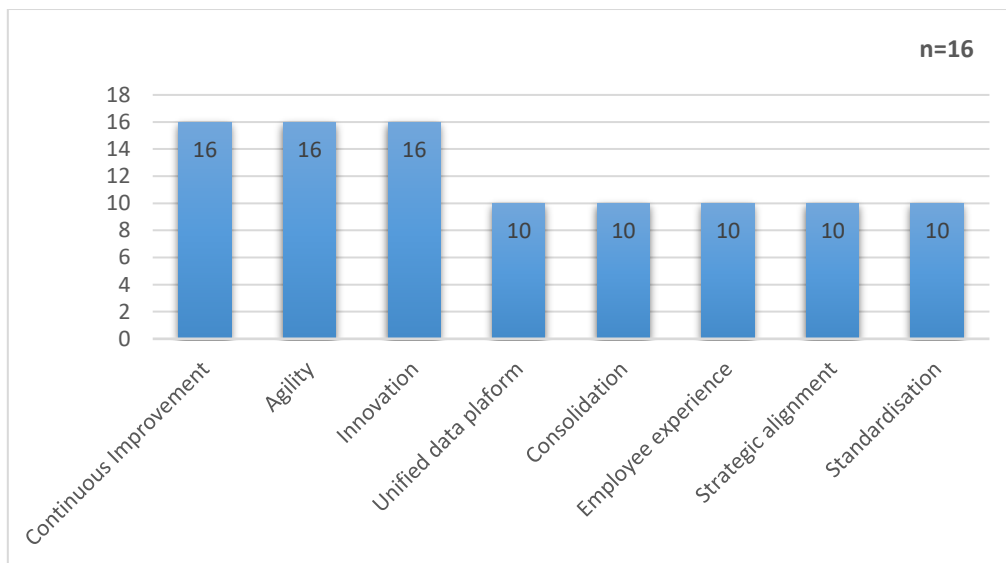


Figure 8: Initiatives that impacts HR

The respondents in both organisations believe that to drive organisational transformation, there is a need to implement continuous improvement initiatives. Both HR transformation projects that were embarked on kicked off with a business case.

It outlined the justification for the proposed programme including key HR functions that will be impacted and the expected gains as a result of the improvements. The programme tackled process improvement efforts by conducting process mapping workshops to understand the current and desired state.

Standard operating procedures (SOPs) were documented and signed off as they represent a step-by-step instruction that document a routine activity critical to the function of a department. A design thinking approach was used, which provides a solution-based approach to solving problems. For the respondents, agility in HR means the ability to drive employee engagement and retention in alignment with business goals.

Delivering value to the customer is of paramount importance. According to the respondents, traditionally, HR is not directly involved in delivering value to the customer, however they have an impact in empowering and enable the workforce to deliver exceptional service to the customers. HR is still expected to provide recruitment, development, performance management, remuneration amongst their functions, using an agile approach. These agile non-technical practices include identifying and attracting top talent, creating a learning culture, leveraging data and analytics to make informed and insightful decisions.

The respondents believe that to deliver an agile HR function, the organisation must be mindful of all the changes happening across the business functions, including the adoption of new technologies, process re-engineering and the realignment of business targets with the HR strategy. This is achieved by adapting accordingly to facilitate productivity and efficiency, while driving business growth. To be agile, HR needs to leverage new technologies and platforms to help create a more productive and adaptive workplace that will contribute to organisational effectiveness and growth.

These new technologies are discussed in section 4.2.4, which covers the responses regarding innovation in HR. Respondents collectively listed the following challenges relating to innovation and a unified data platform:

- Unable to account for employee master data.
- Operational reports are not available real-time meaning that the data is not current and accurate.
- Lack of one HR system compromises employee data integrity.
- Archaic HR systems do not support a multigenerational workforce and do not respond positively to employees' aspirations and ambitions that contribute to employee retention.

These challenges have a direct impact on any business expansion plans and growth.

According to one of the respondents:

“Good HR practices maximise the benefits and minimise the problems and help HR to achieve its KPIs by ensuring that they give the employees the best service by enabling the self-service capabilities while also attracting and retaining the right talent for the organisation”.

Employee engagement, employee retention and introducing personalised employee experiences are emerging as key business priorities. According to subject matter experts, there is increased pressure on HR to foster a more positive digital culture.

4.2.3 Delivery of HR services

This section presents data in relation to how the adoption of modern technology affects the delivery of HR services. It also represents feedback from the subject matter experts in terms of what they have observed during their customer engagements. Figure 9 illustrates the responses to the question on the delivery of HR services.

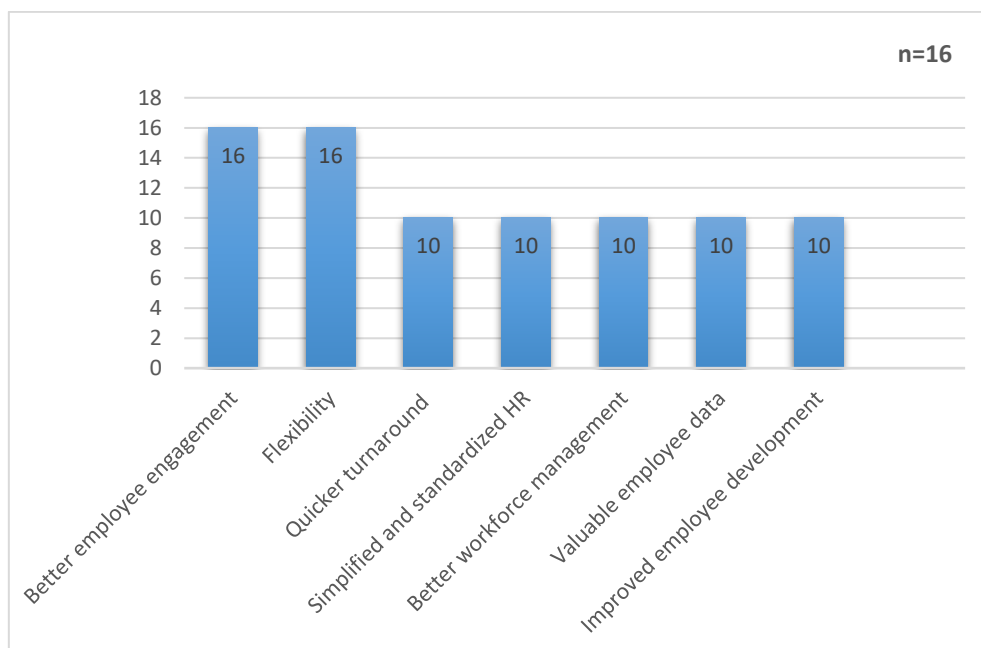


Figure 9: HR service delivery

Going through an HR transformation programme requires a lot of effort, executive ownership and involves tremendous organisational culture change. The transformation programme helps organisations meet their specific workforce requirements and further progress their overall HR function.

According to some of the respondents, critical success factors for the transformation programme were the following:

- HR-driven programme, not by IT team.
- Align the programme outcomes to the HR model.
- Adoption and implementation of global best practice.

- A clear business case must be created. It should state what the business wants to achieve? How is it going to contribute to the overall strategy of the company?
- Clear roles and responsibilities must be outlined.
- Active involvement of the change management team throughout the programme.
- Build relationships between the programme management team, business and the IT team.
- HR business partners play the role of driving adoption.

According to one of the respondents:

“The critical success factors contributed to the buy-in and embracing the new way of delivering HR services”.

The adoption of modern technology improved employee engagement and experience with regards to HR services. Real-time reporting, consistent employee data, access to operational reports, dashboards and analytics; better workforce planning are factors that were communicated by respondents during the interviews. Adoption also provides self-service capability for employees thus less reliance on the HR department. These self-service capabilities consist of recruitment, learning, performance management, development and remuneration processes. As a result of less administrative duties by the HR department, it provides HR with the opportunity to become a strategic partner with the rest of the business executives.

The overall thoughts about the adoption was the improvement of turnaround time in delivery HR services. A bigger benefit and game changer for the HR function is the simplified, streamlined and standardised processes.

Subject matter experts concurred with the company respondents with regards to how the adoption of modern technology has improved HR service delivery. Additionally, they have seen companies prioritise employee engagement as a result of the improved employee and manager self-service features like, the online leave process, continuous performance management process and career development. These features allow the employee and line manager to engage on a regular basis with less intervention from HR business partners.

4.2.4 Innovation in HR

This section presents data in relation to how does innovation in HR impact employee productivity. It also represents feedback from the subject matter experts in terms of what they have observed during their customer engagements. Figure 10 illustrates the responses to the question on innovation in HR.

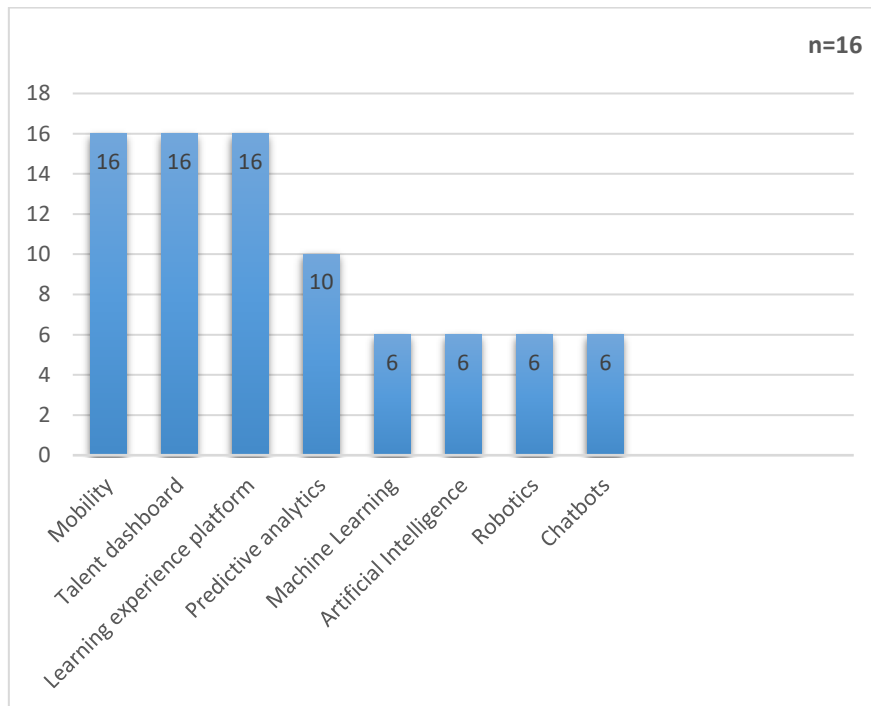


Figure 10: Innovation in HR

The graph represents innovation that has been adopted by HR in recent years. Unfortunately for the respondents from the two companies, they have only implemented and are exposed to four out of the eight modern technology platforms that are listed on the graph. Availability of HR services on a mobile device connected to social media platforms is the most prevalent innovation that has been implemented by the companies. HR services on a mobile device has enabled employees to view their payslip on the go, submit leave request, search and apply for available jobs, rate performance assessments and complete required training. This has an impact in terms of time spent requesting assistance from the HR department.

Attracting and retaining talent are key in achieving business goals as discussed in section 4.2.2. This point is related to the business expansion key strategic initiative as discussed in section 4.2.1. Evidence of alignment with business objectives is displayed with the implementation of innovative platforms to transform the HR function to meet

workforce planning and demand needs. Line managers are taking advantage of mobile technology for approval requests, access to real-time dashboards and insights which helps in faster decision making.

According to respondents:

“Technology will help HR drive efficiency, build culture, and retain top talent, and HR has taken accountability of adoption”.

According to subject matter experts that were interviewed, they have been exposed to machine learning, artificial intelligence, robotics and chatbots in their customer engagements. Their customers have used these technologies in recruitment, onboarding, learning and talent management processes to determine candidate behaviour and give recruiters and hiring managers a comprehensive overview of their talent pool to nurture their talent for future planning. Learning recommendations powered by machine learning to propose targeted learning for employees is also a prevalent use case for this advanced technology.

