Digital Transformation Initiatives in Gauteng Provincial Government

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KEYWORDS

Public Sector, Digital Transformation, Digital Maturity, Digitalisation, Gauteng Provincial Government and e-recruitment

Abstract:

Digital transformation is a crucial aspect of modernising the public sector in South Africa. The Gauteng Provincial Government (GPG) has been leading the implementation of various digital technologies to improve efficiency and citizen engagement. One of the digital transformation initiatives implemented in Gauteng is e-recruitment, which aims to streamline the hiring process.

This qualitative study used a purposive sampling of HR personnel to investigate the acceptance of e-recruitment in the Gauteng Provincial Government, which has fourteen provincial departments. The study was conducted using focus group interviews to understand the general experience that the HR officials have with the e-recruitment system, its impact and effectiveness, and how these relate to digital transformation. A study sample of ten (10) HR personnel participated in the study.

The study's findings indicated that while e-recruitment is perceived as user-friendly and advantageous, its benefits were outweighed by several drawbacks. Inadequate IT infrastructure, a deficiency in customer engagement tools, and a lack of core process and workforce enablement were identified as factors that diminished the perceived benefits of the system. These drawbacks can influence an organisation's digital transformation journey. It is recommended that Gauteng address its Digital Application and Impact dimensional elements urgently. Addressing these issues is crucial to ensuring that Gauteng maximizes the return on its investment and fast-tracks its digital transformation.

The study confirmed that in the enterprise context, such as public service, where adoption is mandatory, a lack of perceived benefits does not necessarily lead to system abandonment, but it can affect its digital transformation. System adoption can be sustained if one of the two factors of TAM is in place, as was the case with the ease of use sustaining the use of the system alongside the departmental strategy of digital transformation and modernisation.

DECLARATION

I, **Nomsa Tintswalo Makhubele**, declare that this research report is my own 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 Digital Business at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name: Nomsa Tintswalo Makhubele Signature 

Signed at ……Johannesburg, Gauteng……

On the …**30Th Day of May 2024**

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Signed at Johannesburg, Gauteng, on this 30Th Day of May 2024

DEDICATION

I wrote this dissertation as a tribute to my father – who taught me that vukati bya by nhwana I dyondzo - indeed papa, "Educating girls empowers women to access equal opportunities as men; it has the ultimate power to end economic, financial, emotional and physical abuse *of one gender by another."*

I am grateful to my parents, Roselina and Moses Makhubele, for raising me to be strong and persistent. My Children (Khanyisa, Rito, and Omphile), who had to endure, at times, a less supportive mom, I owe you, my life. To my top six Ntsako, Hlami, Ses Thembi, Maseve Ellen, Ntwana, and Ses Rhandzu, thank you for stepping up to parent my children when I could not. You are my safety net.

With all my love and gratitude,

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4IR – FOURTH INDUSTRIAL REVOLUTION

AI – ARTIFICIAL INTELLIGENCE

CCTV -CLOSED-CIRCUIT TELEVISION

COVID- 19 – CORONAVIRUS DISEASE

DAV – DEVELOPMENT AND VALIDATION

DPSA – DEPARTMENT OF PUBLIC SERVICE ADMINISTRATION

GCRA – GAUTENG CITY REGION AGENCY

GPG – GAUTENG PROVINCIAL GOVERNMENT

ICT – INFORMATION COMMUNICATION TECHNOLOGY

IOT – INTERNET OF THINGS

PEOU – PERCEIVED EASE OF USE

PSC – PUBLIC SERVICE COMMISSION

PU – PERCEIVED USE

TAM - TECHNOLOGY ACCEPTANCE MODEL

TRA – THEORY OF REASONING ACTION

CHAPTER 1. INTRODUCTION

1.1 Statement of purpose

The purpose of this study was to investigate the acceptance of e-recruitment in the Gauteng Provincial Government using the lens of Recruitment practitioners to understand their general experience with the system, assess the system's Impact and Effectiveness on recruitment practices and how these relate to digital transformation, and make recommendations for how it can improve its e-recruitment system. A qualitative research method was used.

1.2 Background of the study

Digital transformation involves leveraging technology to transform an organisation, which may require changing the company's business model, customer service, or internal operations (Kraus et al., 2021). It improves organisational efficiency and effectiveness, and the technologies surrounding this phenomenon automate, streamline, and improve organisational communication (Feliciano-Cestero et al., 2023). One of the areas that have been impacted greatly by digital transformation is government services dissemination (Kitsios et al., 2023). There are several challenges in the South African public sector, particularly in recruitment. The public sector in South Africa struggles to recruit qualified employees efficiently due to long recruitment processes, a shortage of skilled workers, and a perception of corruption. These challenges make it difficult for the public sector to attract and retain the best talent quickly, which can have a negative impact on service delivery (Public Service Commission,2023). Digital technologies have been a panacea for this as it has allowed the automation of recruitment through e-recruitment, which includes online job boards, application monitoring systems, and video interviews (Yuan et al., 2023).

In order to achieve a successful digital transformation, it is imperative for enterprises to develop a precise plan and properly oversee the implementation process. The utilization of a digital maturity model is considered a crucial

determinant of success for businesses, as it facilitates the evaluation of their present state and the development of strategic plans that are congruent with their objectives (Aras and Buyukozkan, 2023). Gauteng Provincial Government, even though not for profit making, delivers services to its employees, and businesses in the form of suppliers and citizens in the form of beneficiaries or customers.

In 2015, the GPG launched its Digital Transformation Strategy termed the Transformation Modernisation and Re-Industrialisation(TMR) program, which aims to make the government more efficient, effective, and responsive to the needs of citizens. The GPG Digital Transformation Strategy is a plan aimed at leveraging technology to improve service delivery and efficiency in the Gauteng Province of South Africa (Office of the Premier,2021). The GPG has led e-recruitment in South Africa; their website and other related documents did not contain information on the number of profiles registered on the system. The GPG's e-recruitment system is extremely beneficial for all concerned stakeholders, indicating that the organisation’s digital transformation strategy has been extremely beneficial (GPG,2023). First, it improved recruitment efficiency as the technology automates job posting, application screening, and interview scheduling. Second, the system has improved recruitment. Therefore, the method helps the GPG access more candidates and evaluate their talents and qualifications.

The e-recruitment platform was created to ensure a paperless means of applying for government jobs in Gauteng province, which would improve the recruitment process (GPG, 2018). Since its implementation in 2018, e-recruitment has emerged as a platform that is provincially accepted as a business platform for employment in GPG. Also, many organisations are putting digital technology platforms into HR processes to hire, recruit, and select employees with the necessary skill set (Chiagorom,2018; Oladapo, 2019; Omigad,2020).

The GPG's e-recruitment system shows how digital transformation may boost government efficiency and effectiveness. However, e-recruitment is bereft of challenges despite the opportunities it has provided. The challenges include the lack of technical skills as the GPG's e-recruitment system is a complex system

that requires a certain level of technical skills to use. This has been a challenge for some potential applicants, who may not have the necessary skills to navigate the system (GPG, 2023). In addition, the digital divide is a problem in South Africa. It has also been a challenge for e-recruitment since some potential applicants may not have access to the Internet or a computer, which can make it difficult for them to apply for jobs online (AL-Qassem et al., 2023). E-recruitment systems are also vulnerable to cybersecurity risks, such as data breaches and identity theft. This can be a concern for potential applicants, who may be worried about their personal information being compromised (AL-Qassem et al., 2023). E-recruitment is a relatively new concept in South Africa, and there is still some resistance to it. Some people may be reluctant to apply for jobs online or may not trust the security of e-recruitment systems.

The GPG is aware of these challenges and is working to address them. The GPG is providing training to potential applicants on how to use the e-recruitment system, and it is working to reach potential applicants without Internet access. The GPG is also taking steps to protect the security of its e-recruitment system (Kitsios et al., 2020).

Despite these challenges, GPG is committed to digitalisation and growing Gauteng through its digital transformation strategy. GPG believes that e-recruitment can improve the efficiency and effectiveness of the recruitment process and make the government more accessible to a wider range of people.

1.3 Research problem.

Despite the increasing interest in digital transformation and electronic recruitment, the existing body of literature reveals certain deficiencies and gaps. Firstly, there is a lack of empirical research focusing on the implementation and consequences of digital transformation initiatives within the public sector of South Africa, particularly within the Gauteng Provincial Government.

There have been widespread complaints about slow service delivery in the province, leading to public protests and other forms of outcry. The Public Service has also highlighted inefficiencies and ineffectiveness in the recruitment process despite the Gauteng Provincial Government's implementation of e-recruitment as part of the Digital Transformation initiative. This was aimed at expediting the hiring process to ensure that the state has the necessary resources to deliver services to its citizens.

Given this situation, it is important to investigate the acceptance of e-recruitment by HR employees in the GPG, understand their experiences with the system, assess its impact and efficiency, and explore its relation to digital transformation. Based on this understanding, recommendations can be made for addressing these challenges. The Technology Acceptance Model forms a base foundation to investigate the following research question:

Research question:

- what is the general experience of users with e-recruitment systems?
- what is the impact and effectiveness of the system?
- How do HR employees perceive digital transformation in Gauteng?

1.4 Research objectives.

The research objectives for the study are:

- To understand the acceptance of the e-recruitment solution by HR employees in Gauteng Provincial Government.
- To identify the challenges experienced in e-recruitment.
- To investigate how challenges experienced in e-recruitment relate to Digital transformation.

1.5 Rationale

This research will be useful to:

- Gauteng Provincial Government to understand its digital transformation position better.
- Public sector to understand if technology (e-recruitment) is giving an acceptable financial return – return on investment.
- IT and HR managers to understand if the process technology fits the processing task and if they should look for alternatives.
- Strategic leaders to understand if e-recruitment improves the operation's performance in HR.

1.6 Delimitations

This case study focused on recruitment practitioners within the Gauteng Provincial Government. Conducting a study with all the users, including applicants, would have been beneficial if all system users had been interviewed. However, due to the large number of past applicants in the e-recruitment database, conducting interviews with all of them was not feasible due to time constraints.

1.7 Assumptions

All respondents will answer interview questions and engage the researcher in areas where they do not understand the questions.

HR Recruitment practitioners will see this research as a tool to improve the solution and will, therefore, answer honestly and without bias.

1.8 Definition of terms

The main the terms used in this study are:

E-recruitment

The use of digital technologies to automate the recruitment process. This can include using online job boards, applicant tracking systems, and video interviewing.

Digital divide

The gap between those who have access to digital technologies and those who do not. This can be a challenge for e-recruitment, as it can limit the pool of potential applicants who can apply for jobs online.

Cybersecurity risks

The risks associated with the use of digital technologies, such as data breaches and identity theft. These risks can make potential applicants reluctant to apply for jobs online.

Resistance to e-recruitment

The reluctance of some people to apply for jobs online. This can be due to a number of factors, such as a lack of trust in the security of e-recruitment systems or a preference for traditional methods of applying for jobs.

E-Government

refers to an entity established by the Gauteng Provincial Government to deliver the mandate of Transformation, Modernisation, and Re- Industrialisation.

1.9 Chapter Outline

1 Chapter 1 – Outlines the introduction and background of the study, The introduction, aim, and the research objectives including the rationale of the study.

2. Chapter 2 Discusses the Literature Review of the study and introduces the conceptual framework

3. Chapter 3 – outlines the research methodology, approaches, and instruments which will be applied to the study.

4. Chapter 4 – will provide the empirical findings of the results collected from Gauteng Provincial Government Employees.

5. Chapter 5 – discusses the findings of the research

6. Chapter 6- Concludes the dissertation, it presents the research conclusion and recommendation of the study

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This literature review examines fundamental concepts and research on digital transformation projects in government organisations, focusing on e-recruitment in the Gauteng Provincial Government. Digital transformation and e-recruitment are defined and followed by international, regional, and South African contexts. These areas' knowledge deficiencies will be recognised and supported by scholarly sources.

2.2 Gauteng Provincial Government and its Departments

Gauteng, frequently referred to as South Africa's economic powerhouse, is not only the country's smallest but also its most densely inhabited province. Anchored by powerhouses such as Johannesburg and Pretoria, it serves as both the financial nerve centre and the administrative capital. Despite its small physical footprint, the province's importance is shown by its large contribution to the national GDP. Gauteng has become a melting pot of nationalities, languages, and cultures due to its economic magnetism. Because of this demographic variety, sophisticated governance techniques are required to balance the particular requirements of its residents with overall developmental goals (Gotz et al., 2014).

The Gauteng Provincial Government, also known as the Gauteng City Region (GCRA), includes various departments, each focusing on a specific area of governance. These departments are responsible for delivering services, implementing policies, and ensuring effective governance within their respective sectors.

The Departments of Health and Education are key to the province's health and education trajectories, respectively. These, together with all other fourteen (14)

departments, such as the Department of Infrastructure Development, Infrastructure Development, Finance, Economic Development, Community Safety, Social Development, and the Department of Economic Development, construct Gauteng's socioeconomic and infrastructure storylines. As these agencies plan their activities, they must deal with the opportunities and complexities presented by the province's lively and diverse demographic fabric (Crankshaw & Parnell, 2012).