4.2.5 Data-driven insights

This section presents data in relation to data-driven insights provided by the HR solution. It also represents feedback from the subject matter experts in terms of what they have observed during their customer engagements. Figure 11 illustrates the responses to the question on data-driven insights.

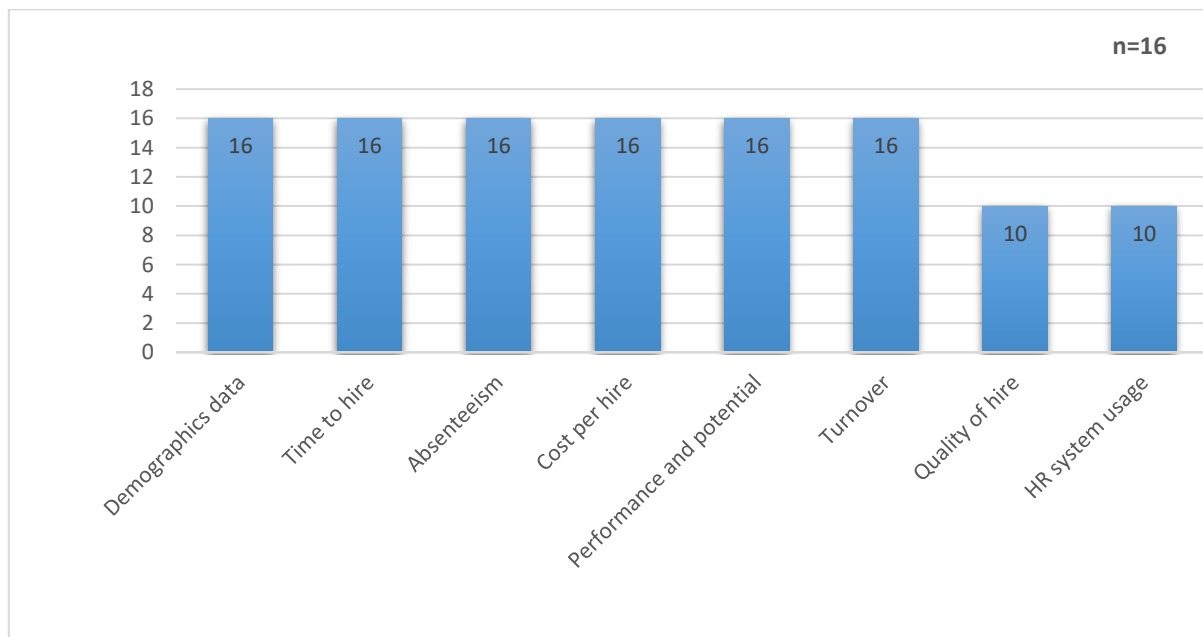


Figure 11: Data-driven insights

The graph represents feedback on how the organisations use operational reports, dashboards and analytics to drive decision-making. Both organisations agree that demographics of employee workforce is the cornerstone of managing human resources data. This information is critical in workforce planning and legislative reporting. The Department of Labour requires organisations to report on their employment equity data reflecting the age, race and gender of their workforce to address inequalities at the workplace. This data also drives the planning, recruitment, promotion, succession and development decisions based on the targets and business goals.

According to the respondents, the purpose of recruiting metrics is to answer useful questions about the business. Time to hire is measured from sourcing until the offer is accepted. Sourcing is the entry point of the employee's lifecycle within an organisation and it plays a critical role in the employee journey. Most organisations struggle with the turnaround time for the recruitment process and respondents have shared that it can take up to more than 90 days for the hiring process. They find applicants become frustrated and this affects the employer brand. Time to hire analytics have helped to quickly identify where the hiring process is less efficient, bottlenecks and work on solutions to fix the challenges.

The solution that has been implemented in both organisations is an e-recruiting system. The platform helped to streamline the process by including workflows, ability for mobile applications and approvals; electronic signatures and better candidate experience. Another critical recruiting metric is the cost per hire and this metric helps with understanding what is the total cost of recruiting talent. This information is important for the organisations in tracking recruiting budget. This insight is further broken down into the cost of hiring internal vs external applicants which is an input into the organisation's recruitment strategy. This data further provided an opportunity to analyse how the cost of hire of talent is related to the quality of talent being hired. This analysis is determined by the performance history report of an employee.

The performance and potential (the 9-box grid) analytics are a critical contribution towards the organisations' succession plan which talks to the business strategy. Through the implemented application, the two organisations can identify and mark key positions within the business and possible successors. These key positions are based

on the core business function of the company and the identification of successors is performed on the system considering their talent profile, performance history and potential assessment results. This process and data provide an input to the employee's individual development plan towards the intention of retaining the employee. Measuring the staff turnover, like the recruiting metrics has been used by the two organisations to estimate cost to hire for budget purposes and create an employee retention strategy.

According to one of the respondents:

“Conducting exit interviews has assisted us in understanding the reasons why employees resign from our organisation. The reasons vary, from personal to professional”.

The exit interviews can be intimidating for some employees which is why other organisations create anonymous feedback survey to collect the data. According to one of the experts, most organisations opt for this method. The two organisations are still using exit interview to collect the reasons for leaving data. Absenteeism metric is another important analysis of employee behaviour and trends when it comes to leave of absence. As long-term absence can be very costly for the organisations as is experienced with blue collar workers, this information becomes critical. The organisations have also seen that it contributes to employee turnover.

The respondents were in unison on the importance of HR and employees using the implemented HR solution to achieve the desired results using data that is generated. The integrity of the data is critical for the organisations should they wish to use these insights for decision-making. The respondents from the organisations have observed how they are able to collect data and generate reports and analytics, making use of dashboards to track HR key performance indicators (KPIs). The question remain, are they able to turn data into actionable insights? Being able to collect the right data is important, however making it extremely useful is the next logical step to make an impact on the business strategy. Unfortunately, the organisations feel that they are not yet at a point whereby they are able to turn their data into actionable insights.

Subject matter experts that were interviewed observed what other organisations that are a step ahead have achieved this milestone. These organisations have a unified platform that consolidates data into a single source of truth, i.e. visibility to HR, Finance, Research & Development, Sales and Operations data platform. With a

unified platform that supports robust analytics, HR can run simulations that show the consequences of decisions and actions, enabling HR to act as a partner and adviser to the business. Other organisations use embedded artificial intelligence and machine learning to help HR interrogate large data sets to uncover patterns in the data and reveal insights.

A key point that the subject matter experts have seen being prioritised is the breaking down of business silos for HR to get visibility into all lines of business (LoBs) to understand workforce requirements and respond effectively in a way that drives business strategy. The goal of this approach is to have a data-driven HR that leads to strategic alignment.

4.2.6 Measure organisational effectiveness

This section presents data in relation to how do the organisations measure organisational effectiveness. It also represents feedback from the subject matter experts in terms of what they have observed during their customer engagements. Figure 12 illustrates the responses to the question on how organisations measure organisational effectiveness.

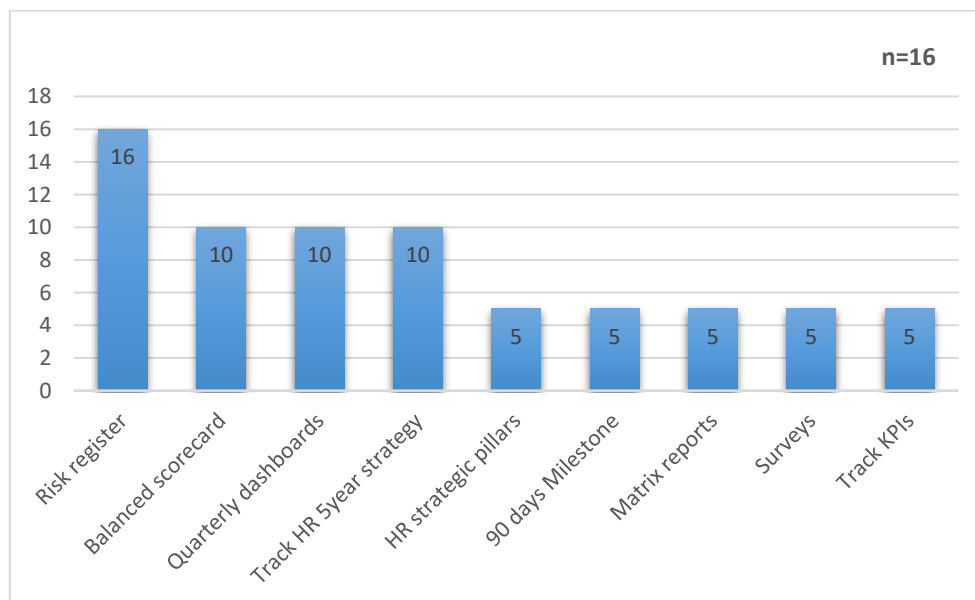


Figure 12: Measure organisational effectiveness

According to the respondents from both organisations, there is no clear systematic measurement tool that they use to measure organisational effectiveness against HR

initiatives. The evidence is that they use the balanced scorecard, a metric used to identify and track internal business functions. An implementation of HR technology will fall under the internal processes and organisational capacity perspectives. These perspectives are focused on business efficiency, knowledge and innovation.

Key performance indicators (KPIs) are assigned against each objective statement. The objectives are cascaded down to department level, however there is no consistency in the application of the measurement criteria at this level. The balanced scorecard framework has been discussed in chapter 1. Various metrics are further used to measure the effectiveness of the HR transformation programme as listed in section 4.2.5, although none of them roll up to the business strategy.

According to a respondent:

“The main measure of organizational effectiveness for an organisation is mostly expressed in terms of how well its net profitability compares with its target profitability.

Organisational effectiveness measures the bigger picture performance of an organisation, across a broad range of criteria. The most important way to measure organisational effectiveness is realised when you use the right tools and strategies to accomplish a specific goal.”

The rest of the methods used by the respondents are mainly used for tracking purposes. The tracking is done based on input from the organisations strategic plan, key performance indicators identified, objectives assigned, targets and actuals achieved.

A method that the subject matter experts have observed to be constructive in measuring HR programme effectiveness is a project risk register. It is used to identify top 10 programme risks and initiatives to be implement that will assist to mitigate the risks.

4.3 SUMMARY OF DATA PRESENTATION

4.3.1 Strategic objectives

The two organisations agree that defining key strategic objectives is the cornerstone of their business strategy. These focus areas drive business initiatives and strategic projects with the intention of achieving business growth and creating value for the customers. The rapid pace of technological changes has required organisations to

rethink the way of doing business and this is evident with the inclusion of agility, innovation and the need for a unified data platform as part of strategic objectives. KPIs, targets, projects and actuals assigned to these strategic objectives will be measured with the intended outcome of achieving continuous improvement and improved employee and customer experience. This is supported by one of the respondent's feedback as quoted in section 4.2.1.

Cascading the strategic objectives that impact HR, continuous improvement, agility and innovation had maximum responses. Respondents felt strongly that to drive organisational transformation, implementing continuous improvement initiatives is important. An important element of the transformation process is defining a business case which is used as the compass and a tool to assess benefits realisation. Respondents agree that to deliver an agile HR, various factors need to be considered, not all of them are related to technology. The non-technical factors include consideration of organisational changes with regards to business expansion, organisational structure and the realignment of business objectives with the HR strategy. This is an acknowledgement that to achieve business goals, the three aspects must be considered and are integrated namely, process, people and technology.

4.3.2 HR service delivery

According to the respondents, the purpose of embarking on a transformation programme is to deliver HR services in a simplified, streamlined and standardised manner. The improvement in technology has taken this objective further by improving employee engagement and experience. HR technology is no longer about automating processes.

Due to the multi-generational workforce and the expectations of employees that has changed, employees expect HR services to be available on a mobile device, anywhere and anytime. They also expect intuitive and personalised experiences like learning recommendations based on the employees' profiles, for example, their role, location and grade level. As evident with the metrics that organisations generate, this has improved the turnaround time for the services.

The availability of real-time reporting, dashboards and workflow approvals are critical services that help line managers' decision-making. The respondents believe that this has empowered line managers in doing their jobs and not rely heavily on HR business partners.

4.3.3 Innovation in HR

The organisations agree that HR came in late to the innovation trend. They believe that the adoption pace is still relatively slow as they haven't taken advantage of modern technology like chatbots, artificial intelligence and machine learning in managing the HR processes even though some of this technology is implemented in other parts of their business.

According to the respondents, the advanced HR technology has impacted how employees engage with their department. Information is available on their fingertips and there is increased visibility on HR processes and practice.

4.3.4 Data-driven insights in HR

Workforce planning is an important stage when an organisation is considering a business expansion or restructuring. Interviewees from both organisations have gone through these processes. Data integrity becomes very crucial during workforce planning. In a South African context, to address gender and race inequalities at the workplace, legislative reports are tracked, and it is compulsory for organisations to submit them annually. Once again, when generating these reports, the accuracy of data is important. This explains why demographic data ranked on top with regards to responses. In this context, demographics also include organisational data like position levels.

The respondents provided the HR metrics they use to track and make decisions namely recruiting, performance and potential (the nine-box grid), staff turnover, absenteeism and HR system usage. These metrics provide essential data and are an input to the recruiting strategy and budget, succession planning and health of the organisation and the overall HR strategy. However, the respondents have expressed their desire to have a unified data platform, predictive analytics that will enhance their planning, provide actionable insights to help support the business strategy.

4.3.5 Measure organisational effectiveness

The balanced scorecard was the popular choice amongst the interviewees when it comes to how the organisations measure HR and organisational effectiveness. The perspective, strategic objectives and KPIs provide a good foundation for measurement. However, the respondents shared that even though there is cascading to the department level, there is inconsistency in terms of application. Rolling up the measurement is also a challenge that the respondents have revealed. The inability to quantify, for example, the implementation of a mobile HR strategy, has contributed to a business strategic objective. The respondents, therefore, agreed that the outcome is largely subjective.

CHAPTER FIVE: ANALYSIS AND DISCUSSION OF THE RESEARCH FINDINGS

5.1 INTRODUCTION

This chapter analyses and synthesises the data presented in Chapter Four and discusses the contribution to the study of the literature that was reviewed in Chapter Two. The key areas that will be discussed are strategic objectives, including their impact on HR, services delivered by HR, the effect on employee productivity as a result of innovation in HR, data-driven insights in HR and measurement of organisational effectiveness. A comparison will be done between the research findings and the literature that was reviewed and possible contrasts to help answer the main research questions of this study.

5.2 BACKGROUND

Primary data was collected by conducting interviews with primary respondents, including subject matter experts in HR technology and transformation. The study focused on investigating and analysing if the implementation of HR technology has an impact on organisational effectiveness. As mentioned in Chapter Three, secondary data in the form of Transnet reports and the second organisation documents were collected and reviewed.

5.3 DISCUSSION OF RESEARCH STUDY

5.3.1 Key strategic objectives and measurement of organisational effectiveness

To be able to establish whether HR technology has an impact on organisational effectiveness, the relevant literature was reviewed, in order to understand the meaning of organisational effectiveness. According to Henri (2004), organisational effectiveness represents the *outcome* of organisational activities, while performance measurement consists of an *assessment tool* to measure effectiveness. Organisational performance encompasses three specific areas of firm outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc.) (Richard et al., 2009).

The researcher has observed that these specific areas are aligned to the four perspectives that form the foundation for a balanced scorecard. Interviewees from the two organisations agreed that they use the balanced scorecard to monitor organisational performance. The researcher has discovered that studies exist that investigate the relation of HR practices to organisational performance through the impact of HR on employees' attitudes and behaviour, which speaks to organisational culture.

However, according to Guest (2011), outside of the link to internal performance such as productivity and quality, to external measures such as sales and profit per employee, very few studies have explored this chain. Numerous frameworks have been proposed over the years to suggest this link. These frameworks have been discussed extensively in section 2.4

Data collected has provided an indication that defining key strategic objectives is the foundation to identify business objectives and provide a clear criterion on measuring organisational effectiveness. The respondents agree that to drive organisational transformation there is a need to implement continuous improvement initiatives in all areas of the business. The focus of the study was on the human resources business function.

Transnet launched the market demand strategy (MDS), a capital investment programme that intended to expand rail, port and pipeline infrastructure (Transnet, 2017). This continuous improvement initiative was the compass to drive the business transformation which includes organisational growth and culture. The second organisation launched the 'Ambition 2018', an initiative about being a powerful force for social good, committing to expanding and deepening shared value with creative partnerships, products and customer experiences (DSY, 2018).

The above-mentioned initiatives from the two organisations is evidence that the rapid pace of technological changes has required organisations to rethink their ways of doing business, triggering the agility discussion. The interviewees collectively agreed that in order to disrupt markets and create value for customers, they are implementing digitally enabled innovative solutions. The respondents have acknowledged that to deliver an agile HR, various factors need to be considered, not all of them related to technology. The non-technical factors include consideration of organisational changes

with regards to business expansion, research and development, organisational structure and the realignment of business objectives with the HR strategy. Additionally, breaking down business silos and standardising business processes are factors that also need a review. Since the study has a major focus on the role of HR in organisational effectiveness, the interviewees highlighted the role of workforce planning and improving employee experience to deliver on these initiatives.

The researcher's observation is that the ability to monitor an organisation's progress, measurement tool and real-time analysis of organisational performance is required. Organisations utilise various frameworks and the balanced scorecard, which has been mentioned in literature and our research seems to be the prevalent framework. It has been established that the strategic plan plays a critical role in setting the agenda for the organisations. The strategic plan is further broken down to specific objectives, KPIs, targets, actuals and outcomes for transparency and clear measurement.

Literature has primarily focused on investigating the link between HR practices and organisational effectiveness in isolation of other business functions. The role of data analysis to map different business scenarios and predictions were also not part of the research. In this study, it has been established that silo approaches within organisations prevent HR-related data from being combined with data on other determinants of productivity and performance, as investigated by (Angrave et al., 2016).

However, there was no evidence collected to provide quantitative evidence of the direct impact of the implementation of HR technology on organisational effectiveness.

5.3.2 HR service delivery

Research on the evolution of HR has been conducted for decades, where Ulrich (2015) illustrates the journey of HR through waves 1-4 in Figure 4. The journey demonstrates how advancement in technology has decreased HR administrative functions, providing the HR department with more time to focus on building the talent capabilities required to support the business strategy and outcomes.

According to Bulmash (2006), what sets high-performing organisations apart from others is how they use technology to deliver HR services. The researcher has observed that HR technology is increasingly being used by small, medium, and large

employers to meet the needs of its stakeholders. HR transformations' critical success factors are based on technology and process change being fully integrated with change around HR capabilities, culture and structure. It has been suggested that advances in HR information systems provide organisations with great opportunities to re-think the way HR management is undertaken in organisations (Angrave et al., 2016).

Even though modern HR technology has introduced transformation in HR practices, employee engagement and experience, the researcher has observed that according to the literature, there is no empirical evidence that the e-recruiting, e-performance, e-compensation and e-learning systems assist organisations organisations in reaching their HR goals of attracting, motivating and retaining employees.

It has been discovered that the transformation programme helped the two organisations meet their specific workforce requirements and further progress their overall HR function. The programme has helped to deliver HR services in a simplified, streamlined and standardised manner. The interviewees credit the success of the programme to being business and HR- driven, not by the IT team. The development of the business case assisted in aligning the expected programme outcomes to the HR model and strategy.

According to the respondents, a transformation programme is no longer about automating HR processes but is about improving employee engagement and experience. Due to the multigenerational workforce and the expectations of employees that have changed, employees expect HR services to be available on a mobile device, anywhere and anytime. They also expect intuitive and personalised experiences.

The respondents agree that the technology has helped with improving the turnaround time in delivering HR services and empowered line managers with the availability of real-time reporting, dashboards and workflow approvals. The ability to create workforce planning using technology that is integrated into the organisational structures has seen a positive effect for HR transformation. The reduction in turnaround time in recruiting has been the major benefit that has been realised by the two organisations. For an organisation to maintain its competitive advantage, talent development must be on top of the HR agenda.

That has been the case for the organisations interviewed. According to the respondents, in order to improve the employee experience, career development opportunities must be transparent. They have achieved this with clear career paths, visible learning opportunities and continuous feedback between employee and manager.

According to the experts interviewed, they have seen an increase in the implementation of digital reward and recognition applications for employee motivation. Studies that have been conducted on HR technology have focused on the impact of transaction-based tasks that are actioned by HR administrators, and less on employee engagement and experience. From the literature reviewed, it has been established that in the past, the purpose of implementing HR technology was to reduce costs and increase speed of delivery, whilst not losing focus to attract, motivate, and retain a highly talented and diverse workforce.

Modern technology has taken this evolution further by focussing on the availability of HR information on demand and personalized employee experiences. This approach provides an opportunity for HR to truly be a strategic partner to business by focusing on trends, behaviours and predictive analytics to support the business objectives.

5.3.3 Innovation in HR

It has been established that increased digital technology developments are transforming how the human resources department provides services to the internal customers and organisations have increasingly adopted HR technology in the hope of achieving administrative and strategic benefits.

Bondarouk et al. (2017) suggests that these benefits are identified as HR efficiency and effectiveness achieved by the standardisation of HR processes, improved quality of HR services to the employees, HR cost savings due to reduction in paperwork and an effective administration and alignment of the HR function with corporate strategy. From literature and data collected from the respondents, the researcher has observed that the entrance of a younger generation in the workplace, which is tech-savvy has increased the pressure in organisations to implement advanced HR technology to integrate these various generations of the workforce.. Digital technologies are rapidly evolving and disrupting different areas of business including HR practices.

According to Bersin (2014), there are nine HR technology disruptions that have been visible in recent years including *self-service* functions for employees, managers and job candidates. Digital HR: self-service, artificial intelligence, and robotic process automation is part of the list. There is an interest on the part of organisations to utilise and incorporate artificial intelligence, robotics, machine learning and cloud computing into HR system bringing a greater responsibility to the business. Utilising these modern technologies requires the HR function and business to change the way they perform their duties.

“The need to adapt to the new conditions of the global business environment and the growth of digital innovation leads to the fact that companies are forced to modify or completely change ways of working and then reshape their business model” (Mazurchenko & Maršíková, 2019, p.74). With the implementation of advanced HR technology, the researcher has observed that the literature suggests that the roles of HR professionals are changing developing a need to create new tasks and roles for HR professionals and motivate them to develop strong HR technology competencies.

According to the interviewees, the availability of HR services on a mobile device connected to social media platforms is the most impactful innovation that they have implemented. Information is available on the employees’ fingertips and there is increased visibility on HR process and practice. They stated that the adoption pace is still relatively slow as they have not taken advantage of modern technologies like chatbots, artificial intelligence and machine learning in managing the HR processes even though some of this technology is implemented in other parts of their business.

Innovation in HR improves employee engagement and experience, and this has an influence in how employees interact with the customers, driving a value-driven culture and business growth. To remain competitive, organisations need to embed modern technology with their business strategies. This view is supported by Aggarwal & Kapoor (2012), who suggest that HR technology has become a critical factor in making business competitive and effective. Having said that, Westerman (2017) makes a profound point that technology does not provide value to a business, but its value comes from doing business differently because technology makes it possible.

5.3.4 Data-driven insights

Decisions about people that are based on data are dependent on an ability to predict and model the workforce. Modern organisations take seriously the imperative to improve organizational performance through data analysis and insight. According to Stone et al. (2015), HR systems are now becoming real-time communication system, solutions that allow employees to offer feedback at work in real time, giving leaders immediate information about work and management issues.

An observation from the literature is that growth in people analytics is one of the nine HR technology disruptions. People analytics means bringing together all the people data in the company (and there is an ever-expanding amount) to understand and address specific business problems, for example, sales productivity, retention, fraud and customer satisfaction (Bersin, 2016).