When the administrative structure of the Gauteng Provincial Government is delineated, a patchwork of departments with diverse mandates develops. Accordingly, with the advent of the Fourth Industrial Revolution (4IR). Gauteng Provincial Government established an entity called e-Government, officially proclaimed on 11 August 2015. This entity’s mandate is to provide digital tools and to create a connected government by enabling simpler and more convenient government processes and to act as a catalyst for sustainable economic growth by promoting effective, efficient, and customer-centric processes across the Gauteng Provincial Government (GPG, 2015).

It is further mandated to realise ICT-enabled public service delivery that offers opportunities to improve efficiency and access to public services, develop the transparency and accountability of the Gauteng Provincial Government (GPG), and empower citizens of the province to better participate in the decision-making processes that affect their experience of government (GPG,2021). The primary objective of the Department is centred on the implementation of digital technologies in public services, with the aim of enhancing operational effectiveness in accordance with the strategic plan outlined in the document titled "Growing Gauteng Together: Roadmap to 2030.

The digital era brought revolutionary waves throughout global governance landscapes, and Gauteng was no exception. There is a noticeable push towards digital transformation. In the entity’s strategic plan (GPG, 2021), the departments acknowledge how digital transformation is changing how the economy and society work and recommit to embracing technology and innovation. Innovate to ensure industry stimulation.

The province eagerly researching Modernisation, smart city programs, and e-services, most importantly for our study, e-recruitment. The departments agree that the biggest challenge that the province and the entity itself is faced with is a shortage of digital skills to drive and sustain change (GPG, 2021). Within this context, e-recruitment stands out as a critical instrument poised to transform how the provincial government acquires, evaluates, and onboards personnel, assuring alignment with its multifarious mandates and evolving societal commitments (Marais, 2016).

2.3 Digital Transformation

Digital transformation refers to the process of incorporating digital technologies across an organisation's operations, leading to significant modifications in its functioning and the provision of value to its stakeholders (Westerman et al., 2014; Li et al., 2018). Digital transformation has been a major trend in recent years, and it has had a significant impact on the public sector. Governments around the world are using digital technologies to improve service delivery, increase efficiency, and reduce costs (Feliciano-Cestero et al., 2023). In the international context, various studies have highlighted the benefits of digital transformation in government organisations, including improved service delivery, increased efficiency, and better citizen engagement (West et al., 2019; Hossain et al., 2020).

1) **Digital transformation in the public sector** has become the cornerstone of how government must deliver services to its customers efficiently and effectively. Governments worldwide are increasingly adopting digital technologies to improve their efficiency, transparency, and service delivery. The department of e-Gov acknowledges in its strategy (2021) that digital transformation is changing how society functions and presents its aim of embracing innovation and new technologies. Bogdanova et al. (2023) expand on this view with a comprehensive review by Dunleavy, Margetts, Bastow, and Tinkler (2006), who have long explored the concept of digital government and its potential for transforming the public sector some decades ago. The

authors emphasised the importance of adopting a holistic approach that encompasses technological, organisational, and cultural changes to implement digital transformation initiatives successfully.

2) **Digital Maturity:** Digitalisation and Digital Transformation are important aspects of digital Maturity. Digitalisation allows for the substitution of paper-based business processes by digital data processing applications, enhancing overall efficiency levels. Digital transformation refers to more fundamental changes in the way that businesses operate, responding to the changes in how businesses interact and conduct business with each other. (OECD: 2020). Issa et al. (2018) further argue that organisational performance corresponds to its maturity level.

    a) Hie(2019) supports Issa et al. in the investigation of transforming culture and governance; this research concluded that transforming culture and governance has a positive effect on Digital Maturity, although it was also found that governance had more effect than culture

3) **Impact on Service Delivery:** Various studies have examined the impact of digital transformation on public service delivery. For example, Shekoya (2023) identified the power of digital transformation in curbing corruption and improving governance for sustainable development. The study found that while digital transformation is able to curb corruption, it needs key infrastructure such as high-speed internet, harmonised data storage, and systems to support it.

4) **Digital Platforms:** In studies relating to the impact of digital platforms on citizens' engagement, Wirtz et al. (2017) in their study that investigated the determinants of open government data use by citizens in Germany. They found out that ease of use, usefulness, as well as transparency, participation, and collaboration expectancies significantly determine citizens’ intention to use open government data, which in turn positively affects their word-of-mouth intention. Even though this study is only limited to HR practitioners, it sheds light on why applicants are still using manual applications, hence assisting in understanding citizens' behaviour in using digital platforms.

5) **Challenges and Limitations:** Researchers have also identified key challenges and limitations associated with digital transformation in the public sector.

   a) A study by Nambisan et al (2019) The emphasized concerns are around the necessity of implementing other policy frameworks, such as worker training and development programs and a flexible labour market, alongside digitization efforts. These complementary policies are crucial in order to realize the anticipated benefits for the overall economy, including job creation and increased productivity.

   b) Further, Brunetti et al., (2020) highlight that challenges in digital transformation requires a multifaceted set of strategic actions and listed the following as pillars to resolve the challenges (1) culture and skills, which they say is inclusive of digital education, talents, and digital culture. (2) infrastructures and technologies, which they state comprise information, interaction, and artificial intelligence as key strategic fields of action; (3) ecosystems, which talk to the importance of investing in medium- to long-term visions, partnerships and life quality.

   c) In another study by Nijeweme-d' Hollosy et al., (2015) referenced by Dhaenet et al., (2021) Literature shows that barriers to the usage of technology include illiteracy on the part of the user related to technology, failure of technology due to its poor management, and the high level of training needed.

6) **Emerging Technologies:** The literature also discusses the use of emerging technologies in public sector digital transformation. For instance, studies have explored the potential of artificial intelligence (AI), blockchain, and the Internet of Things (IoT) in improving government services. Ismagilova et al (2019) provided an overview of the opportunities and challenges associated with these technologies in the smart cities' context.

These are just a few highlights from the existing literature on the digital transformation of the public sector. The field is evolving rapidly, and new studies continue to explore various aspects of this topic.

The African continent is witnessing a significant increase in the adoption of digital technologies. South Africa's government has identified digital transformation as a crucial area of focus. To promote digital transformation, the government has initiated several programs, such as the Digital South Africa Strategy and the National e-Government Strategy (West et al., 2019).

2.3.1 *Digital Transformation in Gauteng Provincial Government*

The literature above indicates that digital transformation holds immense potential for the Gauteng Provincial Government. By leveraging digital technologies and embracing a citizen-centric approach, the government can improve service delivery, enhance transparency, and foster meaningful engagement with its citizens. However, successful implementation requires a well-defined digital strategy, Culture Change, Policy, and investment in capacity building to overcome challenges and drive long-term transformation.

In line with the above, in the year 2021, the Gauteng Provincial Government in established a 4IR advisory panel which developed a fourth Industrial Revolution strategy. This strategy is well-defined and touches on all key areas of Digital Transformation (GPG, 2019).

The Gauteng Provincial Government (GPG) is one of the leading proponents of digital transformation in South Africa. With its new Department mandated to modernise and digitise public service. The modernisation of services is anchored by the number two pillar in their strategic plan, which is *Digital Platforms, e-services, and Applications,* which aim to provide a single window for citizens to access government services (e-Gov, 2021). Under this pillar, GPG has launched a number of initiatives to promote digital transformation, to name a few: -

- electronic invoicing System, a solution aimed to ensure suppliers can submit their invoices digitally to ensure fast payment of suppliers; this

system has received traction, with more than 90% of service providers paid through the system (SOPA, 2018)

- Gauteng Broadband Services is aimed at connecting all government departments and citizens in the province.
- Gauteng application online, which is a system for first-time registration of grade 1 and grade 8 children to public schools; all parents use this system to get their children admitted and registered in public schools (Makhura, 2019)
- Several initiatives have been implemented in the space of Health, such as an electronic Medicine Dispensary System aimed at Dispensing medication to chronic patients through a KIOSK and, most recently, a Pathology System aimed at searching for the identity of unclaimed dead bodies so they can be united with their families among others.
- e-recruitment is another digital platform created to ensure that job applicants can apply online. The department reported that the system has improved efficiency.
- Gauteng Department of e-Government reports that 100% of government services have been made available on digital platforms. These services are developed in a DAV center through its partnership with Wits University and the University of Johannesburg (GPG,2022).

Further, The Gauteng Provincial Government's State of the Province address (2023) presented an additional investment of R1.7 billion prioritized for key ICT projects like the implementation of e-policing, an e-panic Button, a Gauteng Cashless engine for cashless transactions, and CCTV cameras.

2.4 E-Recruitment

Electronic recruiting, or e-recruitment, is the practice of utilizing digital channels and tools to fill open positions and screen potential candidates (Lengert, 2018). E-recruitment is the use of digital technologies to automate the recruitment process. This can include using online job boards, applicant tracking systems, and video interviewing. E-recruitment has received a lot of attention in the global

setting because of its ability to simplify the hiring process, cut expenses, and attract a wider range of applicants (Fernandes & Machado, 2022;). In Africa, countries like Kenya and Nigeria are at the forefront of this trend toward online recruitment (Odumeru, 2017; Selen & Duygun, 2020). However, there is a scant academic inquiry into South Africa's public sector e-recruitment efforts.

1. **Acceptance of e-recruitment**: Hashiyana et al (2021) conducted a research study to assess the acceptance and adoption of e-recruitment in Namibia. The study aimed to identify the factors that contributed to delays in the recruitment process within the government and explored various technologies that could potentially be implemented to expedite the recruitment process.
2. **Level of effectiveness**: In Pakistan, the study was carried out with the objective of determining the level of effectiveness and relationship between E-Recruitment and the HR department. The quantitative study discovered that e-recruitment is a cost-effective technique, has a wider geographic reach, shortens recruiting processes, provides reliability in the recruitment procedure, and also simplifies the HR department's selection process **(Kubar et al.,2021).** The study presented that there is still a gap in the same study in institutions of higher learning.
3. **Perceptions of HR officers**: In the Philippines, a similar study compared the perceptions of recruitment officers and job applicants. The study discovered that respondents thought the tools were simple to use, which had an impact on their attitudes and intentions to use or reuse the tool. While the hiring managers thought the current tools were restricting, the job seekers considered them useful for their purpose, and it affected their attitude and intention to use. The study suggests that the study be replicated after the e-recruitment tools are enhanced to incorporate suggestions from this paper **(Grimaldo et al., 2020).**
4. **Optimise Use**: Other countries such as Malaysia, Kenya, and Nigeria (Laurim et al., 2021) & (Barnarjee & Gupta, 2019) and (Nuji et al.,2018) conducted similar studies, and all agreed that e-recruitment and selection function brought efficiency and effectiveness on the organisational

strategic outcomes, but found that manual systems were still acceptable therefore regressing digital transformation effects, the researchers recommended that management should optimise the use of online systems.

5. **Benefits to the Organisations:** Rahman et al., (2022) commissioned a study to examine the effect of social media on the recruiting and selection procedures of persons residing in developing nations. This study explored deeper into the effects of social media on various aspects of corporate operations, including productivity, cost efficiency, search capabilities, employee turnover, and competitive advantage. These effects were examined in relation to the implementation of e-recruitment processes. The results of the study indicate that e-recruitment offers significant benefits to organisations. Nevertheless, the authors also examine the negative aspects of social media and the e-recruitment process.

6. **Efficiency and cost reduction:** Fernandes and Machado (2022) wrote a book to explore e-recruitment, its evolution, and its advantages and disadvantages compared to traditional recruitment methods. The book aimed to investigate the digital tools available to human resources professionals, as these tools are currently in high demand within the industry. The authors concluded that e-recruitment is increasingly being recognised for its value and is mostly used by human resources practitioners. Despite certain challenges, this approach can be implemented effectively and efficiently in organisational recruitment procedures. The authors argue that e-recruitment has several advantages, such as reduced costs and time requirements compared to traditional methods, as well as broader reach in terms of job vacancy promotion and company visibility.

7. **Culture:** Schuzell (2016) conducted a study on the influence of culture on e-recruitment. Although the study is a bit old, it provides valuable insights into the relationship between national cultural identity, language, and an organisation's decision-making process to adapt its practices to new

technologies and tools. This qualitative study found that culture affects the use of e-recruitment aspects. It revealed that human resource managers were hesitant to adopt e-recruitment methods, preferring to stick to traditional human resource management procedures, thus showing how culture affects the adoption of e-recruitment by HR specialists.

8. **Organizational Performance**: Daniel (2020) carried out a study to investigate the effects of e-recruitment on organisational performance in the Nigerian Banking Sector; the study demonstrated that e-recruitment is a building block of an organisation's performance and success. The study came to the conclusion that line managers and human resource hiring managers can benefit from more efficient, cost-effective hiring practices by automating the recruitment and selection process by incorporating e-recruitment software with the current recruiting operations.

While all the above studies continue to prove that e-recruitment improves an organization's efficiency and output, only one study was geared to investigating whether culture was not a hindrance to the successful implementation of e-recruitment within organizations. Most of the studies were qualitative in nature and did not investigate why manual applications were still used by applicants and accepted by recruitment officers. This study seeks to understand the reasons behind this phenomenon.

2.4.1 *e-Recruitment in Gauteng Province*

E-recruitment, or electronic recruitment, refers to sourcing, attracting, and selecting job candidates using online platforms and technologies. In the context of Gauteng, a province in South Africa that includes Johannesburg, Ekurhuleni, Sedibeng, Tshwane, and Westrand districts, in the context of administration, it refers to all fourteen Provincial Departments in the Province. e-recruitment has gained significant traction in recent years (Naidu,2019).