The researcher has observed that there is an extensive use of measuring HR metrics, but the real use of HR analytics to understand employee behaviour and predict business performance was still a challenge. Van der Togt, et al. (2017) suggests that better insights from HR analytics are enabled by improved HR systems offering better data, the improved ability to combine HR data with operational and financial performance data, and improved statistical analysis capability.

Subject matter experts that were interviewed observed how other organisations from their customer engagements have systematically used people analytics for decision-making. By adopting modern HR technology, the two organisations have realised the need to focus on a solution that will provide comprehensive employee data. To fully understand predictive HR analytics, Edwards' definition provides a description of the concept as: 'the systematic application of predictive modelling using inferential statistics to existing HR people-related data in order to inform judgements about possible causal factors driving key HR -related performance indicators' (Edwards, 2019, p. 3).

Interviewees from both organisations agree that demographics of employee workforce are the cornerstone of managing human resources data. Additionally, the integrity of this data is very important as it impacts workforce planning during business expansion or restructuring, contributes towards formulating the HR strategy, budgeting,

succession planning, legislative reporting and determining the health of the organisation. Data management remains a challenge for the organisations even though the interviewees indicated that they extensively make use of HR metrics to track and manage the business function. However, the respondents have a desire for a unified data platform, predictive analytics that will enhance their planning, provide actionable insights to help support the business strategy.

The primary purpose of HR technology is to improve HR processes and operations by making it easier and quicker to access and understand key HR and people data. Better employee engagement and employee experience has been the outcome of HR transformation initiatives as evident from respondents' feedback.

With this study, it is evident that the HR evolution must be taken a step further and use the data provided by HR technology to create value for the organisation, so that value can be captured and realised. HR analytics offer an opportunity to get an improved HR by linking HR practices with business outcomes and value, challenging beliefs through data, and improving decision making through use of sound predictions.

5.4 SUMMARY OF THE DISCUSSION

The rapid pace of technological changes has required organisations to rethink their ways of doing business and this technology wave has not escaped the HR function. Two major concepts were part of this study, namely, advanced HR technology and organisational effectiveness. It was important to understand the meaning of these concepts independently and in relation to each other, if it exists.

It has been established that business functions are built on the three integrated aspects of process, people and technology. The HR process aspect that was discovered from the literature is an employee value chain, the hire-to-retain concept that was coined by (Tregear, 2010). It includes HR processes from recruiting, onboarding, performance management, learning, compensation, remuneration, succession and development; and HR operations. These processes are an input into the organisation's HR strategy to attract and retain talent.

The investigation of the people aspect explored HR practices and how the implementation of HR technology affects service delivery. The technology studies

revealed the evolution of HRIS from being transaction-based to a new focus on employee engagement and experience. The discussion of the literature and collected data was grouped into focus areas: strategic objectives including their impact on HR, services delivered by HR, the effect on employee productivity as a result of innovation in HR, data-driven insights in HR and measure of organisational effectiveness. This is aligned to the research question, sub-questions and interview participants questions. Studies on organisational effectiveness have been conducted over the decades and it was important to outline the definition that will form the foundation of the study.

According to Henri (2014), organisational effectiveness represents the *outcome* of organisational activities while performance measurement consists of an *assessment tool* to measure effectiveness. This definition was adopted for the study. Digital technologies are rapidly evolving and disrupting different areas of business including HR practices.

According to Bersin (2014), there are nine HR technology disruptions that have been visible in recent years including *self-service* functions for employees, managers and job candidates. This technology includes cloud-based technology, social media, mobility, artificial intelligence, machine learning, chatbots and data insights.

Evidence from both literature and the data collected from interviews confirm that defining strategic objectives is the foundation to identify business initiatives and provide a clear criterion on measuring organisational effectiveness. It has also been established that organisations utilise various frameworks to monitor organisational performance and the balanced scorecard which has been mentioned in the literature, and our research seems to be the prevalent framework.

To establish the link between organisational effectiveness and HR practices and technology, the literature has primarily focused on investigating these concepts in isolation of other business functions, not in a holistic manner including other business functions like finance, procurement, sales & operations and research & development. There is still a gap in providing quantitative evidence of the direct impact of implementing HR technology on organisational effectiveness.

During this study, the researcher discovered that in the past, the purpose of implementing HR technology was to reduce costs and increase the speed of delivery, whilst not losing focus on attracting, motivating, and retaining a highly talented and diverse workforce (Stone et al., 2015). An overlooked aspect of these implementations is the employee data that was captured and available for reporting purposes, not only for HR but to be used throughout the business.

Strategic initiatives that have been identified by the respondents include business expansion or restructuring which affects workforce planning as it is an important phase, and workforce planning requires reliable and real-time data. An HR transformation programme is part of the continuous improvement initiatives that the organisations can embarked on and improved personalized employee experiences and engagement is a key deliverable. It has been established that the focus on employees provides an opportunity for HR to truly be a strategic partner to business by focusing on trends, behaviours and predictive analytics to support the business objectives.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter provides a summary of the findings of the study and the conclusions that can be drawn from the literature that was reviewed, interviews conducted with representatives from Transnet and a second private organisation; and observations by subject matter experts. The key areas that were covered are: strategic objectives including their impact on HR, services delivered by HR, the effect on employee productivity as a result of innovation in HR, data-driven insights in HR and measure of organisational effectiveness. The study investigated the impact of HR technology on organisational effectiveness and will conclude with recommendations for further study.

The key question and sub-questions for the study were as follows:

How is innovation in HR perceived to influence organisational effectiveness?

Sub-research questions:

1. What is the perceived role of a cutting-edge technological HR innovation in improving organisational effectiveness?
2. Is the adoption of a potentially disruptive technological innovation decisive in making HR a strategic partner to business? If so, under what conditions is this the case?
3. Organisations operating globally are forward-thinking when it comes to HR processes and technology adoption. What are the challenges facing organisations in South Africa with regards to readiness for a disruptive innovation in HR?

6.2 MAJOR FINDINGS

The study was conducted based on a relevant literature review, interviews with representatives from two organisations, subject matter experts in technology and transformation; and a review of the company documents. The organisations selected were from two different sectors, public and private. The reason behind this selection was to establish whether the two sectors implement HR technology differently and it was discovered that the two organisations followed a similar programme implementation approach.

The structure of the research questions assisted with the alignment of the responses for the interviewees. Even though they were willing to share their journey, the second organisation requested that their details not be shared. Despite this reservation, they were still included in the study because they are a success story for an organisation that has gone through an HR transformation programme and they have won a Quality Award for their HR transformation journey.

The study focused on understanding whether there is a link between implementing the advanced HR technology and an improvement in organisational effectiveness. From the field results, both organisations were in agreement with regards to key strategic priorities. They stated that identifying these priorities was the cornerstone of their business strategy. They provide a foundation for their company strategic objectives, programs and a roadmap that the organisation will embark on to achieve its business goals.

The rapid pace of technological changes is putting pressure on organisations to rethink their ways of doing business. One of the changes is the fact that customers and employees now expect personalised experiences when dealing with organisations. This provides an opportunity to engage in continuous improvement initiatives, HR transformation serves as an example of such initiatives. People are regarded as part of the puzzle that will help create value for the customers and deliver on the business objectives.

Agility, innovation and the need for a unified data platform were the top three strategic areas that were shared amongst the two organisations. Defining a framework that will be used to measure the strategic objectives has also been described as critical in achieving business objectives. Both organisations confirmed that they make use of the balanced scorecard measurement tool.

The key difference with the two organisations was the structure of the programme stakeholders. Transnet had a centralised approach in identifying key personnel, mainly from the IT department. The second organisation opted for a decentralised approach which according to them contributed to a successful user adoption of the HR programme. A decentralised approach allowed business to take ownership of the transformation programme.

An interesting finding from the study was acknowledgement that to deliver an agile HR, various factors need to be considered, not all of them are related to technology. Organisational changes with regards to business expansion, organisational structure and the realignment of business objectives with the HR strategy are non-technical factors that must be embraced. Both organisations agree that involvement of the change management team during the HR transformation and other business initiatives is important.

One of the key findings from the study was the emphasis by the respondents on the importance of defining a business case for HR and business transformation programme. The respondents communicated that the business case outlines the justification for the proposed programme including key HR functions that will be impacted and the expected gains as a result of the improvements. An assertion from the study was that HR is not directly involved in delivering value to the customer, but it has an impact in empowering and enabling the workforce to deliver exceptional service to the customers.

According to information gathered from the study, the purpose of the HR transformation programme is to assist organisations meet their specific workforce requirements and further advance their overall HR function. The adoption of modern technology improved employee engagement and experience with regards to HR services. Benefits that have been realised are namely: improvement of turnaround time in the delivery of HR services like recruitment, real-time reporting, consistent employee data, access to operational reports, dashboards and analytics; better workforce planning. Adoption also provides self-service capability for employees thus less reliance on the HR department. The major finding with regards to the delivery of HR services is the simplified, streamlined and standardised processes.

Literature from the study revealed that HR innovation platforms that are available are the following: mobility, predictive analytics, chatbots, robotics, machine learning, artificial intelligence and learning experience platforms. It has been established that the organisations have not implemented predictive analytics, machine learning, artificial intelligence, robotics and chatbots. The adoption pace with regards to this modern technology is relatively slow, and the organisations acknowledged that they

are missing out on an opportunity to truly improve the employee's engagement and improve their experience.

One of the key lessons from the study is that the organisations agree that demographics of employee workforce is the cornerstone of managing human resources data. HR metrics are used to track and make decisions. These metrics provide essential data and are an input to the recruiting strategy and budget, succession planning and health of the organisation and the overall HR strategy. This information is critical in workforce planning and legislative reporting.

A key finding from the study is that the organisations do not have a platform with a unified view of the data from all business functions with predictive analytics capability that will augment their planning and provide actionable insights to help support the business strategy. The goal of this approach is to have a data-driven HR that leads to strategic alignment. The core of the study is the measurement of business objectives to determine whether the implementation of HR technology has an impact on the results.

The balanced scorecard's perspective, strategic objectives and KPIs provide a good foundation for measurement, however the findings from the study revealed that even though there's cascading to the departmental level, there is inconsistency in terms of application and rolling up to the strategic objectives remains a challenge.

Another interesting finding that came out from the study is the acknowledgement that businesses are operating in silos. There is no unified approach in running the business functions. This contrasts with the balanced scorecard as it seeks to bring balance across all organisational functions. The 'balance' is brought about by a focus on financial and non-financial objectives that are attributed to four areas or perspectives of an organisation. These perspectives are: Financial, Customer, Internal Processes and Organisational Capacity (Kaplan & Norton, 1996).

6.3 KEY CONCLUSIONS OF THE STUDY

This section covers the key conclusions from the study, based on primary data collected from the respondents and secondary data. It also considers data retrieved from literature.

The key question and sub-questions for the study were as follows:

How is innovation in HR perceived to influence organisational effectiveness?

During the study, it has been established that innovation in HR has an influence and an impact on organisational effectiveness, but the challenge is to quantify that influence to provide evidence. Organisations use the balanced scorecard to measure HR and organisational effectiveness. The measurement is based on perspectives- financial, customer, internal processes and organisational capacity, strategic objectives and KPIs, targets and actuals. Unfortunately, all these organisational functions are measured in isolation.

The proposed solution is the correct application of the balanced scorecard methodology. This means starting from defining objectives step by step using the S.M.A.R.T principle – specific, measurable, specific and time-based objectives. Cascading and roll up of the measurement are also important.

Sub-research questions:

1. What is the perceived role of a cutting-edge technological HR innovation in improving organisational effectiveness?

Studies that have been conducted on HR technology have focused on the impact of transaction-based tasks that are actioned by HR administrators, and less on employee engagement and experience. Modern technology has taken the HR technology evolution further by focusing on the availability of HR information on demand and personalised employee experiences. The perceived outcome is the improvement in employee experience that will help them in delivering the desired value to the customers.

Innovation in HR also helps organisations to remain competitive and effective. To attract and possibly retain the multigenerational workforce, organisations must implement the advanced HR technology namely: predictive analytics, machine learning, artificial intelligence, robotics and chatbots. Additionally, for better alignment within the organisation, a unified platform that consolidates data into a single source of truth, i.e. visibility to HR, Finance, Research & Development, Sales and Operations data platforms must be implemented.

2. Is the adoption of a potentially disruptive technological innovation decisive in making HR a strategic partner to business? If so, under what conditions is this the case?

The transformation programme helps organisations meet their specific workforce requirements and further progress their overall HR function. The adoption of advanced technology improved employee engagement and experience with regards to HR services. It has also helped to deliver HR services in a simplified, streamlined and standardised manner.

Benefits that have been realised are real-time reporting, dashboards, analytics, improved workforce planning and self-service HR services, including mobile that have empowered both the employees and managers. As a result of less administrative duties by the HR department, it provides HR with the opportunity to become a strategic partner with the rest of the business executives. To maintain this position, the organisations must establish a quarterly review committee with a responsibility and mandate to track and monitor strategic objectives and create action plans to mitigate any non-compliance and delay in delivery.

3. Organisations operating globally are forward-thinking when it comes to HR processes and technology adoption. What are the challenges facing organisations in South Africa with regards to readiness for a disruptive innovation in HR?

The organisations have stated that the adoption pace is still relatively slow as they have not leveraged advanced technology like chatbots, artificial intelligence and machine learning in managing the HR processes even though some of this technology is implemented in other parts of their business. HR is not considered a priority, nor does it have an impact on organisational effectiveness. This is an indication of the working in silos that has been raised by the respondents and identified as a gap in the literature. Organisations are still focusing on their functional HR processes and missing out on the HR evolution wave that has moved platforms that seek to improve employee engagements and improved experiences. Having said this, the point remains that technology does not provide value to a business, but its value comes from doing business differently because technology makes it possible.

6.4 RECOMMENDATIONS FOR BUSINESS / STAKEHOLDERS

This section represents recommendations that are based on the findings that have emerged from the research study conducted with Transnet and the second organisation representatives. These recommendations are considerations towards a unified approach in determining the impact of HR technology on organisational effectiveness.

1. It has been established that the key to achieving business goals is to define clear strategic objectives, measures, key performance indicators, targets and actuals that can be measured. A comprehensive framework and measurement tool that can cascade down and roll up is required. According to the study, the balanced scorecard is a trusted methodology. However, the organisations should consider consistent application of this framework.

The organisational capacity perspective is linked directly to the people agenda. It covers strategic objectives and measurements regarding how well people perform, their skills, training, organisational culture, leadership and knowledge base. This area also comprises of infrastructure and technology. The organisational capacity perspective answers the question: How can we improve and create value? The objective of an initiative must be measured and not starting of a project. An example is implementing HR technology – chatbots. This is the initiative, not the strategic objective. The objective could be improving employee HR service requests through tools and technology. The measure for this initiative is the milestones achieved, the completion of the project and the reduction in the number of calls logged for HR service requests. It is important to specify the target with regards to the number of calls.

This is a call to going back to basics in terms defining objectives and making them S.M.A.R.T – specific, measurable, specific and time-based (Reeves & Fuller, 2018). There is no focus on the actual technology at this stage.

2. The alignment of the business case to the benefits realisation tracking is important. The organisations should consider conducting quarterly reviews of the benefits realisation metrics in conjunction with other HR strategic objectives. They have given examples of how specific the business case is, for example,

the implementation of the technology will help reduce the turnaround time for recruitment from 90 to 45 days.

3. The HR technology that has been implemented provides real-time data on the number of days it takes to conduct the recruitment process. This is operational data that is generated and compiled into monthly HR reports. The next step is to analyse and provide actions where benefits are not being realised. This action has a contribution towards the achievement of strategic objectives that would have been defined.

Additionally, the attainment of the objectives must form part of the key performance indicators for the HR operations professional and strict measurement criteria be applied. This allows for the balanced scorecard to cascade all the way to the department level which is a challenge that has been raised.

4. For the organisation to maintain agility, it should consider implementing predictive analytics, machine learning, artificial intelligence, robotics and chatbots platforms to support and enable the HR function. These HR technologies will provide an opportunity to the organisations to attract and possibly retain the multigenerational workforce. They will also assist with the improvement of personalised employee experiences in alignment with the customer experience that organisations usually have as a focus.
5. The importance of data has come out strongly during the study. It has been established that this data also drives the planning, recruitment, promotion, succession and development decisions based on the strategic objects and overall business goals. Data-driven insights offer an ability to predict and model the workforce. The challenge of organisations operating in silos was raised. To help manage this challenge, the organisations should consider implementing a unified platform that consolidates data into a single source of truth, i.e. visibility to HR, Finance, Research & Development, Sales and Operations data platforms. With a unified platform that supports robust analytics.

6. HR and other business functions can run simulations that show the consequences of decisions and actions, enabling HR to act as a partner and advisor to the business. This initiative or project will help organisations realise the 'balance' that is desired by their measurement tool.

6.5 SUGGESTIONS FOR FUTURE RESEARCH

The research established that it is important for organisations to have a measurement tool that they use to track and monitor business performance. This tool must be comprehensive and involve all business functions. In order to establish the impact of HR technology on organisational effectiveness, strategic objectives, measures, KPIs, targets, actuals and initiatives or projects must be defined. The challenge of providing evidence on a clear and quantifiable impact of HR technology on organisational effectiveness was researched, however not in a broader scale.

- The scope of the research was limited to two organisations that are based in Gauteng and the scope was limited to the HR and IT department. It is recommended that the comparative study be extended to the operations and finance departments to get a holistic view of organisational functions and their contribution.
- Additionally, the participants should be categorised according to early adopters and laggards including the reasons and implications of the decisions for both scenarios.
- Suggested future research is on the modalities of embracing people-based data analytics to achieve business goals.

REFERENCES

- Abston, K. A., & Stout, V. J. (2006). Organisational Effectiveness: Exploring What It Means in Human Resource Development. Online Submission.
- Accenture. (2017). Digital HR technology comes of age. Retrieved from https://www.accenture.com/t20170225T021819_w_us-en_acnmedia/PDF-7/Accenture-Digital-HR-technology-comes-of-age-US.pdf
- Aggarwal, N., & Kapoor, M. (2012). Human resource information systems (HRIS)-Its role and importance in business competitiveness. *Gian Jyoti E-Journal*, 1(2), 1-13.
- Al-Dmour, R. (2014). *An integration model for identifying the determinants of the adoption and implementation level of HRIS applications and Its effectiveness in business organisations in Jordan*.
- Albella Campesino, A. (2016). HR practices and firm performance. Literature review.
- Albrecht, S. L., Bakker, A. B., Gruman, J. A., Macey, W. H., & Saks, A. M. (2015). Employee engagement, human resource management practices and competitive advantage: An integrated approach. *Journal of Organisational Effectiveness: People and Performance*, 2(1), 7-35.
- Angrave, D., Charlwood, A., Kirkpatrick, I., Lawrence, M., & Stuart, M. (2016). HR and analytics: why HR is set to fail the big data challenge. *Human Resource Management Journal*, 26(1), 1-11.
- Assiri, M. S. (2016). Integration of Stimulated Recall, Self-Observation, and Retrospective Interview in the Collection of Strategy Data in Computer-Assisted Language Testing. *Studies in English Language Teaching*, 4(1), 104.
- Becker, B. E., Huselid, M. A., Becker, B., & Huselid, M. A. (1998). *High performance work systems and firm performance: A synthesis of research and managerial implications*. Paper presented at the Research in personnel and human resource management.
- Bersin, J. (2014). The Top 10 Disruptions In HR Technology: Ignore Them At Your Peril. In: Forbes.
- Bersin, J. (2016). *HR Technology Disruptions for 2017: Nine Trends Reinventing the HR Software Market*. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/humancapital/us-hc-disruptions.pdf>
- Bondarouk, T., Parry, E., & Furtmueller, E. (2017). Electronic HRM: four decades of research on adoption and consequences. *The International Journal of Human Resource Management*, 28(1), 98-131.
- Bondarouk, T., & Ruel, H. J. M. (2009). Electronic Human Resource Management: challenges in the digital era. *The International Journal of Human Resource Management*, 20(3), 505-514.
- Bower, J. L., & Christensen, C. M. (1995). Disruptive technologies: catching the wave.
- Brewster, C., Gooderham, P. N. and Mayrhofer, W. (2016). Human resource management: the promise, the performance, the consequences. *Journal of Organisational Effectiveness: People and Performance*, 3(2), 181-190.

- Brown, V. R., & Vaughn, E. D. (2011). The writing on the (Facebook) wall: The use of social networking sites in hiring decisions. *Journal of Business and Psychology*, 26(2), 219.
- Bulmash, J. (2006). human resources Management and technology. In: Chapter.
- Cameron, K. S., & Whetten, D. A. (1983). Models of the organisational life cycle: Applications to higher education. *The Review of Higher Education*, 6(4), 269-299.
- Christensen, C. M. (1997). *The innovator's dilemma*. Boston: Harvard Business School Press.
- Christensen, C., & Raynor, M. (2003). *The innovator's solution: Creating and sustaining successful growth*. Harvard Business Review Press.
- Christensen, C. M. (2006). The ongoing process of building a theory of disruption. *Journal of Product innovation management*, 23(1), 39-55.
- Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is disruptive innovation. *Harvard business review*, 93(12), 44-53.
- Daim, T. U., Hang, C. C., Chen, J., & Yu, D. (2011). An assessment framework for disruptive innovation. *Foresight*.
- Damanpour, F., & Schneider, M. (2006). Phases of the adoption of innovation in organizations: Effects of environment, organization and top managers. *British journal of Management*, 17(3), 215-236.
- Danneels, E. (2004). Disruptive technology reconsidered: A critique and research agenda. *Journal of product innovation management*, 21(4), 246-258.
- Deal, J. J., Altman, D. G., & Rogelberg, S. G. (2010). Millennials at work: What we know and what we need to do (if anything). *Journal of Business and Psychology*, 25(2), 191-199.
- Dery, K., & Wailes, N. (2005). Necessary but not sufficient: ERPs and strategic HRM. *Strategic Change*, 14(5), 265-272.
- DSY. (2018). Sustainable report 2018. Johannesburg, Gauteng.
- Edwards, M. R., & Edwards, K. (2019). *Predictive HR analytics: Mastering the HR metric*. Kogan Page Publishers.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of management review*, 14(4), 532-550.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), 1-4.
- Findıklı, M. A., & beyza Bayarçelik, E. (2015). Exploring the outcomes of Electronic Human Resource Management (E-HRM)? *Procedia-Social and Behavioral Sciences*, 207, 424-431.
- Fitzgerald, M., Kruschwitz, N., Bonnet, D., & Welch, M. (2014). Embracing digital technology: A new strategic imperative. *MIT Sloan Management Review*, 55(2)(1).

- Gartner. (2017). What is Digitalization? Retrieved from <https://research.gartner.com/definition-what-is-digitalization?resId=3237920&srclId=1-8163325102>
- Gibbs, G. (2007) *Analysing Qualitative Data*. SAGE Publications Ltd., New York, USA
- Guest, D. E. (2011). Human resource management and performance: still searching for some answers. *Human Resource Management Journal*, 21(1), 3-13.
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis. In: American Psychological Association.
- Henri, J.-F. (2004). Performance measurement and organizational effectiveness: Bridging the gap. *Managerial Finance*, 30(6), 93-123.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of management journal*, 38(3), 635-672.
- Huselid, M. (2014). The Corporate Mirror: Looking at Big Data, Analytics and Workforce Management. Retrieved from <https://leadersatwork.northeastern.edu/data-management/corporate-mirror-looking-big-data-analytics-workforce-management/>
- Jiang, K., Lepak, D. P., Hu, J., & Baer, J. C. (2012). How does human resource management influence organisational outcomes? A meta-analytic investigation of mediating mechanisms. *Academy of Management journal*, 55(6), 1264-1294.
- Johnson, R. D., & Gueutal, H. G. (2011). Transforming HR through technology: The use of E-HR and HRIS in organizations. *Society for Human Resource Management Effective Practice Guidelines Series*. Alexandria, VA.
- Johnson, R. D., Lukaszewski, K. M., & Stone, D. L. (2016). The Evolution of the Field of Human Resource Information Systems: Co-Evolution of Technology and HR Processes. *CAIS*, 38, 28.
- Kaltenecker, N., Hess, T., & Huesig, S. (2015). Managing potentially disruptive innovations in software companies: Transforming from On-premises to the On-demand. *The Journal of Strategic Information Systems*, 24(4), 234-250.
- Kaplan, R. S., & Norton, D. P. (1996). Linking the card to strategy. *California management review*, 39(1), 53-79.
- Kaplan, R. S., & Norton, D. P. (2001). Transforming the balanced scorecard from performance measurement to strategic management: Part I. *Accounting horizons*, 15(1), 87-104.
- Koerber, A., & McMichael, L. (2008). Qualitative sampling methods: A primer for technical communicators. *Journal of business and technical communication*, 22(4), 454-473.
- Lawler III, E. E., & Mohrman, S. A. (2003). HR as a strategic partner: What does it take to make it happen? *People and Strategy*, 26(3), 15.
- Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School psychology quarterly*, 22(4), 557.