E-recruitment plays a crucial role in the recruitment landscape of Gauteng, the system of e-recruitment is available through the Gauteng Provincial Government

website, and it allows candidates to view all jobs available in all Gauteng Departments, thus enabling Gauteng Province to connect with broader pool of talent, and job seekers to access diverse opportunities conveniently. This digital approach has transformed traditional recruitment methods and continues to shape the way government and individuals engage in the job market. Through this system, Gauteng is able to view the number of applicants per post, and the system is also able to do basic shortlisting of the candidates who meet the requirements of the post.

2.5 Propositions

2.5.1 *To understand the acceptance of the e-recruitment solution by HR employees in the Gauteng Provincial Government.*

Gramaldo (2020) and Kuba (2021) elucidated in their studies that e-recruitment is a cost-effective approach that provides wider geographical coverage, expedites recruitment procedures, ensures reliability in the recruiting process, and improves the selection process of the human resources department.

Studies indicate that more organisations are adopting e-recruitment as a means of recruiting talent (Okolie & Erabo,2017). Similarly, studies present that cultural identity, language, and an organisation's decision-making process may affect HR practitioners' adoption of e-recruitment technologies (Schuzell,2016).

a. ***Proposition 1***

Cultural and organizational decision-making will cause acceptance of e-recruitment by HR practitioners.

2.5.2 *To identify the challenges experienced in e-recruitment and investigate how they relate to Digital transformation.*

E-recruitment, like any other process, has its own set of challenges, and these challenges often intersect with the ongoing digital transformation in organisations.

The most common challenges widely complained about in the recruitment space is corruption, delays in the recruitment process, hiring the wrong talent, and delays in the recruitment process (PSC,2020). The literature presents that by embracing digital tools, technologies, and practices, organisations can address these challenges and enhance their recruitment processes, making them more efficient, inclusive, and aligned with the demands of the digital era.

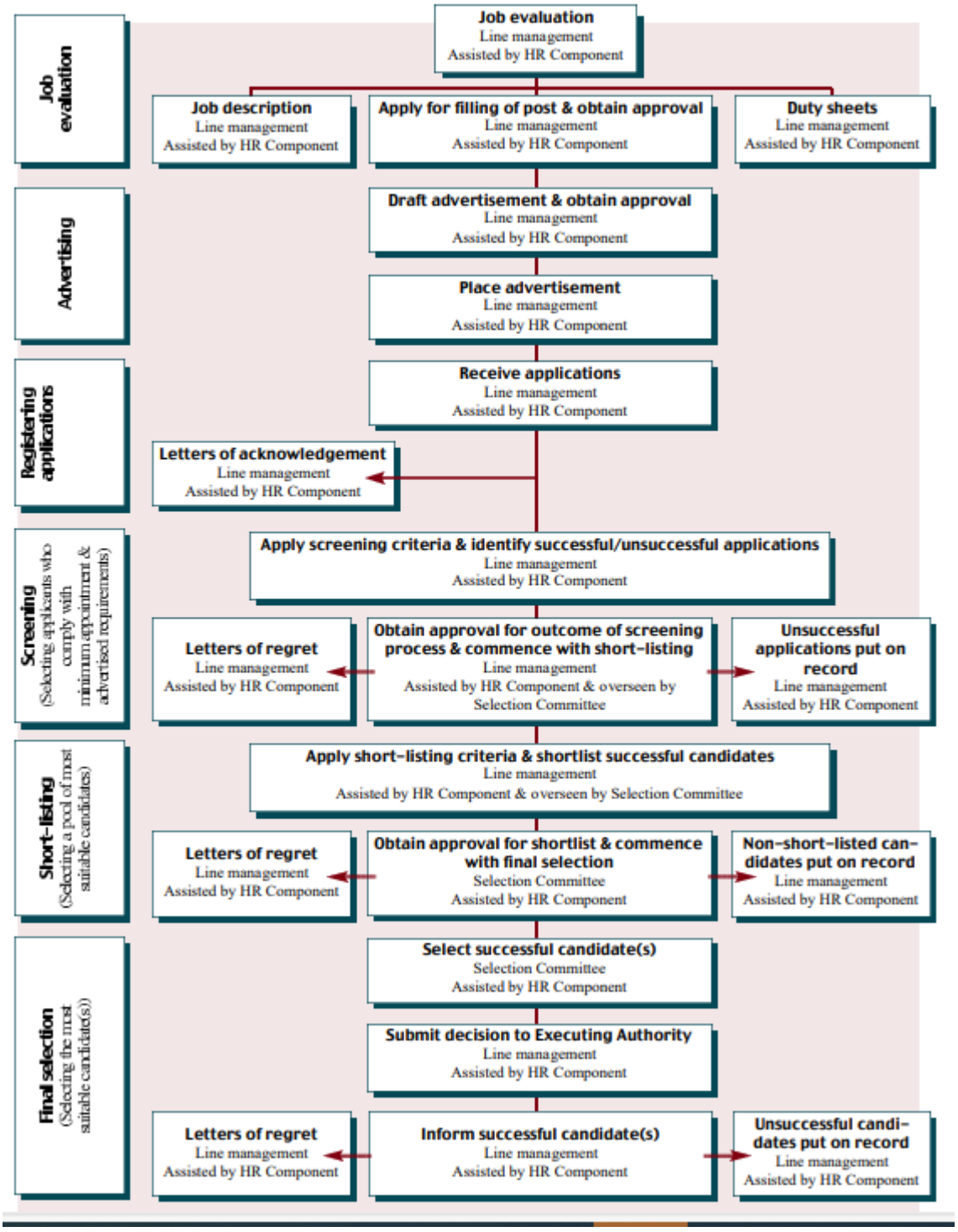
a. *Impact of challenges on the recruitment process*

Hashiyana et al. (2021) and Fernandes & Machado (2022) indicated in their study that e-recruitment is mostly employed by human resources practitioners, and it is increasingly recognized for its value. Despite encountering certain challenges, such as delays in government processes, e-recruitment can be employed effectively and efficiently in organisational recruitment procedures by adding several digital technologies that can make the recruitment process faster, thus creating transparency, which in a government setting can prevent corruption.

b. *Recruitment Process*

Recruitment is a function within Human Resources in the Departments which is aimed at attracting, assessing, and hiring the right candidate. Recruitment is generally an activity that takes place when or after the post has become vacant. The public service recruitment process typically involves several stages, including an advert, application review, screening interview, skills assessment, final interview, background checks and reference checks (DPSA,2013). The diagram below provides a diagrammatic visualisation of the Recruitment Advertisement Process.

Figure 1 The Recruitment & Selection Process



The DPSA (2017) documents state that when a position becomes available, the recruitment process should begin with a job evaluation, where a line manager assesses the job function with the assistance of an HR practitioner.

The job evaluation involves reviewing a job description and duty sheets and applying for approval by the line manager, as assisted by Human Resource Management. Once the necessary approvals have been received, the job advert is placed on the market and DPSA website for at least 21 days (PSR, 2017).

Once the advertising process is complete and the application deadline has passed, the line manager, with HR assistance, logs all applications and sends acknowledgement letters to the applicants (DPSA, 2017).

Once all the applicants have been gathered, the line manager, with the assistance of the HR department, initiates the screening process. During this phase, candidates who do not meet the necessary requirements are excluded. Subsequently, the pre-screened applications are shortlisted and approved by the selection committee, while all unsuccessful applicants are duly noted. A record of all unsuccessful applicants is meticulously maintained, and regret letters are dispatched to them. The subsequent step involves a thorough shortlisting process, wherein specific criteria are employed to select candidates based on job requirements, competencies, and skills. Upon completing this process to the satisfaction of the selection committee, at least three candidates who meet the criteria are approved for the selection or interview process. A record of non-shortlisted candidates is meticulously upheld (PSC, 2022).

After completing the aforementioned process, the selection committee conducts interviews with the final candidates. Then, the committee seeks approval from the Executive Authority to appoint the selected candidate. Records of both successful and unsuccessful candidates are kept, and all candidates are notified of the outcome via letters (DPSA, 2017).

c. ***Proposition 2***

Embracing digital tools, technologies, and practices will remove reduce recruitment delays.

2.6 ANALYTICAL FRAMEWORK

2.6.1 *Theoretical Framework*

The Technology Acceptance Model (TAM), a prodigious contribution to understanding user acceptance and adoption of technology, originates in Davis's work (1989). Rooted in the theory of reasoned action (TRA), TAM zeroes in on two salient constructs: perceived usefulness (PU) and perceived ease of use (PEOU). Davis articulated that the willingness of individuals to adopt a particular technology is predominantly shaped by their perceptions of its utility and the extent to which its usage is deemed effortless (Davis, 1989).

PU is defined as the degree to which a user believes employing a particular technology will amplify their performance (Davis:1989). This construct has garnered immense empirical support, suggesting that technologies perceived as beneficial or augmenting efficiency tend to be more readily adopted by users (Venkatesh et al., 2003). On the other hand, PEOU is understood as the degree to which a user expects the technology to be devoid of effort. Essentially, if potential adopters deem a system intricate or cumbersome, they are less likely to embrace it, irrespective of its potential usefulness (Davis et al., 1992). Over time, TAM has undergone various evolutions, with extensions like TAM2 and TAM3 incorporating additional determinants like social influence processes and cognitive instrumental processes (Venkatesh & Bala, 2008). This evolving nature of TAM showcases its adaptability and relevance in understanding the multifarious technological ecosystems.

Governments worldwide are increasingly looking at technology to improve citizen services, streamline processes, and enhance overall efficiency. The use of TAM in this research will assist in assessing the readiness and benefits of adopting

current technologies in Gauteng Provincial Government such as e-recruitment , weigh how they relate to external variables such as digital transformation and maturity , and plan a phased implementation strategy.

In the context of e-recruitment, TAM offers a robust scaffold to fathom the dynamics governing the adoption of digital recruitment tools. As Gauteng Provincial Government embarks on digital transformation initiatives, understanding the tenets of TAM can guide interventions, ensuring the broad-based acceptance and efficacy of e-recruitment platforms. As put forth by Tarhini et al. (2017), in the realm of e-government and public services, TAM's principles can be instrumental in gauging the receptivity of stakeholders, thereby facilitating more targeted and nuanced digital implementations.

The Gauteng Provincial Government's e-recruitment strategies will be examined in this study using TAM as a key lens. By creating unstructured interviews that are specially adapted to e-recruitment scenarios and capture the essential components of TAM's perceived utility (PU) and perceived ease of use (PEOU) constructs, we want to operationalise these constructs. With this strategy, we hope to identify the facilitators and possible barriers that may affect how stakeholders see digital recruiting platforms. TAM was used as a guiding framework to analyse the present perceptions and develop tactics that may increase the rate at which e-recruitment tools are used, in line with the more general objectives of digital transformation.

2.6.2 *Conceptual Framework*

E-recruitment is a comprehensive procedure that combines several components to speed up the identification of possible applicants online. A complex knowledge of these components is essential in the context of the Gauteng Provincial Government (Sivathanu & Pillai, 2018). The following components, which are intricately connected and impacted by the Technology Acceptance Model (TAM), are thus incorporated into the conceptual framework for this study:

a) Technological Infrastructure

E-recruitment is dependent on a strong technology foundation that includes cutting-edge platforms and tools to enable efficient recruiting procedures (Parry & Tyson, 2008). By using TAM, we want to determine how stakeholders perceive the usability and usability of these technologies, which will help us design infrastructure that satisfies user expectations and efficiency requirements (Davis, 1989).

b) Process Integration

According to Stone, Deadrick, Lukaszewski, and Johnson (2015), process integration refers to the seamless integration of e-recruitment technology with current organisational processes to provide a recruiting process that is consistent and coherent and supports the organisation's goals. By including TAM at this time, one may better understand how different degrees of technological acceptance affect the integration process and develop strategies to promote more acceptance and smoother integration (Venkatesh et al., 2003).

c) Customer Orientation and Engagement

The involvement and orientation of all parties HR employees, system developers, recruiting managers, and candidates is essential to the success of the e-recruitment process (Gilani & Jamshed, 2016). In order to create an environment that improves user happiness and system utilisation, this study will investigate how stakeholder perceptions of the technology affect their levels of involvement via the lens of TAM (Davis et al., 1992).

d) Strategic Alignment

According to Strahmeier (2007), strategic alignment places an emphasis on adjusting e-recruitment strategies to fit with overall organisational aims and objectives. Understanding how technological adoption may be fostered to develop strategies that are in line with the larger ambitions of the Gauteng Provincial Government, supporting sustainable growth and innovation, will be the main emphasis of this element.

e) Legal and Ethical Considerations

Adherence to legal and ethical norms is crucial in the digital world (Breaugh, 2008). This aspect of the framework will examine how adherence to these standards affects user acceptability and confidence in the e-recruitment systems. It will do this by using TAM principles to develop techniques that encourage ethical technology use while meeting legal requirements (Davis, 1989).

f) Digital Maturity

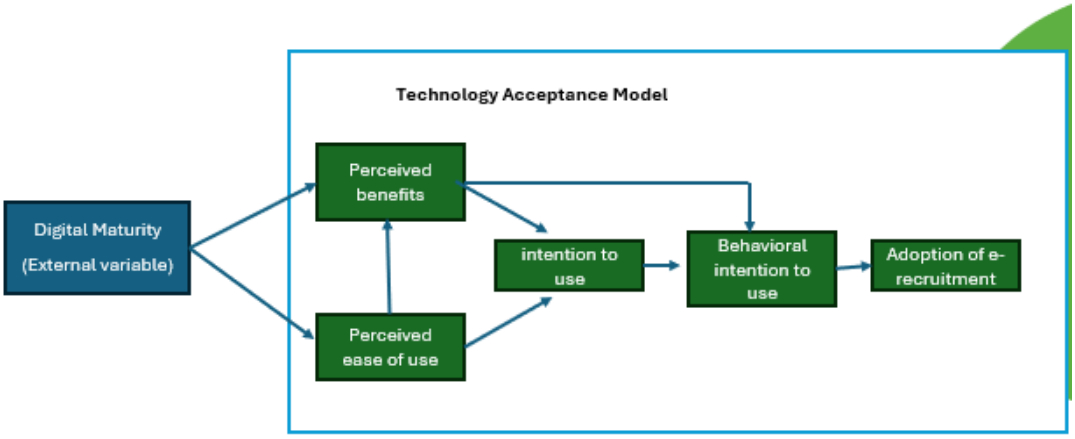
According to Teichert (2019), digital maturity refers to an organisation's capacity and preparedness to use digital technologies for hiring fully. Understanding the function of technology acceptance becomes increasingly important as the organisation aspires to higher digital maturity levels (Venkatesh & Bala, 2008). This study uses TAM to examine how improving digital maturity may affect user acceptability, paving the road for a digitally savvy organizational environment.

The research aimed to present a detailed analysis of e-recruitment within the Gauteng Provincial Government using a new framework and provide practical recommendations for creating a digitally integrated and efficient recruitment process. The Technology Acceptance Model (TAM) assists in managing organizational changes associated with digital transformation. Additionally, TAM assists in identifying external factors that can have an impact on technology adoption, making it easier to implement changes and address potential challenges.

The Technology Acceptance Model (TAM) is a widely used theoretical framework for understanding how users accept and use technology. It posits that perceived ease of use and perceived usefulness are key determinants of an individual's intention to use a particular technology, which in turn influences actual usage behaviour (Davis, 1989).

Based on Figure 2 below, In the context of e-recruitment in a government setting, the TAM model can be extended to include digital maturity as an external variable. Digital maturity refers to the degree to which an organisation has effectively and efficiently adopted digital technologies into its core business processes, culture, and customer experiences (Ross et al., 2016).

Figure 2: Conceptual Framework



The TAM figure above indicates that by integrating digital maturity into the TAM model, a better understanding can be gained of how an organisation's readiness and ability to utilize digital technologies affect the acceptance and adoption of e-recruitment systems. According to Ross et al. (2020), this also provides insights into how large, established companies can navigate digital transformation. A higher level of digital maturity within a government agency may result in greater perceived ease of use and usefulness of e-recruitment systems, ultimately increasing the likelihood of their adoption and successful implementation (Ross et al., 2020).

In practical terms, government agencies with higher levels of digital maturity are more likely to adopt e-recruitment systems (Fernandes, & Machado,2022). This is because they have the necessary infrastructure, processes, and organizational culture to support the successful integration and utilization of such technologies. On the other hand, agencies with lower digital maturity may encounter more significant barriers to accepting and adopting e-recruitment systems (Deloite, 2021). This is because they may lack the foundational digital capabilities needed to effectively leverage and benefit from these technologies.

In conclusion, by extending the TAM model with digital maturity as an external variable, a more comprehensive understanding of the factors that influence the acceptance and adoption of e-recruitment systems in a government setting can be gained. This can assist policymakers and organizational leaders in making more informed decisions about technology investments and digital transformation initiatives.

2.7 Conclusion of Literature Review

Overall, the final proposition is that the challenges in e-recruitment are closely related to digital transformation. By embracing digital tools, technologies, and practices, organisations can address these challenges and enhance their recruitment processes, making them more efficient, inclusive, and aligned with the demands of the digital era. Literature shows that there is a vacuum of study of the behavioural patterns of HR practitioners; more studies have been conducted to analyse the behaviour of the applicants.

The final proposition is that the challenges faced in e-recruitment are closely linked to digital transformation. To tackle these challenges and improve recruitment processes, organisations can adopt digital tools, technologies, and practices. This will make the processes more efficient, inclusive and in line with the demands of the digital age. The literature suggests that there is a lack of research on the behavioural patterns of HR practitioners. While more studies have been conducted to analyze the behaviour of applicants. This information is presented in Chapter 3.

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Introduction

This section provided an overview of the research methodology techniques that were employed in this study. The research methodology outlined the philosophical worldviews, research approaches, and research design adopted in the study. It described the target population, data collection methods, and ethical considerations taken into account. It also explained how researchers intended to conduct their research (Patel & Patel, 2019). The research methodology was a logical and systematic plan to resolve a research problem (Corbin & Strauss, 2018).

3.2 Resign Paradigm

A research paradigm is a philosophical perspective that determines which scientists in a given subject affect what should be examined, how it should be done, and how results should be evaluated (Killam, 2018). Pham (2018) noted that there are three general assumptions of research paradigms that directly or indirectly guide the researchers' work that consists of ontology (the researcher's perception of truth and reality), epistemology (the knowledge about the truth or reality) and methodology (the manner for acquiring knowledge). The major paradigms in research include positivism, post-positivism, interpretivism, and critical theory (Creswell, 2013). Each paradigm has its unique perspective, approach, and methodology (Denzin & Lincoln, 2011). Numerous scholars, such as Bryman (2012), Pham (2018), Saunders, Lewis & Thornhill 2019), engaged critically in the various paradigms that guide the research. Positivism is based on the belief that knowledge can be obtained through empirical observation, measurement, and experimentation. Post-positivism emphasises the role of theory, interpretation, and criticism in the research process. Interpretivism is concerned with understanding and interpreting human behaviour and social phenomena in their natural settings. Critical theory concerns social justice, power relations, and emancipation (Saunders, et al., 2019).

This study seeks to evaluate the digital transformation efforts undertaken by the Gauteng Provincial Government (GPG), specifically focusing on the e-recruitment system. To achieve this objective, an interpretivist paradigm will be adopted. This choice is motivated by the study's aim to comprehend and interpret the GPG's digital transformation initiatives, considering the viewpoints of HR officials. The use of interpretivism is justified due to its ability to facilitate a more comprehensive comprehension of the social context, the subjective perspectives of users and government officials, and the significance they attribute to the digital transformation initiatives of the GPG (Guba & Lincoln, 1994).

The interpretivist paradigm in research is a philosophical framework that prioritises the significance of comprehending human behaviour and social phenomena through the lens of the individuals involved. According to Denzin and Lincoln (2018), this particular paradigm posits that knowledge is constructed through social processes and that the perception of reality is subjective and contingent upon the surrounding context. Ontology pertains to the fundamental nature of reality, and proponents of the interpretivist perspective posit that reality is actively constructed through social interactions and the use of language. The authors contend that social agents attribute significance to their encounters and that these significances are influenced by their cultural and historical circumstances. Hence, the interpretivist paradigm places significant emphasis on comprehending these meanings as a means to acquire a profound understanding of human behaviour (Denzin & Lincoln, 2018).

Epistemology pertains to the fundamental characteristics of knowledge and the processes by which it is obtained. Interpretivists espouse the perspective that the acquisition of knowledge is facilitated by the process of interpretation and comprehension, as opposed to relying solely on objective observation. Creswell (2013) contends that researchers are unable to maintain a state of neutrality as mere observers and instead must actively participate in interactions with the social actors under study in order to obtain a deeper understanding of their perspectives and experiences.

Hence, this research will be situated within the epistemological realm, as its objective is to gain an understanding of the knowledge, beliefs, and attitudes held by HR officials regarding the digital transformation initiatives undertaken by the GPG in the recruitment space. Furthermore, this research will be conducted within the ontological realm as it aims to investigate the way in which users perceive the digital transformation initiatives of the GPG. It also seeks to understand how this perception impacts their actions and behaviours, as Creswell (2014) highlighted. The research will adopt an inductive approach as it aims to generate fresh insights into the digital transformation initiatives of the GPG, focusing on internal users' viewpoints (Creswell, 2014). The study will showcase its interpretive nature by employing thick description, reflexivity, and the researcher's interpretation. Thick description entails furnishing an elaborate and comprehensive depiction of the participants' behaviours, actions, and social context. Reflexivity encompasses the researcher's consciousness of their assumptions, biases, and positionality and how these factors impact the research process and the resulting findings (Creswell, 2014). The researcher's interpretation involves analysing and making sense of the data from the participants' perspectives.

In summary, the interpretivist paradigm is deemed the most suitable paradigm for this study due to its capacity to facilitate a more profound comprehension of the digital transformation initiatives undertaken by the GPG, as perceived by both the users and government officials. The research will be carried out using an inductive approach, and the interpretive aspect of the study will be illustrated by employing thick description, reflexivity, and the researcher's interpretation.

3.3 Research approach.

Research approaches are plans and procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation (Bryman, 2016). The choice of research approach is based on the research question, the nature of the phenomenon under investigation, and the available research tools and techniques (Patton, 2015).

The main research approaches in research methodology are quantitative, qualitative, and mixed methods (Smith, 2010). The quantitative research approach emphasises the use of numerical data, statistical analysis, and experimentation to test hypotheses and make generalisations about populations. On the other hand, the qualitative research approach emphasises using non-numerical data, such as words, images, and observations, to understand and interpret the meaning and complexity of social phenomena (Jones, 2015). The mixed methods research approach combines quantitative and qualitative research to provide a more comprehensive understanding of the research problem (Silverman, 2016).

In this study, a qualitative research approach was employed to comprehend and interpret the digital transformation initiatives of GPG from the perspective of government officials and users. A qualitative approach was fitting because it allowed for a more profound understanding of the experiences, attitudes, and perceptions of the government officials as users regarding GPG's digital transformation initiatives (Elo & Kyngäs, 2008). In conclusion, the qualitative research approach was the most fitting method for this study as it permitted a more profound understanding of GPG's digital transformation initiatives from the viewpoint of the users and government officials. The research was conducted using qualitative methods to highlight the interpretive nature of the study through the use of thick description, reflexivity, and the researcher's interpretation.

3.4 Research design

Golafshani (2015:368) defines research design as “the plan for carrying out the study, specifying when, from whom, and under what circumstances data will be acquired.” Leedy and Ormrod (2015) assert that research design refers to a study's blueprint that gives rules for data collection and analysis. There are several types of research designs available for use in qualitative studies, including case studies, ethnography, grounded theory, phenomenology, and narrative research (Yin, 2017).

For this study, a case study research design was appropriate. A case study is an in-depth examination of a single case or unit of analysis, often with the aim of understanding the context and unique characteristics of the case. Case studies can be used to explore a wide range of research questions and topics (Creswell, 2014). This design involves an in-depth examination of a single case or unit of analysis, in this case, the Gauteng Provincial Government's (GPG) e-recruitment system. The aim of this study was to provide a detailed analysis of the GPG's e-recruitment system in terms of its effectiveness, efficiency, and impact on the recruitment process. The case study design allowed for a comprehensive examination of the system's current situation, and its potential for future improvements. Moreover, the interpretivist paradigm of the study, which focused on understanding the subjective experiences and perceptions of the users and government officials, lends itself well to the case study research design. This is because the case study design emphasizes the understanding of the unique characteristics of the case and the context in which it operates (Creswell, 2013).

Through the use of qualitative data collection techniques such as interviews, focus group discussions, and document analysis, the case study design provided a detailed and nuanced understanding of the research phenomenon. In conclusion, the case study research design was the most appropriate design for this study because it allows for an in-depth examination of the GPG's e-recruitment system and the subjective experiences and perceptions of the users and government officials. The design was flexible and adaptive to the specific needs of the study. However, it is important to be aware of the limitations of the design, such as the time and resources required, the potential for bias, and the limited generalizability of the findings.

3.5 Data collection methods

Data collection methods and tools refer to the techniques and instruments used to collect data in a research study. In qualitative research, common data collection methods include interviews, focus groups, observations, and document analysis (Creswell, 2014).

Focus groups were the primary data collection method for this study. This method was chosen because it allowed the researcher to explore the participants' experiences, perspectives, and opinions in depth and to gather rich, detailed data that could provide insights into the research question (Kvale, 1996).

The interview guide was constructed based on the research question and the study's objectives. It included open-ended questions designed to elicit detailed responses from the participants and explore their experiences and perspectives on the digital transformation initiatives in GPG's e-recruitment system.

The guide was also pilot-tested to ensure that the questions were clear and understandable to the participants and to identify any issues or problems with the interview process. Focus groups were a good way to gather data from a group of people who shared a common experience or interest. Population and sample

3.5.1 *Target Population*

The term "population" is used in research to describe the total number of people or cases that share a certain characteristic and to which the researcher would apply their results (Creswell, 2014). This research project focused on government officials who use the e-recruitment system for recruitment purposes or as part of their job function.