- Li, M., Porter, A. L., & Suominen, A. (2018). Insights into relationships between disruptive technology/innovation and emerging technology: A bibliometric perspective. *Technological Forecasting and Social Change*, 129, 285-296.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry* (Vol. 75): Sage.
- Markides, C. (2006). Disruptive innovation: In need of better theory. *Journal of product innovation management*, 23(1), 19-25.
- Mazurchenko, A., & Maršíková, K. (2019). Digitally-Powered Human Resource Management: Skills and Roles in the Digital Era. *Acta Informatica Pragensia*, 8(2), 72-87.
- Monastyrsky, M., Abumaizer, R., & Aymi, I. (2017). HR Applications for a Modern Workforce: What Large-Scale, Mobile-Enabled People Technology Applications Improve How People Work?
- Nankervis, A., Rowley, C., & Salleh, N. M. (2016). Introduction: Human resource management and organisational effectiveness—an overview and synthesis. In *Asia Pacific Human Resource Management and Organisational Effectiveness* (pp. 1-13). Chandos Publishing.
- Oliveira, T., & Martins, M. F. (2010). Understanding e-business adoption across industries in European countries. *Industrial Management & Data Systems*, 110(9), 1337-1354.
- Panayotopoulou, L., Vakola, M., & Galanaki, E. (2007). E-HR adoption and the role of HRM: evidence from Greece. *Personnel Review*, 36(2), 277-294.
- Parry, E., & Tyson, S. (2011). Desired goals and actual outcomes of e-HRM. *Human Resource Management Journal*, 21(3), 335-354.
- Patel, P. C., Messersmith, J. G., & Lepak, D. P. (2013). Walking the tightrope: An assessment of the relationship between high-performance work systems and organisational ambidexterity. *Academy of Management journal*, 56(5), 1420-1442.
- Price, J. H., & Murnan, J. (2004). Research limitations and the necessity of reporting them. In: Taylor & Francis.
- Ready, D. A., Hill, L. A., & Conger, J. A. (2008). Winning the race for talent in emerging markets. *Harvard business review*, 86(11), 62-70.
- Reeves, M., & Fuller, J. (2018). When SMART Goals Are Not So Smart. *MIT Sloan Management Review*, March, 21.
- Resnik, D. B., & Shamoo, A. E. (2011). The singapore statement on research integrity. *Accountability in research*, 18(2), 71-75.
- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organisational performance: Towards methodological best practice. *Journal of management*, 35(3), 718-804.
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: Simon and Schuster.
- Rossmann, G. B., & Rallis, S. F. (2003). *Learning in the field: An introduction to qualitative research*. London: Sage.

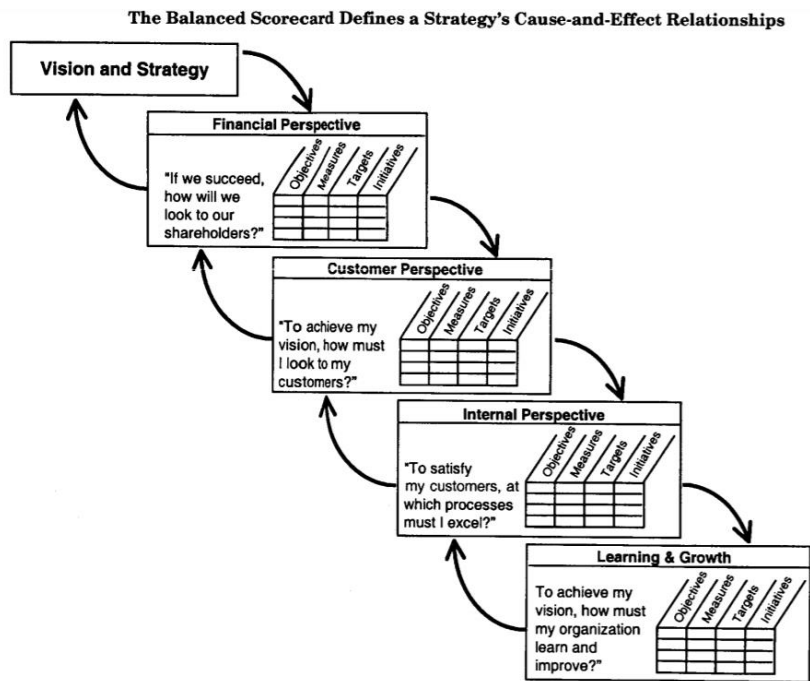
- Šikýr, M. (2013). Best practices in human resource management: The source of excellent performance and sustained competitiveness. *Central European Business Review*, 1, 43-48.
- Singh, S., Darwish, T. K., Costa, A. C., & Anderson, N. (2012). Measuring HRM and organisational performance: concepts, issues, and framework. *Management Decision*, 50(4), 651-667.
- Sparrow, P., Hesketh, A., Hird, M., Marsh, C., & Balain, S. (2010). Using business model change to tie HR into strategy: Reversing the arrow. In *Leading HR* (pp. 68-89): Springer.
- Stone, D. L., Lukaszewski, K. M., Stone-Romero, E. F., & Johnson, T. L. (2013). *Factors affecting the effectiveness and acceptance of electronic selection systems. Human Resource Management Review*, 23, 50-70.
- Stone, D. L., Deadrick, D. L., Lukaszewski, K. M., & Johnson, R. (2015). The influence of technology on the future of human resource management. *Human resource management review*, 25(2), 216-231.
- Strohmeier, S. (2007). Research in e-HRM: Review and implications. *Human resource management review*, 17(1), 19-37.
- Tansley, C., & Watson, T. (2000). Strategic exchange in the development of human resource information systems (HRIS). *New Technology, Work and Employment*, 15(2), 108-122.
- Tapscott, D. (2008). *Grown up digital: How the net generation is changing your world HC*: McGraw-Hill.
- Tellis, G. J. (2006). Disruptive technology or visionary leadership?. *Journal of Product Innovation Management*, 23(1), 34-38.
- Teo, T. S., Lim, G. S., & Fedric, S. A. (2007). The adoption and diffusion of human resources information systems in Singapore. *Asia Pacific Journal of Human Resources*, 45(1), 44-62.
- Transnet. (2017). Market Demand Strategy 2016/2017. Johannesburg, Gauteng.
- Transnet. (2018). Integrated Report 2018. Johannesburg, Gauteng.
- Tregear, R. (2010). Business process standardization. In *Handbook on Business Process Management 2* (pp. 307-327): Springer.
- Troshani, I., Jerram, C., & Rao Hill, S. (2011). Exploring the public sector adoption of HRIS. *Industrial Management & Data Systems*, 111(3), 470-488.
- Twenge, J. M., Campbell, S. M., Hoffman, B. J., & Lance, C. E. (2010). Generational differences in work values: Leisure and extrinsic values increasing, social and intrinsic values decreasing. *Journal of management*, 36(5), 1117-1142.
- Ulrich, D. (1997). Human Resource Champions. The next agenda for adding value and.
- Ulrich, D., & Dulebohn, J. H. (2015). Are we there yet? What's next for HR? *Human resource management review*, 25(2), 188-204.
- Ulrich, D., Younger, J., Brockbank, W., & Ulrich, M. D. (2013). The state of the HR profession. . *Human Resource Management*, 52(3), 457-471.
- van der Togt, J., & Rasmussen, T. H. (2017). *Toward evidence-based HR. Journal of Organizational Effectiveness: People and Performance*.

- Wall, T. D., & Wood, S. J. (2005). The romance of human resource management and business performance, and the case for big science. *Human relations*, 58(4), 429-462.
- Wei, L.-Q., & Lau, C.-M. (2010). High performance work systems and performance: The role of adaptive capability. *Human relations*, 63(10), 1487-1511.
- Welsh, E. T., Wanberg, C. R., Brown, K. G., & Simmering, M. J. (2003). E-learning: emerging uses, empirical results and future directions. *international Journal of Training and Development*, 7(4), 245-258.
- Westerman, G. (2017). Digital is not the answer—transformation is. *MIT Sloan Management Review*, 56(3), 10.
- Whetten, D. A. (2013). Organisational effectiveness: Old models and new constructs. In *Organisational Behavior* (pp. 145-164): Routledge.
- Wiblen, S., Grant, D., & Dery, K. (2010). Transitioning to a new HRIS: The reshaping of human resources and information technology talent. *Journal of Electronic Commerce Research*, 11(4), 251.
- Withers, M., Williamson, M., & Reddington, M. (2010). *Transforming HR: Creating value through people*: Routledge.
- Yang, K. H., Lee, S. M., & Lee, S. G. (2007). Adoption of information and communication technology: impact of technology types, organization resources and management style., 107(9), 1257-1275.
- Yu D., Hang CC. (2010). A reflective review of disruptive innovation theory. *International Journal of Management Reviews*, 12 (4), 435-452.

APPENDICES

APPENDIX A

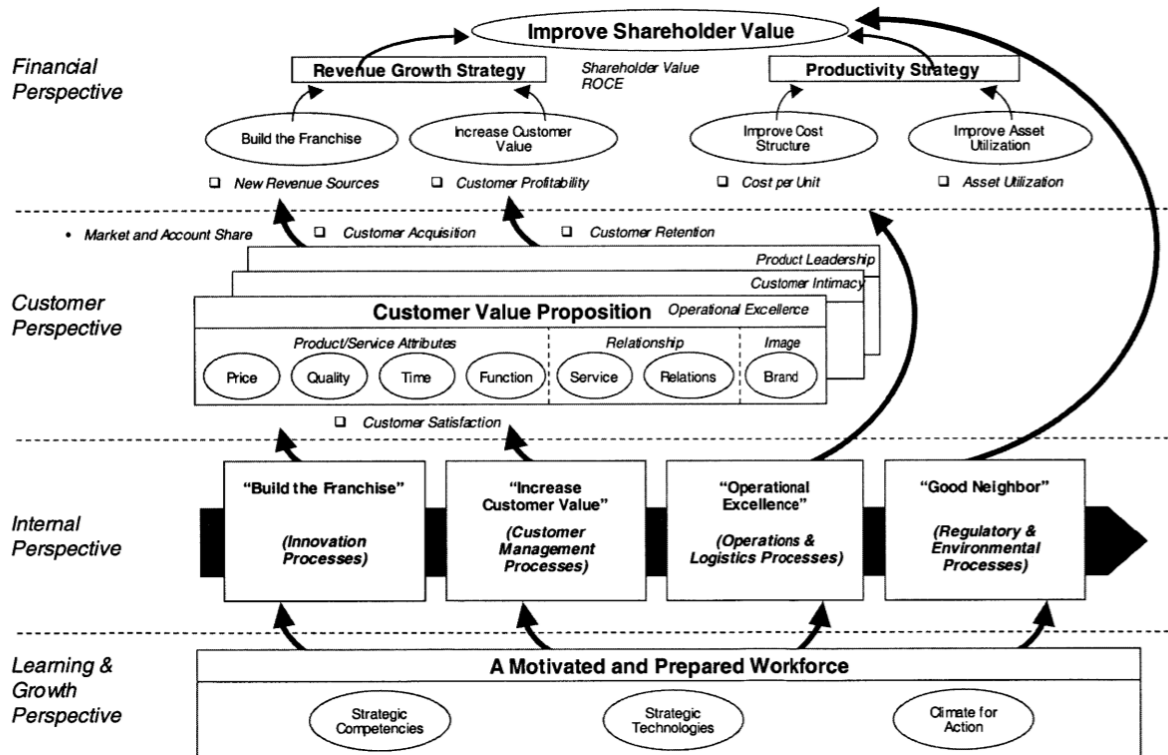
A Balanced Scorecard Framework



Source: (Kaplan & Norton, 1996)