Understanding the demographics of the population to be studied was crucial to avoid delays and mistargeting and ensure valuable data collection (Ingram & Schneider, 1991). Gauteng Provincial Government consists of fourteen Departments, namely; - Department of Infrastructure Development, Health, e-Government, Office of the Premier, Finance, Economic Development, Community Safety, Social Development, Agriculture, Human Settlement, Treasury, Cooperative Governance and Traditional Affairs, Economic Development, Arts and Culture (Gauteng Provincial Government, n.d.). Each department has a recruitment sub-unit within its human resources business unit. Each recruitment sub-unit per department has at least an average of seven to nine recruitment officials, including the management structure, depending on the department size. The officials within the recruitment sub-unit within each

Department are users of the e-recruitment system for the purpose of recruitment. For this study, the population consisted of fourteen (14) HR employees who worked in the Human Resources recruitment sub-unit of any of the Departments in Gauteng Province. Eligible participants were HR recruitment officials who were users of the e-recruitment system and were willing to share their experiences with the technology. The target population was HR practitioners working in Gauteng Provincial Government's HR departments.

3.5.2 *Sample Size*

In qualitative research, sampling refers to the process of selecting individuals, groups, or settings to be included in a study (Welman et al., 2009). The goal is to obtain a diverse and representative sample that can help researchers understand the phenomenon they are studying (Corbin & Strauss, 2014). Although there were fourteen HR officials from the fourteen departments, only a study sample of ten employees from the fourteen departments participated. This number represented all the departments to ensure balanced information and best fit in addressing the research objectives.

3.5.3 *Sampling Strategies*

The study used purposive sampling, which involves purposefully selecting participants with specific characteristics or relevant knowledge. Expert sampling, a type of purposive sampling, was also considered. Expert sampling involves selecting participants based on their expert knowledge in a particular area that the researcher needs insight into. The study included HR recruitment practitioners who worked with the system daily and could provide valuable insights. According to Eitikan & Bala (2017), expert sampling is an effective method for gaining insight from participants with expert knowledge.

In qualitative research, the number of interviews, questionnaire respondents, or data points is not predetermined or fixed. The sample size in this study was very small because the emphasis is on depth and richness of data rather than

generalizability. The aim was to reach a state of data saturation, where new data collection ceases to provide significant new insights or information (Kvale, 1996).

3.6 Research Instruments

Non-structured interviews were conducted to collect primary data. Participants were required to sign a participation and ethics form before being selected. Open-ended questions were asked to gain insight.

3.7 Data Analysis Strategies and Implementation

Data analysis refers to the process of systematically examining and interpreting data collected in a research study (Moser & Korstjens, 2018). It is important in research because it allows researchers to identify patterns, themes, and relationships in the data, and to draw conclusions based on these findings. In this study, the data analysis method that used was thematic analysis. This method was chosen because it is a flexible and adaptable approach that allows for the identification of themes and patterns within qualitative data (Braun & Clarke, 2006). According to Golafshani (2015:360), the most important data in qualitative interviews are verbatim accounts of what transpires during the interviews. Therefore, the researcher recorded the interviews to ensure that all verbal exchanges are captured and to provide material for consistency checks. The thematic analysis involves the identification of recurring patterns of meaning across the data set, which are then grouped into themes that are relevant to the research question and objectives (Braun & Clarke, 2006). The process of thematic analysis involves several steps, including familiarization with the data, coding, generation of ideas, followed by a comprehensive evaluation and refinement of these concepts. Finally, the themes are defined and assigned appropriate names. (Braun & Clarke, 2006). Microsoft excel was used to assist with the data analysis process, which will help to manage and organize the large amount of qualitative data that will be collected in the study.

3.8 Possible limitations and challenges of the study

The scope, limitations, and delimitations section of a research study was an important part of the research methodology. This section outlined the boundaries of the research project and provides a clear understanding of what the study was intended to achieve and what it did not cover. It helped to ensure that the research was focused and achievable, while also identifying potential challenges and limitations that arose during the study.

3.8.1 *Limitations*

- One of the limitations of this study is the small sample size which may limit the generalization of the findings to a larger population.
- Another limitation is the time constraints which may affect the depth and comprehensiveness of the study.

3.8.2 *Scope*

E-recruitment will serve as a case study for the research of the Gauteng Provincial Government's (GPG) digital transformation activities. Only issues and prospects associated with the GPG's e-recruitment system after COVID-19 will be considered in the study. Budgeting, personnel, and information technology (IT) infrastructure are not included in the scope of this research into the GPG's digital transformation projects. The following factors contribute to the study's shortcomings:

The research conducted in this study was limited to the online recruitment platform used by the GPG. Therefore, the findings of this study may not have been applicable to other digital transformation efforts in the GPG or other government agencies.

It was important to note that the time period covered in this research was strictly after the COVID-19 pandemic. As a result, the study's results may not have been valid before or after the COVID-19 pandemic.

Additionally, the scope of this research was limited to identifying the opportunities and threats that GPG's online recruitment system faced as a result of digital transformation activities. The study did not take into account the advantages or effects on the GPG's workforce of the digital transformation projects.

Despite these limitations, the insights provided by this study regarding the difficulties and possibilities of GPG's online recruitment system brought about by digital transformation activities were valuable. Therefore, the research's conclusions could be applied to shaping GPG and other government agencies' future digital transformation programmes.

3.9 Quality Assurance

According to Noble and Smith (2015:34), research must be reviewed for quality before it can be used in practice. To establish the credibility and trustworthiness of this research, the researcher employed the following measures of trustworthiness: credibility, transferability, dependability, participant trust, and confirmability of the research (Nieuwenhuis, 2019).

3.9.1 *Transferability*

Transferability in qualitative research refers to the ability to generalize the research findings to other contexts or settings beyond the specific research study (Leung,2015). It is important because it allows for broader applicability of the findings, increasing the usefulness and relevance of the research. In this study, transferability was attained by means of comprehensive elucidations of the investigation setting, methods, and participants, as well as a thorough analysis of the data. This was to allow other researchers to assess the degree to which the findings are applicable to their own context. In addition, the researcher will

engage in member checking, where participants are given the opportunity to review and verify the accuracy of the findings, increasing their trustworthiness and transferability.

3.9.2 *Confirmability*

Confirmability is a crucial aspect of qualitative research that relates to the objectivity and neutrality of the research findings. It refers to the degree to which the research findings are grounded in the data and free from the researcher's biases, values, and preferences. Confirmability establishes the degree of accuracy, consistency, and dependability of the research findings (Creswell & Poth, 2017). Confirmability is achieved through the use of various techniques such as reflexivity, peer debriefing, and an audit trail. Reflexivity refers to the researcher's ongoing critical reflection on their biases, assumptions, and values that may influence the research findings (Shenton, 2004). Peer debriefing involves sharing the research findings with a group of colleagues who critically examine the data and interpretations to identify potential biases and assumptions. An audit trail refers to the systematic documentation of all research activities, including data collection, analysis, and interpretation, to ensure transparency and accountability (Creswell & Poth, 2017). In this study, confirmability was achieved by maintaining reflexivity throughout the research process and documenting all research activities through an audit trail. In addition, peer debriefing was conducted by sharing the research findings with a group of colleagues who provided feedback and critically examine the data and interpretations to identify potential biases and assumptions.

3.9.3 *Credibility*

Credibility is the extent to which the findings of a research study reflect the reality of the participants and the research context. In qualitative research, credibility is often associated with the concept of internal validity (Creswell, 2013). It refers to the degree to which the data collected and analyzed in a study are accurate, trustworthy, and representative of the phenomenon being studied (Creswell &

Poth, 2017). To ensure the credibility of this study, the researcher used multiple sources of data, such as interviews, document analysis, and observations, and employ a rigorous data analysis process to identify and address any biases that may arise during the study. Additionally, the researcher sought feedback from participants through member checking, where they were given an opportunity to review and comment on the accuracy of the study findings. Furthermore, the researcher will kept an audit trail of the research process, including the data collection and analysis process, to increase transparency and enable external reviewers to assess the study's credibility. The researcher will also sought to cultivate trust and develop a positive relationship with participants, it is essential to employ effective strategies by ensuring transparency about their intentions and the research process. To ensure the credibility of the study, the researcher followed the guidelines for qualitative research proposed by Lincoln and Guba (1985), which emphasize the importance of addressing issues of credibility, transferability, dependability, and confirmability in qualitative research.

3.9.4 *Dependability*

Dependability refers to the stability and consistency of research findings over time and with different researchers. In other words, dependability ensures that the findings of the research are not affected by random variations or fluctuations. It is important in qualitative research to establish the dependability of the data collection and analysis procedures to increase the credibility of the study (Creswell, 2013; Morse, 1991). Dependability was ensured in this study through various measures, including maintaining detailed records of the research process, data collection, and analysis procedures by the research team consisting of the student and an assistant. These records will enable future researchers to replicate the study. Secondly, the use of a detailed research methodology, such as the one outlined in this study, ensured that the research procedures are standardized and consistent throughout the study. In order to guarantee inter-rater reliability, multiple researchers will independently analyze the data to identify common themes and patterns.

3.10 Ethical considerations

Ethical considerations are essential in research to ensure that the rights and welfare of the participants are protected, and the research is conducted in an ethical and responsible manner. Ethical norms prohibit researchers from injuring the subjects of their studies, according to Ezzy (2018:93). In order to "guarantee the integrity and credibility of the study," codes of ethics are essential (Ezzy, 2018:109). The researcher noted the integrity and respect of institutions and participants as essential principles to sustain ethics in this investigation. Arifin (2018) argue that ethical difficulties occur mostly during data collection and distribution, and they include informed and voluntary participation, the confidentiality of data, subjects, and institutions, and the safety and privacy of participants as ethical concerns. Building trust is essential to produce trustworthy information because it requires the researcher to encourage individuals to talk with honesty and candour (O'Leary, 2015:66). It implies that if participants feel intimidated or ridiculed in any way, they will refrain from providing trustworthy information. To gain the trust of participants, the researcher observed and prioritize all ethical concerns, including the right to privacy and anonymity. In this study, the following ethical considerations were be taken into account:

- **Positionality of the Researcher**

When writing an academic paper on e-recruitment, it is important to consider one's positionality and how it may impact the research process and results. This can include acknowledging biases and perspectives that may influence the interpretation of data and findings. By being transparent about one's positionality, researchers can ensure the integrity and credibility of their work (Marti, Desing, , & Borrego,2022).

The researcher was a seasoned government executive with a wealth of experience in the area of human resources management and a formal qualification in the field, she was well-positioned to provide valuable expertise and practical insights to this study. Drawing on her extensive knowledge and familiarity with the subject matter, she played a pivotal role in shaping the research questions, methodology, and interpretation of the findings, ensuring that

they are rigorous, comprehensive, and academically sound. In her capacity as a researcher, she recognized that certain users may view her position as a promise to promptly resolve any concerns related to e-recruitment. Nevertheless, her foremost commitment was to undertake unbiased and equitable research by approaching the subject with a discerning outlook and acknowledging any potential partialities through introspection. she made it certain that all participants are fully informed about the study's intent in advance, and she endeavour to refrain from involving direct reports or participants from her department in the research.

By acknowledging and understanding her positionality, she aimed to enhance the validity, reliability, and ethical integrity of my research on online recruitment in the HR field.

- **Informed consent**

Informed consent was a process where the participant of a research study was provided with complete information about the study and was given the option to agree to participate voluntarily. It was crucial in research as it ensured that participants were fully aware of the study's nature and any potential risks or benefits associated with it. This allowed participants to make an informed decision about whether or not to participate and helped to safeguard their rights and welfare. Obtaining informed consent was a fundamental ethical and legal obligation in research that involved human participants, and it was widely regarded as a critical aspect of upholding ethical standards in research conduct. Failure to obtain informed consent could lead to serious ethical violations, legal liability, and harm to participants. Informed consent also involved ongoing communication and transparency throughout the study, so participants could withdraw their consent or change their minds at any point during the study. The researcher had to respect the participants' autonomy and right to make decisions about their participation in the study. The participants were informed about the study's nature, purpose, and their rights as participants. They were given the opportunity to ask questions and withdraw from the study at any time..

- **Confidentiality**

Confidentiality was a crucial aspect of research ethics that referred to the protection of personal and sensitive information obtained from research participants (National Health Research Ethics Council, 2015). Maintaining confidentiality ensured that the participant's identity and data were kept secure and private, and only used for the intended purpose of the study.

In the study, the researcher ensured confidentiality by using coding systems to de-identify participants' responses and maintain the anonymity of the participants. Additionally, the research data was stored on secure storage devices and accessed only by the research team. The study also adhered to the South African Data Protection Act to prevent the misuse of participants' data.

Research ethics guidelines, such as the Declaration of Helsinki, required researchers to obtain participants' consent and protect their confidentiality (World Medical Association, 2013). Informed consent was a critical ethical principle that required researchers to obtain participants' permission to participate in the study voluntarily. This ensured that the participants understood the study's purpose, procedures, and potential risks and benefits before they consented to participate. The participants' identities were kept confidential, and the data collected was used only for research purposes.

- **Privacy**

Privacy was a fundamental right that allowed individuals to control who had access to their personal information. Maintaining the trust and confidence of participants was crucial in research (Creswell, 2014). In qualitative research, where participants may have shared sensitive information and felt vulnerable, privacy was especially important (Marshall & Rossman, 2014).

To ensure privacy in this study, the researcher kept all personal information collected confidential and used it only for research purposes. All data was stored securely and made accessible only to authorized personnel. The participants were informed of their right to privacy and assured that their personal information would not be shared with any unauthorized individual or organization.

The researcher obtained ethical clearance from the Ethics Committee at Wits University, which required strict adherence to guidelines for privacy and confidentiality in research (Creswell, 2014).