APPENDIX B

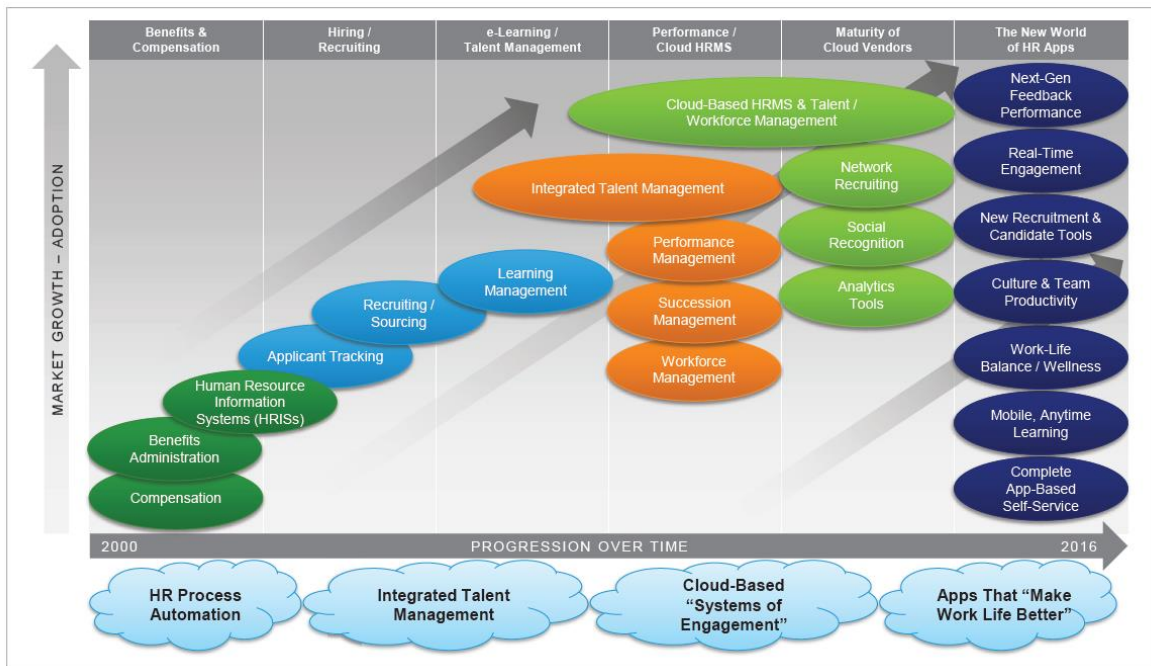
The Balanced Scorecard Strategy Map



Source: (Kaplan & Norton, 2001)

APPENDIX C

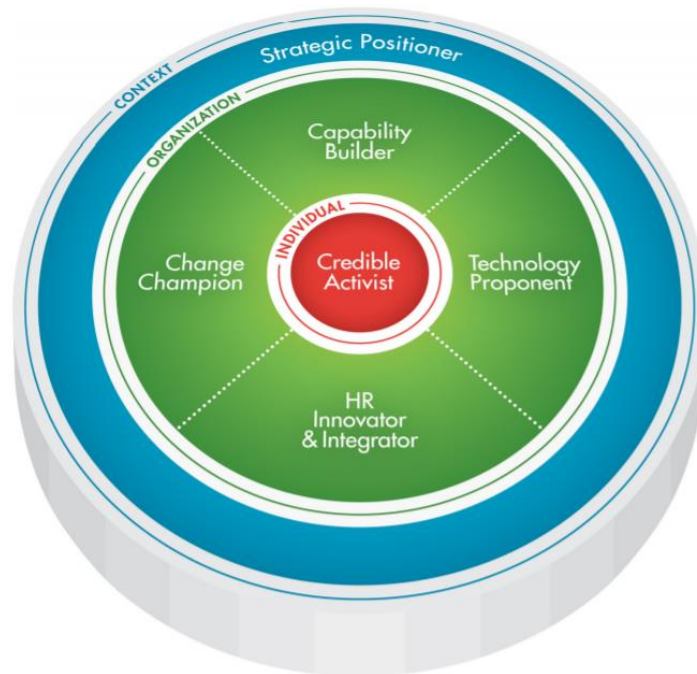
The Evolution of HR systems



Source: (Bersin, 2016)

APPENDIX D

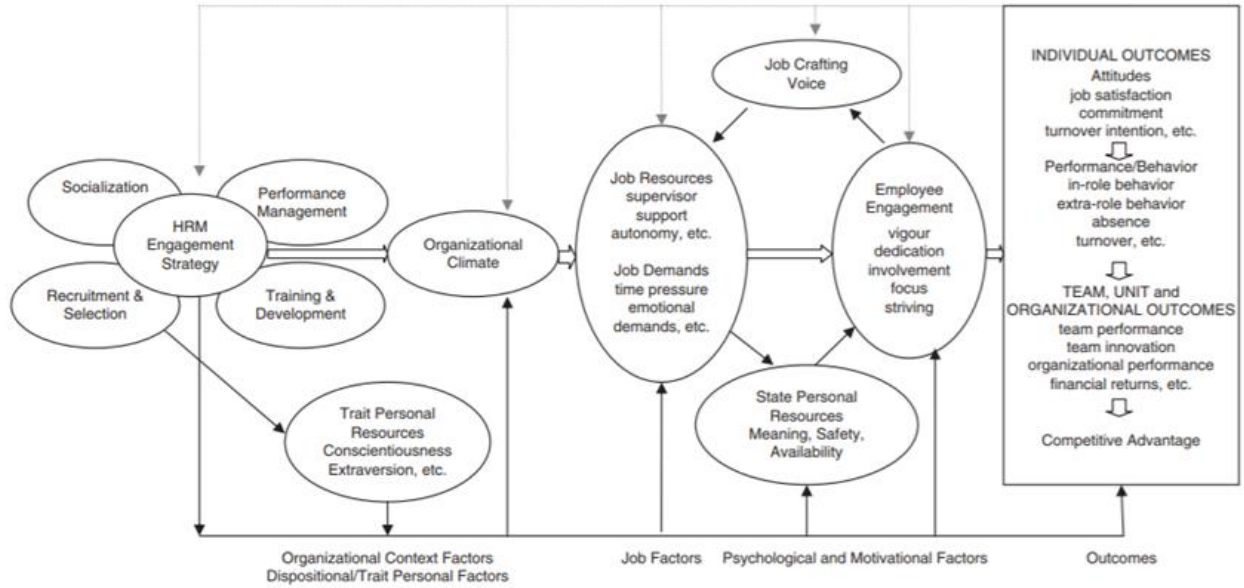
Business Partnering model



Source: (D. Ulrich, Younger, J., Brockbank, W., & Ulrich, M. D., 2013)

APPENDIX E

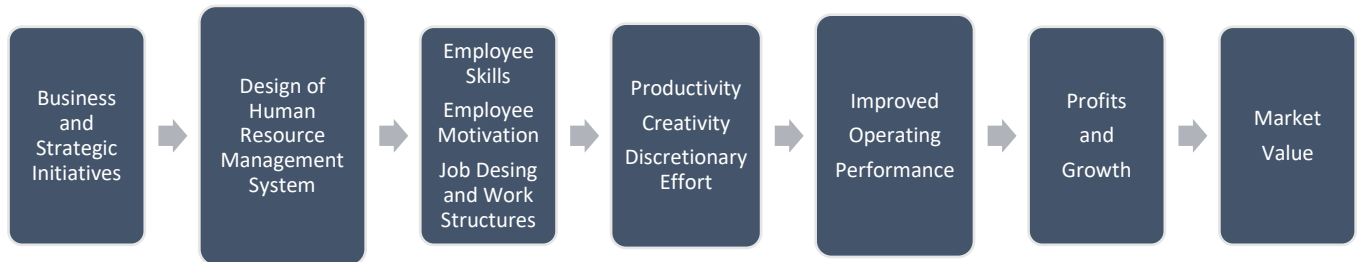
Strategic Engagement Model



Source: (Albrecht et al., 2015)

APPENDIX F

HR-shareholder value relationship model



Source: (Becker, Huselid, Becker, & Huselid, 1998)

APPENDIX G

Interview Template

Impact of HR innovation on organisational effectiveness

Participant questions

1. What is your job title?
2. What are your key performance areas within this role?
3. What are the key strategic initiatives for the company?
4. From the company strategic initiatives, which initiative impacts HR? How?
5. How does the advanced HR technology that is integrated with social media, HR applications that are available on a mobile device, analytics and cloud technology affect the delivery of HR services?
6. How does innovation in HR impact employee productivity?
7. What are the data-driven insights provided by the HR system?
8. How do you measure organisational effectiveness?
9. Are there any additional critical and contextual considerations that I have not asked you about that are important in practice?

APPENDIX H

Interview request letter

The Graduate School of Business Administration
2 St David's Place, Parktown, Johannesburg, 2193
PO Box 98, WITS 2050, South Africa
Telephone: +27 11 717 3495
Facsimile: + 27 11 717-3514
Website: www.wbs.ac.za



Dear Sir or Madam,

My name is Bongisa Mahlulo-Magumbu and I am currently undertaking a research project as a mandatory requirement for the completion of a Master of Management in Innovation Studies at the Wits Business School. The aim of my research project is to investigate the perceived influence of the latest HR technology on organisational effectiveness for South African companies. The study will cover the impact of disruptive technology in Human Resources (HR) and how it influences organisational effectiveness.

Since your organisation has embarked on a journey to embrace the latest HR cloud solution, I would humbly request your time in order to gather some information in that regard, this will be in the form of an interview which will be at most 60 minutes in length at a venue of your choice.

The study is exclusively for academic purposes and the information received from respondents will be confidential and anonymous. I hope that you will support this research effort by affording me the opportunity to interview you and/or other employees within your company. My research supervisor is Dr Diran Soumonni and you may contact him if you have any additional questions about the research process. His office telephone number and e-mail are copied below:

Best regards,

Bongisa Mahlulo-Magumbu
(011) 304 9041
(082) 941 6906

A handwritten signature in black ink, appearing to read 'Bongisa Mahlulo-Magumbu'.