- **Beneficence**

Beneficence was an ethical principle that required researchers to prioritize the welfare and interests of research participants. It was crucial to maximize the potential benefits while minimizing potential harm to participants. Beneficence ensured that the welfare of participants was protected, and research was conducted ethically and responsibly. For this study, the researcher took necessary steps to achieve beneficence by designing the research in a way that promoted the welfare and interests of the participants. This included obtaining consent, ensuring confidentiality and privacy, and minimizing any potential harm to participants.

Debriefing

Debriefing referred to the process of providing participants with information about the aims and results of a research study after they had completed their participation. It was an important aspect of research ethics that helped to ensure that participants were not left with any negative consequences from their participation in the study (American Psychological Association, 2017). Debriefing served several purposes, including informing participants about the purpose of the study, explaining any unexpected or misleading elements of the study, addressing any concerns or questions participants may have had, and providing any necessary referrals or resources. Researchers needed to conduct debriefing in a respectful and transparent manner to maintain the trust and goodwill of the participants (National Health and Medical Research Council, 2018). In the context

of this study, debriefing was conducted after data collection to ensure that participants understood the purpose and implications of their involvement. This involved providing a clear explanation of the study aims methodology, and results, as well as offering participants the opportunity to ask questions and receive any necessary referrals or resources.

- **Plagiarism and Wits Research Policy Compliance**

Plagiarism is presenting someone else's work, words, ideas, or data as one's own without appropriate acknowledgment (Wits University, 2023). Plagiarism undermines the integrity of research and scholarly work and is considered a serious ethical violation in academic and research contexts. To prevent any issues related to plagiarism, the study adhered to the guidelines and regulations outlined in the University of the Witwatersrand's (Wits) research policy. The policy highlighted the significance of acknowledging sources correctly and avoiding plagiarism. To ensure this, the study used appropriate citation styles and ensured that all sources used were cited accurately. The researcher also ensured that any direct quotes were clearly identified as such, and any paraphrased information was cited properly. Additionally, the study used plagiarism detection software such as Turnitin, to check for any instances of plagiarism. To comply with Wits' research policy, the researcher familiarized themselves with the university's guidelines and procedures for ethical research conduct. The researcher also obtained ethical clearance from Wits' Research Ethics Committee (REC) before starting the study. The REC reviewed the research proposal and ensured that the study adhered to ethical principles and guidelines. Moreover, the researcher ensured that all study participants provided informed consent and that their privacy and confidentiality were protected. Any potential conflicts of interest were also identified and addressed.

Proposed schedule and timelines

This section outlines the different milestones and deadlines for each study phase and how they relate to the overall objectives and research questions. Additionally, it highlight any potential challenges that may affect the time frame of the study and how they will be addressed:

Table 1: Study Timeframe

Research Activity	Timeframe
Research proposal approval	September 2023
Chapter 1	September 2023
Chapter 2	October 2023
Chapter 3	October 2023
Chapter 4	November – December 2023
Chapter 5	January 2023
Submission of final research	February 2023

CHAPTER 4.

4.1 Introduction

The research outcomes are communicated through direct quotes obtained from the interviewees. The outcomes are derived through a rigorous process of disassembling data from the transcripts. To showcase the emergence of distinctive patterns for each research inquiry, corresponding themes are methodically extracted, and opinions are reported based on the participants' responses. In order to provide a comprehensive summary of the findings for each research question, the results are meticulously condensed, and categories are established based on the extracted themes.

The study was conducted with a group of participants from diverse demographic backgrounds, who each held unique positions within the Gauteng Provincial Government. This demographic variety was crucial in providing a comprehensive understanding of the e-recruitment system, and in gauging its acceptance and challenges within different government departments across Gauteng. The participants' diverse perspectives and experiences provided a rich and multifaceted understanding of the e-recruitment process, reflecting the complexity and breadth of the system's usage across various positions within Human Resources Management units. The subsequent sections of this study present a detailed representation of each participant's response to the research questions asked.

4.2 Results

In order to understand the acceptance of the e-recruitment solution by HR employees in Gauteng Provincial Government as research objective 1, the following research questions were asked: -

4.3 Participants Experience with e-Recruitment.

The experience of using a system for a number of years can affect an individual's perceptions, attitudes, and ability to utilize the system effectively. It can also impact the strength and direction of relationships between variables in research. Accounting for this experience can lead to a more comprehensive understanding of the factors that impact system acceptance and effectiveness.

4.3.1 *RQ1 : How many years of experience do you have with the e-recruitment system?*

Participant Code	**Years of Experience using the System**	**Gender**	Role in HR Department
Participant 001	Three years	female	SS01
Participant 002	Five years	Male	MM01
Participant 003	Four years	Female	SS01
Participant 004	Ten years	Male	JJ02
Participant 005	Since the Inception of the System	Female	MM01
Participant 006	Intermittent User	Female	SS01

Participant 007	4 Years	Male	JJ01
Participant 008	10 years, with only (5 years of Direct involvement)	Female	SS01
Participant 009	2 Years (Direct Involvement)	Male	JJ01
Participant 0010	2 years experience using e-recruitment	Male	MM01

Table 1: Years of experience of Participants using e-recruitment.

4.3.2 *RQ2: Can you describe your general experience with the GPG's e-recruitment system?*

The participants exhibited diverse opinions regarding their experiences with the e-recruitment system. However, a unanimous consensus emerged indicating that the system was user-friendly.

> *"The system is user-friendly and efficient, but it has some issues, especially when the network is slow, and a large number of candidates need to be shortlisted." (P001,p1)*

> *"Well, firstly, my sense is that the system is user-friendly for someone who is administering the process. So, I'll speak from the administration's perspective. It is user-friendly." (P009, p74)*

> *'The system is user-friendly and efficient, but it has some issues, especially when the network is slow and a large number of candidates*

need to be shortlisted, the system eliminates the need for a long list and the user can print out a list of candidates to shortlist from." (P010, p74)

Participants said the system experienced lots of downtime.

"The system used to experience lots of downtime earlier during inception and sometimes you couldn't log in or access the system." (P007, p22)

Participants said they have seen significant improvements of the system since *inception.*

"The system has improved over the years, but it used to experience a lot of downtime during its inception". (P004, p4)
"The system has shown significant improvements since its inception" (P005, p24).
"The system has improved over the years, but it used to experience a lot of downtime during its inception" (P007, p22).
""I will say my experience with the system has been good, having to work and see those stages from when it started to where we are now. There's really an improvement when you look back from where we started." (P009, p74)
"There were initial problems with the system being slow, but it has since improved. So at least there is some also some improvement, and at least now the system works better because before, every 15 minutes, you just had to go back and log in, but now you can stay even longer than an hour working on the system" (P006, p28)

Participants said the system had benefits.

"It has eliminated the issue of the applicants going to post their applications. It has limited the issue relating to delays in the receiving of applications because posting time sometimes takes long." (P002, p2)

Other participants had a contrasting view than the above, the participant said they were disappointed and there was no improvement.

“So, I've used that for some time, and I've been there when they made those changes over the years. But I can say it's where we are right now with E-recruitment. I think we went back, we went backwards, and I don't see us improving from what we were first when we first started, I think I'm disappointed. The main difference is that there are fewer paper applications, but sometimes the user still has to print them, which takes more time (P008, p61).

The following participants said the system has problems with a slow network.

“When the network is slow, and a large number of candidates need to be shortlisted” (P001, p16).
“There were initial problems with the system being slow, but it has since improved” (P006, p28).
“The system is OK for me, I won't lie, but it has its downfalls. Especially when the network is slow, and you're shortlisting 300 or 100 candidates, you've set 2 days with the panel and now need to extend” (P010,p74).

The study's participants expressed their dissatisfaction with the system, citing a lack of comprehensive reasons provided for the rejection of candidates. This inadequacy resulted in the participants' inability to hold the panel members accountable for their actions, which highlights the need for a more robust candidate selection system.

“The user is unable to go back to the list of applicants who were not shortlisted, which creates a problem when someone queries why they were not shortlisted, the system lacks reporting” (P002,p2).

‘The recruitment process is experiencing challenges due to limited reasons for rejecting an application, which needs to be improved” (P003,p4).
“So, I think we still need to add more reasons around that area for declining an application and more reasons for even approving an application, and then I'm not sure what can be done in relation to

screening the applications as they come in. Because of how it is now, it allows everyone to go through whether they meet the criteria" (P004, p5)

"You would not have to print all the CVS if there was a tab that gives a reason why you are declining the candidate. You would be approving because of relevant experience, but when you decline, we're just declining." (P006, p28).

4.4 RQ3: What features of the e-recruitment system do you use.

Based on the responses of the participants, it can be inferred that the most commonly utilized features are those related to publishing, advertising, and shortlisting.

"I use the shortlisting and advertising, there is no reporting or auditable workflow process" (P001, p5).

"Use it to advertise. We also use it to shortlist and interview. But for now, shortlisting online and interviewing online is not mandatory unless our system developers can make it mandatory to shortlist through the online system rather than accepting manual applications" (P003, p4).

"the first feature that we use is advertising, uploading of the adverts and then the second one will be short listing we do, we do pre-shortlisting as HR personnel's before we go to the actual short listing" (P005, p26).

"I use the system to place adverts, shortlisting and compilation of lists. We used to have a reporting function but it's no longer there" (P006, p29).

"I use the system to place adverts, shortlisting and compilation of lists. We used to have a reporting function but it's no longer there" (P009, p74).

"I use all the features there because I advertise positions and do short listings on the system. The normal recruitment process is the shortlisting of candidates on the system." (P010, p74).

As per the feedback provided by the participants, it has been observed that the reporting tool is currently absent. The participants have explicitly stated the following: -

"There is no reporting or auditable workflow process" (P001, p2).

"The reason why we stopped using it frequently was mainly around the issue of reporting" (P002, p2).

"I use it for adverts and shortlisting but for now, shortlisting and interviewing online is not mandatory unless our system developers can make it mandatory to shortlist through the online system rather than accepting manual applications" (P003, p5).

"I use the system to place adverts, shortlisting and compilation of lists. We used to have a reporting function but it's no longer there" (P006, p29).

"I mostly used the reporting and search feature, but the reporting tool is no longer available" (P008, p61).

The study participants reported that they disclosed their login credentials to the panel members in order to assist the panel members to gain access to the shortlisting feature, as the latter were not provided with their own set of login credentials to access the system.

"Shortlisting is now done online, but the system does not allow users to access it with their own credentials, which creates risks and makes it difficult to identify who shortlisted a particular candidate" (P006, p33).

4.4.1 *RQ6: have you encountered any challenges or difficulties while using the system?*

participants view pertaining challenges and difficulties of the when using the system were diverse.

“Digital initiatives tend to make manual processes electronic without making them easier for the user. There is some duplication with the Z 83 form, which is still required for shortlisting, even though the e-recruitment system was intended to replace it. The current system needs more filters to sort applications better, such as filtering based on location, disability, gender, age, education level, work experience, and employment status” (P001, p10).

“The second part that is missing from my site is that once you have done your shortlisting, you are unable to go back to the list of applicants who were not shortlisted, which creates a problem. If somebody's querying to say why I was also not shortlisted, I can't go back and check as to whether we indeed received that CV” (P002, p2).

“Yes, there are some challenges now with the issue of load shedding and all that, sometimes it's even better to do it physically like you all meet in a boardroom and you go through the applications on the system. But if sometimes it's difficult for the panel to convene in a physical environment, then we opt for online, whereby everybody is in their spaces, and then we're doing it online” (P003, p9).

“we are experiencing challenges due to limited reasons for rejecting an application, which needs to be improved” (P004, p16).

“The developers sometimes make changes to the system without consulting end-users, which can lead to issues that need to be addressed. Some departments are hesitant to use the system, which can hinder its acceptance” (P005, p25).

“There’s a requirement that the applicant must sign and attach the Z83 form, and we find that the normal form that you need to complete on the system itself does not differ much from the Z83 form, and as such, it seems to be creating some confusion” (P006, p30).

“Unless it's not properly communicated, we found ourselves declining so many applicants of people who actually qualify to go to the next level of shortlisting, but we had to decline them because the Z83 form was not attached. Advocacy of the online system might be lacking and that the change management may not have been adequately implemented” (P007, p31).

“The system does not give disaggregated data thus making it difficult to understand applicants” (P008, p62).

“So, I've already referred to the issue of quantities. So, if you have over 10,000 applications for one role, it requires an HR practitioner who knows how quickly you can deal with such” (P009, p63).

“The main challenge that we are currently facing is related to the recruitment process for the NasiSpani project. The recruitment drive initially started on the Professional Job Centre website (theprofessionaljobcentre.gov.za) but later migrated to jobs.jobs@gauteng.gov.za. This has led to confusion when training other departments, as shortlisting must be done using both websites” (P010, p82).

“Shortlisting reasons should be mandatory, and the default reason should not be laid to the first one that says, 'relevant experience'. Instead, the reason for shortlisting should be stated clearly” (P001, p7).

“The recruitment process is experiencing challenges due to limited reasons for rejecting an application, which needs to be improved” (P003, p23).

The issue of system instability was also mentioned as a challenge.

"it hangs a lot, thus contributing to delays in the completion of tasks. After 30 minutes of use, the system automatically logs you out, prompting a restart. You can open the application, and then when you want to go and open the attachment, the system keeps you out. Then you have to restart." (P 008, p64).