Supervisor: Dr Diran Soumonni
Contact details:
Tel: +27 11 717 3646
Email: diran.soumonni@wits.ac.za

#	Feedback	Status	Comments	Page Numbers	What needs to be done to complete
i	Generally, the author labelled Figures and Tables appropriately. However few instances were observed within the text that were not in conformity. A careful editing is required where numbers are combined within the text, such as in Chapters 1 & 5 respectively: figure 2, figure 4, should read Figure 2 and Figure 4 as appropriate.	Completed	Corrected the to Figure 2 & Figure 4 as suggested.	Pg 6, 7 & Pg53	
ii	On editing, a sample is copied here from Chapter 6: 'it was clear that both organisations agree that defining key strategic priorities is the cornerstone of their business strategy.' Attention should be paid to agreement of verbs and the writing styles.	Completed	Revised the sentence.	Pg 61	
iii	Further on the writing style, find synonyms for some key words like leverage that were utilised many times.	Completed	Replaced these words with their synonyms. Leverage Established Shared Observed	Pg 10, 30, 36, 45, 47, 48, 49, 51, 54, 56, 57, 59, 61	
iv	Please pay due attention to paragraphing, as some of the paragraphs are too long.	Completed	Reduced paragraphs.	Pg 3, 8, 9, 19, 38, 44, 47, 51, 52, 53, 55, 57, 60, 62,	
v	I observed that the field results were not adequately utilized in the discussions section in Chapter 5. There is a pattern of excessive quoting of other authors, without referring to 'own' data (quotes) in order to bring out 'own' contributions to the body of knowledge. An integrated approach is required in this Chapter, with minimal repetition, notwithstanding the data presentation in Chapter 4. Few key quotations will suffice.	Completed	I have reduce the other authors quoted and revised the sentences to include researcher observation.	Pg 50-58	
vi	On the sampling methodology, there is an eclectic mix of approaches that should be made clearer at two different sampling levels: one being the organizational level (where critical case sampling was utilised) and the other being the interviewees (where purposive sampling was applied). The emphasis here is ONLY about clarity to the readers please.	Completed	I have revised the population/sample section and split to two samples to distinguish as suggested.	Pg29	
vii	Given the purposive sampling (not snow balling) utilized in this work (Section 3.3) with 16 participants, I'm just wondering if this interview question is relevant and required: "Who else do you think I need to talk to get additional/alternative insights relating to the study?"	Completed	Removed the question as suggested.	P78	
viii	There is a dialectic mix of unit of analysis and the sources of data in the report. For instance I have seen expressions like: 'The organisations have expressed that...'. Some of these expressions may need to be fixed for clarity.	Completed	Revised sentence as suggested	Pg 49, 65	
ix	It has been observed that a total of 16 participants participated in the interviews, five each from the two organisations and six were subject matter experts in the field of HR technology and transformation. However, I would have preferred that 'subject matter experts' responses (experts in HR solution advisory, HR service delivery, and technology and quality assurance) are not mixed with the interviewees' responses from the two participating organisations in Chapter 4. While the identity is kept confidential, key quotations from them may be appropriately labelled as 'subject matter experts'.	Completed	Responses from subject matter experts have been indicated as such.	Pg 37, 39, 41, 43, 45, 47	
x	On ethic protocols, how was the consent for participation obtained? This is not explicit in the report. The ethical considerations in Section 3.7 was a mere description without articulating how that was done in the field during execution.	Completed	Added a statement about the interview letter that was sent to respondents.	Pg 31	
xi	The author may wish to revisit the writing style adopted in Chapter 3, Section 3.6 under the sub-theme: Limitations of the Study. It portrays a mixed understanding of this section. Apart from the style, will it not be more appropriate to identify limitations in the section prior to the recommendations for further studies? Though, this is a matter of style and choice, the supervisor can decide. If this is to be retained in the present Section, the writing style must reflect it as a component of 'Methodology' (likely limitations envisaged) and not as actual occurrence that will be appropriate in the concluding Chapter.	Unclear	I explained the limitation as a comment. Supervisor to provide guidance.	Pg 30	



**FINAL SUBMISSION OF THESIS, DISSERTATION OR RESEARCH REPORT/PROJECT
(Unbound and Electronic Copies)**

Faculty of Commerce, Law and Management

School of Wits Business School

Submission of Masters **Dissertation**

(Note: This form should only be completed at final submission of Dissertation or Research/Project or Thesis)

Payment and submission are for submissions, which have research weighting of 50% or more – so reports where the weighting in relation to the rest of the course work is less than 50% do not have to submit the document.

PLEASE WRITE CLEARLY IN BLOCK LETTERS (If completing form by hand)

1. Name (in full): Bongisa Mahlulo
2. Person Number: 0511379V
3. Present mailing address: 16 Lime Acres, Denise Road
Bucleuch

Postal code: 2090 Fax: _____

E-mail: bongisa612@gmail.com Cell: 0829416906

Home tel: 011-804 3103 Work tel: 011-304 9041

4. If you are likely to move in the next 6-12 months please provide the mailing address and effective date of a change in address: _____

Effective date: _____

Contact telephone numbers: _____

5. I hereby submit my Masters dissertation
(Delete whichever is NOT applicable)

5.1 If this is research for a Masters by Dissertation or PhD thesis, please provide your ORCID number:

0000-0002-4383-5177

(Open Research and Contributor ID (ORCID) – is an alphanumeric code to uniquely identify academic authors and contributors, it is highly recommended that you register and provide this ID. To register or read more see <http://orcid.org>)

6. Number of unbound copies: N/A
(Ensure that you have signed and dated all copies)

“Number of CDs: (Please note: an electronic version must be supported by a copy on CD for submission into the Electronic Theses and Dissertation System (ETD): [ETD Submission Form](#))”

A payment of **R200** must be made at any one of the two beneficiaries below:

Wits University Cashiers Office	First National Bank (A copy of the payment receipt must be submitted to the Faculty with the thesis/dissertation)
Account Code: 001.152.4221103.5122609	Branch: Braamfontein Account number: 51360056499 Branch Code: 251905 Swift Code: firnzajja950

7. Declaration:

- 7.1** I have checked all copies of my dissertation or research/project report or thesis and no pages are missing or poorly reproduced;
- 7.2** All revisions have been completed in accordance with the recommendations of the examiners and such revisions have been duly approved;
- 7.3** The electronic copy is identical to the printed copy approved by the Faculty;
- 7.4** The dissertation or research/project report or thesis complies with the rules relating to abstract and style, copies and formal declaration, duly signed by me, as shown in the General Rules of the University;
- 7.5** Where any document of which I am not the owner is included in my work, I have obtained and attach hereto the written consent of the holder of the intellectual property rights in such a document allowing distribution as specified in 7.5.1 below;
 - 7.5.1** In the event of copyright permission not being obtainable for visual images or other works, I will not include the full works(s) in my online thesis/dissertation/research report on the ETD system, but undertake to point only to the source (by URL or other means) for such work(s);
- 7.6** I confirm that I have not used any confidential information in my work without the required permission;
- 7.7** I have properly acknowledged all sources; and
- 7.8** I have noted the rules relating to intellectual property and acknowledgement of the award of the programme as shown in the General Rules of the University and the University’s Intellectual Property Policy. Insofar as I hold intellectual property rights in my dissertation or research/project report or thesis, and to that extent only, I agree that the University and its agents may archive and make accessible to the public, upon such conditions as the University may determine, my dissertation or research/project report or thesis in its entirety in all forms of media, now or hereafter known.

8. Title of submitted dissertation/research report/thesis:

The Impact of Human Resources Technology on Organisational Effectiveness in South Africa

(Please note: if due to unforeseen circumstances, the above title has changed from your previously approved title, no further action can be taken by the Faculty Office until the amendment has been approved by the Faculty).

8.1 Keywords:

HR Technology

HR Innovation

Organisational Effectiveness

9. Acknowledgement:

I acknowledge that my dissertation or research/project report or thesis may be placed in the archive of electronic theses and dissertations. I acknowledge that it may be made electronically available in its entirety on the ETD system from four months after the date of submission unless permission for further embargo has been approved by Senate and communicated in writing by myself to the University Research Office, Library and Central Records Office.

The following files are on this CD (*please specify format*):

The following parts of the work may be released immediately for electronic access worldwide:
(*Only if an official embargo has been agreed to in terms of General Rule G19 will your abstract not be made available for the agreed period*).

Abstract and key bibliographic data (i.e. from submission form)

I acknowledge that I am not entitled to the return of the copies of the dissertation or research/project report or thesis or other work I have submitted for the programme.

10. Did your research involve animal experimentation or the use of human subjects, human tissue or other material, or patient records?

Yes

No

If yes, please certify that clearance was obtained from the relevant, approved, University ethics committee:

Clearance number(s): _____

11. I understand that I will not graduate unless my University fees have been paid in full.

12. I understand that if I am in material breach of any of the rules, term and conditions governing the submission of a dissertation or research/project report or thesis at the University I may not graduate or it may result in the revocation of the awarded award.

13. The University is not responsible for the safekeeping of the information constituting a dissertation or research/project report or thesis. Should a student use the University ETD system for keeping of a dissertation or research/project report or thesis in progress responsibility for the maintenance, security and back-up of such work lies with the student. The student absolves the University of any liability whatsoever for any loss or damage to a dissertation or research/project report or thesis and/or information contained in them howsoever it occurs. The student indemnifies and hold the University harmless against any claims or liability whatsoever for any loss or damage to a dissertation or research/project report or thesis and/or information gathered for that purpose or contained in any dissertation or research/project report or theses howsoever it occurs.

14. Candidate:

14.1 The candidate must attach an original “Certificate to Accompany Higher Programmes Research Report” from his/her supervisor(s).

14.2 Is this dissertation or thesis supported by funding from (please tick):

- DST – NRF (e.g. CoE’s; SARCHi Chairs; Innovation; African Origins Platform; Knowledge, Interchange and Collaboration; etc.) [*Please underline the programme that applies*]
- DST – CSIR (e.g. NEPTTP e-Research; etc.)
- Other (*Please list the full name of the funder*): _____

Signature of candidate:  _____ Date: 23 October 2020

15. Supervisor(s):

I confirm that I provided academic oversight as supervisor during the completion of the degree

Name of supervisor: Dr Diran Soumonni

Discipline: Innovation Studies

School: Wits Business School

Signature of Supervisor:  _____ Date: November 02, 2020

I confirm that I provided academic oversight as supervisor during the completion of the degree

Name of second Supervisor (if more than one): _____

Discipline: _____

School: _____

Signature of Supervisor: _____ Date: _____

FOR FACULTY OFFICE USE

- Retain one unbound copy
- Field of study and biographical information confirmed
- Two unbound final, corrected copies, as well as final, corrected copy in electronic format, of dissertation or research/project report or thesis submitted and forwarded to Central Records Office (refer to section 6)
- An electronic copy of the abstract of the dissertation or research report or thesis and receipt for the ETD payment submitted and forwarded to CENTRAL Records Office (refer to section 6)

Note: 1. Only abstracts of awards with 50% more as a research component must be submitted for uploading onto the ETD system

2. Please tick the appropriate box below to indicate the percentage of the research component award:

- 50% or more research
- Less than 50% research

- Signed formal declaration submitted (refer to section 7.4) and included as part of dissertation or research/project report or theses
- Written consent of holder of intellectual property rights included in the work attached – if applicable (refer to section 7.5)
- Embargo notification attached – if applicable (refer to section 9)
- Ethics Committee clearance number indicated – if applicable (refer to section 10)
- Copy of this submission form and attachments included with copies sent to Central Records Office – for forwarding to Library. **Originals placed on student file.**

Faculty Officer: _____

Date: _____

FOR CENTRAL RECORDS OFFICE USE

- One unbound final, corrected hard copy of dissertation or research/project report or thesis forwarded to Library
- Final corrected copy in electronic format and receipt for ETD payment forwarded to Library
- Copy of this submission form included with dissertation or research/project report or thesis forwarded to Library

Central Records Office: _____

Date: _____

FOR LIBRARY USE

- Electronic version of dissertation or research/project report or thesis abstract activated on ETD

Library ETD Administrator: _____

Date: _____



FNB

NOTIFICATION OF PAYMENT

To Whom It May Concern:

First National Bank hereby confirms that the following payment instruction has been received:

Date Actioned : 2020/10/20
Time Actioned : 14:48:54
Trace ID : Q1L4CLWG

Payer Details

Payment From : Mrs Bongisa B Magumbu - Smart Account
Cur/Amount : ZAR200.00

Payee Details

Recipient/Account No : . . 056499
Name : Wits
Bank : FNB/RMB
Branch Code : 250655
Reference : 51360056499

END OF NOTIFICATION

To authenticate this Payment Notification, please visit the First National Bank website at fnb.co.za, select the "Verify Payment" link and follow the on-screen instructions.

Our customer (the payer) has requested First National Bank Limited to send this notification of payment to you. Should you have any queries regarding the contents of this notice, please contact the payer. First National Bank Limited does not guarantee or warrant the accuracy and integrity of the information and data transmitted electronically and we accept no liability whatsoever for any loss, expense, claim or damage, whether direct, indirect or consequential, arising from the transmission of the information and data.