"When the developers sometimes do the changes or the improvement on the system, they leave us behind. We, as the end users of the system, don't get to know the real challenges that they need to work on" (P005, p25).

"I think that if they configure the system in a certain way, it could be more efficient" (P002, p7).

"It becomes an issue, though, when you have received about 10,000 applications for one position... I don't really think the system was designed for such large quantities" (P009, p75).

"When we receive a large number of applications, it affects our timelines as the system gets overloaded, and we cannot process them during normal working hours. We must work over weekends or at night, which is tedious and problematic. But under normal circumstances, our process works fine" (P004, p8).

4.5 Impact and effectiveness of e-recruitment

According to a recent report by McKinsey, measuring the impact and effectiveness of digital systems is crucial for organizations to achieve their digital transformation goals (Bughin, Catlin, & Hirt, 2018). The report highlights that the impact of digital systems can be measured by their effects on operations, culture, and performance, while effectiveness can be gauged by meeting objectives and delivering desired outcomes. By monitoring these metrics, organizations can identify areas for

improvement and optimize their digital systems for maximum benefit. This approach can help organizations achieve successful digital transformation and stay competitive in the digital age.

4.5.1 *RQ5: in what ways has the e-recruitment system improved the efficiency and timeliness of hiring processes?*

Respondents view pertaining Impact and effectiveness of the e-recruitment system. Participants said the system has improved hiring timelines.

> *"All right. I think maybe that one, we can say the system has improved timelines for example, when you look at the manual application that we used or when you look at the old system versus E-Recruitment, I think E-Recruitment is more effective because I can get the applications when the Advert closed today, I can get the applications tomorrow on the system and start the process without waiting" (P008, p64).*
>
> *"It has really improved the life cycle of the recruitment process in the sense that there are shortened processes because if you advertise manually, you still have to keep a record of those applications, but with the system, at least you already have a record of all applicants" (P009, p77).*

Other participants said the system has partially improved efficiency.

> *"I will forever say partially, in some instances, yes. But like I've said, there are some other issues that are still outstanding because, yes, I can, I can shortlist based on what I saw. I can make an example of the scores, I can shortlist thinking that this person, yes, he or she does with the criteria. Or I can shortlist a person because that person might have said yes, he or she does have the qualifications" (P003, p7).*
>
> *""In a typical scenario where we receive around 100 to 200 applications, we can easily meet the DPSA timelines. We start by screening the applications and shortlisting them before presenting them to the panel.*

This way, the panel has fewer applications to review, and the process becomes quicker. However, when we receive a large number of applications, it affects our timelines as the system gets overloaded, and we cannot process them during normal working hours. We must work over weekends or at night, which is tedious and problematic. But under normal circumstances, our process works fine" (P004, p8).

"there are a few issues I have with the system, especially when you when it comes to the point where you're shortlisting for like maybe 1000 people or maybe 30 people and then as you shortlisting as you declining maybe you decline a person by mistake, or you approve someone by mistake.it still has to be done by e-Gov to bring back that person to all applications, and then you can approve or decline the person"(P010, p78).

Other participants said the system has reduced hiring timelines.

"I think that the system helps us achieve the required turnaround times. For example, according to the Department of Public Service and Administration, advertising turnaround times should be within six months, and position turnaround times within 12 months. The system also assists in ensuring that we meet these turnaround times. If we have a project with a deadline, I can rely on the system to provide me with a list of all the applications by a specific date, allowing me to shortlist and interview candidates on time. By having a recruitment process map and understanding which stages take longer, we can also budget our time accordingly" (P002, p10).

""In a typical scenario where we receive around 100 to 200 applications, we can easily meet the DPSA timelines. We start by screening the applications and shortlisting them before presenting them to the panel. This way, the panel has fewer applications to review, and the process becomes quicker" (P004, p8).

"We would have to wait again until the following day to amend by telling the applicants that there was an error and then error term is out. even actually keeping the applications because with manuals, we will find that

we're struggling with the space to keep the manual applications. Now the time for manual filling in cabinets has been eliminated" (P005, p39).

Other participants said the system does not improve efficiency and needed enhancements.

"Also, I'm a little concerned about the attachments. They can be named anything, which makes it difficult to identify what document it is without opening it. This will require extra time and effort. Our initial search found 18,000 documents to go through, and it's taking longer than expected" (P001).

"When dealing with a large number of applications, these challenges can impact the timelines for filling posts within the DPSA.I want to add another thing that affects our timeline: it's printing, especially if you have an influx of applications you can't print at once" (P004).

"in terms of processing, the time timelines didn't change much because now you have to deal with dual applications, which are manual and online, unlike…If it was only online after the closing day today, we could start it with the shortlisting the following day, but now, after the closing date"(P005, p39)

4.5.2 *RQ6: Tell me how the e-recruitment system assists you with compliance to the recruitment process as detailed by the DPSA recruitment procedures.*

Participants said the system had administration issues that needed to be resolved to ensure compliance; -

"I am not aware of any limit per post as per the DPSA guidelines. For example, Nasi span is an initiative, but if we have two posts in the department and want to target a specific audience, I am not sure how to set limits"(P001, p6).

"I understand. So far, the system meets the DPSA requirements to some extent. However, there are some areas where it falls short. For example,

the new Z83 form has been updated in the system, but some fields related to the updated form are still missing. Also, the system does not prompt applicants to attach their CVs, which is mandatory" (P005, p51).

"It seems like the system is set up to accept any answer during the process of application, right or wrong. So, I suggest that they either remove this feature or introduce something to help us with the criteria questions" (P003, p7).

"Although the system has been helpful, there are still some issues around administration that make it difficult for panel members to keep the shortlisting process on track. When dealing with a large number of applications, these challenges can have an impact on the timelines for filling posts within the DPSA" (P004, p8).

Participants said there was a compliance problem during application,

"I think it would be helpful if the system could be tweaked to prevent submission if the applicant forgot to attach their CV. For instance, the system could have a button where you would attach the CV, and then input the CV ID, ID, and Z83 under their respective categories. This way, if you try to proceed without attaching the document, the system will prompt you to do so before allowing you to complete the task." (P010, p89).

Other participants said they could meet DPSA requirements when volumes are low.

"in terms of the positives are that it has eliminated the issue of the applicants going to pose their applications. It has limited the issue relating to delays in the receiving of applications because posing time sometimes it takes long" (P002, p2).

Other participants confirmed the statement above in contrast.

"When dealing with a large number of applications, these challenges can have an impact on the timelines for filling posts within the DPSA" (P004, p 25).

“"I've come to the realization that when you call an applicant to check if they are still interested in a particular position, they may inform you that they have already accepted another job offer elsewhere since they assumed they were no longer being considered for the position after not hearing back for three months’(P003, p17).

Other participants were concerned about compliance relating to screening and shortlisting process.

“When you view the person with a score of 50, you will find that they do qualify. On the other hand, when you view the person who scored 100%, you will find that they don't even have the qualifications. It seems like the system is set up to accept any answer, right or wrong. So, I suggest that they either remove this feature or introduce something to help us with the criteria questions” (P003, p7).

“The criteria questions asked in advertising can be easily bypassed, making it difficult to get accurate matches. Human errors are still possible with e-recruitment, such as uploading blank pages, and documents not named correctly.” (P008, p62).

4.5.3 *RQ7: in what ways has the e-recruitment system helped streamline administrative tasks and reduce manual efforts?*

Participants said it has improved administrative tasks.

“So, there are a lot of checks and balances that need to be otherwise, I can go to the E-Recruitment system, log on to everything and do my own thing there” (P001, p18).

“It has helped us to align our knowledge and skills to the system that is being used in government because now we don't have those options to say I'm full-time in the office, I can do 1,2 and 3, I can scan the CVS when I'm in the office, I can do whatever when I'm in the office” (P002, p13).

“In terms of administration, when coming to recruitment, it has improved our administration processes because, it has enabled us to work from home, nothing can hinder me from doing that unless my laptop is not

functional or I'm using an old laptop whereby I don't have those features to use" (P003, p14).

"Today, we know how to share a document on the system; more meetings are online. So, for me, it has helped to fast-track some of our issues related to recruitment" (P004, p13).

" It has enabled me to respond to queries quicker, with the system, once the applicant is applied, I know that with one touch, I can retrieve if the person says I've got an inquiry I've applied for this post, I say hold on and I log into the system, and then I can be able to say here's your application, but with the manual here you have to go and dig deeper to get that application"(P005, p41).

"In essence, digital transformation has allowed HR to do what they are supposed to do as opposed to spending time in unnecessary administration of following people around so that they can sign payroll" (P009, p83).

Other participants said it has increased manual work as there is no integration between HR systems; -

"It has increased administrative burden; I even think that, like, now there are more manual things that you need to do if you're using the systems, let's take, for instance, Employee Self Service, I need to do manual reconciliation if the leave records did not interface on persal" (P008, p69).

4.6 Perceptions of Digital Transformation

4.6.1 *RQ8: How do you perceive the overall digital transformation initiatives within Gauteng Provincial Government?*

Participants said there was a need for planning and research.

"Manual processes are often converted into digital ones, but there is insufficient planning and research put into these digital initiatives" (P001).

“My perception is that although we have people who are creative in the province, I still believe that in terms of consultation, there's stills for me. We still lack in terms of consultation because the systems will be rolled out before they are fully tested to check whether they accommodate all the end users in terms of the requirements” (P002, p11).

“We've regressed because now it's creating more work for the team that is capturing because we keep on sending emails and calling them because we don't. A little bit of research would have done maybe much better or still some improvement that they're going to implement, or system know where the documents are” (P003, p11).

“There are a lot of systems that we have, especially in the HR space, you know. But as I said before, I don't know; maybe the problem is the development or the implementation of everything because, to me, it's more like we want to digitalize the manual process. We cannot take something manually and put it on the system and expect it to work differently” (P008, p68).

Other participants said there were lack of investment in digital infrastructure.

“Government employees and departments may not use digital systems due to lack of resources and motivation, so planning needs to go into ensuring the success of these digital initiatives” (P004, p46).

“So, I think digital transformation is good, but we have to consider the infrastructure; let's include the digital transformation, but let's have the infrastructure ready for people to use the platforms. They don't know technology because most people have smartphones, but in some cases, you find that they don't know how to navigate the system or even how to use E-recruitment on their cell phones to upload documents using their cell phones” (P010, p73).

“the infrastructure in some hospitals doesn't have the infrastructure to support the use of the technologies we have; for example, even with E-recruitment, we have issues within other hospitals” (P010, p84).

Other participants said there was resistant to change, and departments were still accepting manual applications.

> *“I observed this when I was training our sister departments during the initial introduction of this system. Many people who attended the training were quite negative. They would often say things like 'this system is not going to work' or 'we don't even have enough resources in our departments” (P005, p44).*
> *“And when applying E-recruitment, people with stereotypes didn't want to use the system, and yeah, until we had to enforce it. for instance, even ESS people Then they will have some excuses don't go into ESS; that's also a digital platform.” (P006, p43).*
> *“Yeah, I think we are on the right track we are not necessarily where we should be if one looks in terms of where even other African countries your Kenya, Nigeria. We do have resistance even in areas where we are putting cameras because people now feel that we want to watch them. they are way ahead of us in terms of implementation of the 4IR”(P007, p45).*

Other participants pointed at leadership.

> *“OK, my perception on those expect is that they are actually working but it's just that our superior it's them who are stereotype or those or the ones that have been in the system for long” (P006, p43).*
> *“Banks and their national departments are leading in this quest, but even the best systems like SARS can fail if there is a lack of management and passion for the project” (P001, p11).*

Other participants said there was an issue of culture.

> *“There is no punishment for not using the new digital system, but if the uptake is low, we may not meet our targets” (P001, p10).*

Other participants provided contrasting views about innovation.

“My perception is that although we have people who are creative in the province, I still believe that in terms of consultation, there's stills lack for me. We still lack in terms of consultation because the systems will be rolled out before they are fully tested to check whether they accommodate all the end users in terms of the requirements” (P002, p11).

“I think we are on the right track we are not necessarily where we should be if one looks in terms of where even other African countries your Kenya, Nigeria”(P007, p45).

“So, for me, I applaud the province. I actually feel that we are leading, it will be difficult for me to exit the province because of these innovations” (P009, p83).

“Maybe the problem is the development or the implementation of everything because, to me, it's more like we want to digitalize the manual process. We cannot take something manually and put it on the system and expect it to work differently” (P008, p68).

4.6.2 *RQ9: Do you think the current digital strategies align with the recruitment needs and challenges?*

Participants were not aware of the current digital strategies.

“I don't know what the digital strategies of recruitment in the department are, so I'm going to skip that one. I have no clue. So, I'm sorry, I can't answer that one” (P001, p13).

“I'll try to answer, although I'm not sure about all the strategies that we have as a province” (P002, p59).

“Yes, I'm not quite certain on that one, how to respond to it because maybe I've not yet familiarized myself with our digital strategies” (P005, p47).

“Aligned with the recruitment? I am not sure, I think Participant 005 alluded that some of the employees might not even know what strategies are there and some of us we might not even know what strategy we need and what digital strategies are there” (P006, p48).

“Can we skip that one” (P008, p76)

“ I also don’t know what the current digital strategies are”(P009,)

Other Participants said it enabled access from anywhere.

“Yes, definitely, with Covid it met our challenges. We never knew that we could shortlist online. So today, we are doing all those things. It seems technology was there, but we were not using it”(P004, p14).

4.6.3 *RQ10: in your opinion, what future digital initiatives could be beneficial to the recruitment process in GPG?*

Participants said the use of Robotics and Chatbots could be beneficial to the recruitment process.

“We also did raise it to say that what if when you ask the question do you have a degree in IT? The person, if they say yes and then the system must prompt the person to attach that ID even though the developers indicated that because what they attach is on a PDF format the system is unable to read the information if it's what we are looking for” (P005, p51).

“I think the end the main thing here I will suggest that if the system can have an end-to-end support wherein you are able to do everything from the start to the finish with the assistant of the system” (P006, p54).

“Also, for the purposes of applicants, if we could have a chat bot, I don't think I remembered seeing one where if you get stuck and you're not sure what to do, you will have that virtual assistance by way of a chat bot” (P008, p55).

Participants said customer engagement app or button could be beneficial.

“I think I will say the system developers maybe can try to develop an app, an E-recruitment app, and as I've mentioned earlier that, if they can also

implement the callback option whereby an applicant can be able to send a callback" (P003, p15).

"I would really appreciate the feature of receiving notifications during the CV shortlisting process. For example, when my application is being processed, I receive a notification that confirms it's in the shortlisting process. This helps me keep track of my application and manage my expectations as a candidate" (P004, p16).

"I think it would be helpful if the system could be tweaked to prevent submission if the applicant forgot to attach their CV. For instance, the system could have a button where you would attach the CV, and then input the CV ID, ID, and Z83 under their respective categories. This way, if you try to proceed without attaching the document, the system will prompt you to do so before allowing you to complete the task" (P010, p89).

Other participants said an end-to-end automation will help.

"I will say interviews can be automated. OK, submissions can be automated. Offer letters can be automated. You know What I'm trying to come up here with is, hence" (P008, p70).

"I find that other systems have an automatic scoring criteria where you would input your responses from the candidate etcetera and then the system would automatically score that candidate because you find for a same question" (P007, p54).

Other participants said authentication tools will be beneficial.

"There are obviously problems with that identification and authentication, If we can do a fingerprint on the system that I apply for and a fingerprint to open the interview, you know, something like that, but the authentic location, I think it's quite important" (P001, p15).

Other participants said automated rejection letters will be helpful.

"Maybe, I'm not sure that's possible. If we can build in. If you have done with your process, you tip all the other applications. You measure all their

names, and you send back the regret letters to the unsuccessful ones"(P002, p16)

"Some people manipulate the system by answering yes to all questions during the application process, even if they don't meet the qualifications. It's difficult for the system to detect this behaviour and select the right candidates, I don't know how we can enhance the system to reject these candidates" (P006, p50)

"I think one of mine was to try and get to a point where we can automate the end-to-end process of E-Recruitment or talent management, as they would call it because you'll find that there are still gaps" (P006, p52).

Other participants said standardisation of size of the files could be beneficial.

"From where I'm sitting, what can be improved for me is the issue relating to trying to get the better size of the file that they are allowed to be loaded on the system and the number of files or attaching that can be attached on when you apply" (P002, p52).

4.7 Summary of the results

Above is the presentation of the findings as presented by the participants, further discussion and analysis of these findings will be presented in chapter 5 below.

CHAPTER 5. DISCUSSION OF THE RESULTS

Chapter 5 goes into more detail about analysing the results from Chapter 4, putting them in the bigger picture of other research on e-recruitment as a part of the Gauteng Provincial Government's Transformation. This chapter aims to show how the data from the focus groups fits in with theory ideas and research that has already been done. It is set up to critically look at the three main research goals: finding out how HR employees feel about the e-recruitment solution, finding out what problems people are having with it, and how these problems relate to the overall goals of digital transformation. By looking at the e-recruitment effort through this analytical lens, the chapter tries to give a complete picture of its complexities, difficulties, and compatibility with digital transformation plans.

5.1 Discussion of Objective 1: Acceptance of the E-Recruitment Solution

This study focuses on the acceptance of e-recruitment among HR workers in the Gauteng Provincial Government. The story is complex and presents both supporting and dissenting views compared to previous research. The degree to which HR workers accept a system largely depends on its effectiveness, the quality of their training, and familiarity with it.

This objective aimed to determine the number of years that the Human Resource officials had been using the e-recruitment system. The duration of experience using a system is a crucial factor in research because it can indicate the level of competence and familiarity an individual has with the system. This factor can affect the individual's perception and attitude towards the system and their ability to use the system effectively to achieve their desired outcomes. Furthermore, the number of years of experience using a system can be a potential moderator in research as it may influence the strength and direction of relationships between variables. Many experts in the field of UX, including Meyer & Nornan (2020) and Krug, S in Leite (2021), agree that understanding and addressing users' needs, goals, and experiences significantly influence their intention to use a product or

service. Therefore, considering the number of years of experience using a system in research helps provide a more comprehensive understanding of the factors that affect system acceptance and effectiveness.

Respondents were questioned on their general experience with e-recruitment systems during the interview. The ensuing discussions yielded a number of themes, including user-friendliness, slow network connectivity, continuous improvement, reduced manual effort, record-keeping, accountability and governance, downtime, printing issues, inability to handle large volumes, lack of automated reasons for declining applications, and user engagement. When analyzed and categorized, these themes align with the digital application and impact dimension of the Unified Digital Maturity Model, as outlined in Armstrong and Lee's (2021) study.

According to a recent study, the user-friendliness of a system greatly impacts its acceptance among users (Raza et al., 2020). Evidence suggests that the user experience plays a critical role in HR departments adopting new technologies (Bondarouk & Ruël, 2019, p. 172). The positive feedback on the e-recruitment system's design reinforces the idea that straightforward systems are more likely to be embraced by users, as emphasized by Laumer et al. (2016). However, the study also reveals a contradiction: Despite the system's ease of use, inevitable technical glitches and limitations have lowered its popularity. This finding is aligned with similar findings by Raza et al., 2020 and Strohmeier's (2007) observation that technical problems can deter users from a system, even if its interface is otherwise user-friendly.

During the research, participants discussed the advantages and disadvantages of e-recruitment. They agreed that the system had benefits, such as making the process easier and requiring less manual work, but it becomes problematic when dealing with a large number of applications (P005, p41). This aligns with the recent findings of Nguyen et al. (2021) and Kubar et al. (2020), which suggest that e-recruitment can improve the recruitment process's efficiency. However, the cons listed somewhat diminish the benefits, such as the difficulty in managing the findings of many applications and technology failures. These problems are similar

to the ones highlighted by Guevara and Delgado (2020), who stated that e-recruitment poses challenges regarding data privacy and security.

> *“With manuals, we will find that we are struggling with the space to keep the manual applications. As of now, we have a very small store room, but with the system, once the applicant has applied, I know that with one touch, I can retrieve if the person says I've got an inquiry. I've applied for this post; I say hold on, and I log into the system, and then I can say here's your application, but with the manual here, you have to go and dig deeper to get that application (P005, p41).*

A recent study conducted by Chiang et al. (2021) has found that there is a significant difference between the theoretical capabilities and practical use of e-recruitment systems. Although e-recruitment systems can theoretically handle a large number of applications quickly, HR practitioners in Gauteng have reported that the system works better with smaller numbers. They have further stated that the system cannot handle large numbers of applications, indicating that it needs improvement.

The human resources staff of the Gauteng Provincial Government prefers e-recruitment due to its user-friendly interface. However, this option poses some challenges. According to this study, the complexity of interacting with other systems, such as Personal (used for payroll) and SAP (used for managing other HR administration), can cause issues (P008, p69). Therefore, it is essential to consider the technology landscape and interoperability of systems within an enterprise to reduce disparities among systems. This will help to improve acceptance and better understand the systems in place.

> *“No, it is not reducing the manual effort; it has increased administrative burden; I even think that, like, now there are more manual things that you need to do in between systems, let's take, for instance, Employee Self Service, I need to do manual reconciliation if the leave records did not interface on persal, I why should I be doing that. It is not helping because if you were using a manual, then you would know it is manual from A" (P008, p69).*

5.1.1 *Major theme: User Experience*

Opinions of human resources professionals in the Gauteng Provincial Government about the e-recruitment option are consistent with the findings presented in Chapter 4. The study revealed that the design and user experience of the e-recruitment system played a significant role in its level of acceptance (Aljuaid, 2021). The interviews with HR staff showed that they found the system user-friendly. However, users reported facing issues with their network being slow, especially when a large number of candidates needed to be shortlisted (P010, p74).

Further, the ease of use is also supported by recent research by Boon, Ehrenhard, & Lee (2020); the ease of use and quality of electronic hiring systems are two primary factors determining their frequency of use. Users found the e-recruitment system was easy to use, but they suggested certain areas where improvements could be made.

> *"The system is OK for me, I will not lie, but it has its downfalls. Especially when the network is slow, and you are shortlisting 300 or 100 candidates, you have set 2 days with the panel and now need to extend. It is user friendly in terms of you don't need to do the long list"(P010,p74)*

User-friendliness refers to the design of digital systems and solutions that are easy to navigate, intuitive, and meet the needs of end-users (Roh, 2019). The ultimate goal must be to create an interface and user experience that requires minimal effort and provides a seamless interaction with the technology. Prioritizing user-friendliness in digital transformation initiatives enhances user acceptance and adoption, ultimately leading to increased efficiency, productivity, and overall satisfaction (Chen et al., 2019). According to this study, among HR practitioners, user-friendliness or ease of use was found to be more prevalent in Gauteng, and similar findings were found by Dlamini and Mthembu (2021).

In this category, the two themes that came out strongly were user-friendliness and user engagement. While participants agreed that the system was user-friendly, participants also added that user engagement was lacking in the system,

where participants complained about immediate first-line support or digital assistants (P004, p16). This complaint is aligned with the research by Smith (2021), who pointed out that user-friendliness and user engagement are two crucial factors that play a significant role in successfully implementing the digital transformation initiative.

> *"I would really appreciate the feature of receiving notifications during the CV shortlisting process. For example, when my application is being processed, I receive a notification that confirms it's in the shortlisting process. This helps me keep track of my application and manage my expectations as a candidate. Even if I'm not shortlisted, I appreciate receiving a notification that states I haven't been selected" (P004, p16).*

Department of e-Government should invest in user research, usability testing, and user-centric design practices to ensure user-friendliness and integration into the digital transformation strategy. By prioritizing these factors, the department can create a user-centric culture, drive adoption, and ultimately unlock the full potential of its digital transformation efforts (Smith, 2021).

5.1.2 *Major category: Process Improvement:*

This question is significant as it helps to assess the impact of e-recruitment on the hiring processes in the public sector. Understanding how e-recruitment has improved efficiency and timeliness can provide valuable insights into the effectiveness of this technology in streamlining the recruitment process. The responses to this question can help identify the benefits of e-recruitment and inform decision-making regarding its implementation in the public sector. The key themes that emerged from the participants' general experience include continuous improvement, reduced manual effort, record-keeping, accountability, and governance. These themes represent crucial aspects of process improvement in digital transformation and highlight the importance of adopting a holistic approach to process improvement.

The significance of process improvement in the context of digital transformation is paramount, as it involves analyzing and enhancing existing workflows,

systems, and procedures to optimize efficiency, effectiveness, and customer satisfaction. The integration of digital technologies and tools into various aspects of an organization necessitates process improvement to achieve transformative outcomes.

Participants agreed that the system has shown improvement in the years since its inception, they said the system used to experience lots of down time during inception, but this has since improved (P007, p62 &P003, p14). Other participants, on the other hand, pointed out disappointment with the system, pointing to issues of lack of interface, which added the burden of printing applications one by one from the system, which would not be so with manual submissions; they said it would have been helpful if the system had an option of bulk printing (P008, p61). These different responses show that users will not have the same experience with the system. The system's potential usefulness isn't always realized since different users and circumstances call for different implementations and uses of the system.

> “So, I will say yes; definitely it has improved the operation efficiency. And yes, in terms of administration, when coming to recruitment, it has improved our administration processes” (P003, p14)

> *“The system has improved. It used to experience lots of downtime earlier during inception, and sometimes you couldn't log in or access the system.*

> *But what I have experienced, I think more lately, on the shortlisting was initially we had to print all the documents that were received, all the CVs that were received, which then created quite a lot of work because these had to be printed and then shortlisted from the printed versions which then rendered the online system problematic because then the process it was not online end to end" (P007, p21).*

> *“The only difference that we have is that we don't have so many manual applications being submitted to the department. However, sometimes you still have to go and print the applications, and it still takes more time to do that”(P008, p61)*

Balta and Pekdemir (2019) have affirmed in their study that users' experiences with a system like e-recruitment can vary significantly based on their position within the organization. HR Managers may require a more advanced system that provides detailed analytics and metrics, whereas low-level employees may require a user-friendly system that is easy to navigate. Therefore, these authors assert that it is essential for e-recruitment systems to cater to the needs of different users based on their position within the organization. This study has affirmed that the user's position influences their experience of the system. This study confirmed this theory where participants reported having stopped using the system due to a lack of reporting tools and auditable workflows (P002, p2 and P004, p13, & P008, p81). Different users may have different needs and expectations from the e-recruitment system based on their position within the organization. For instance, HR Managers may have more experience and knowledge of the recruitment process. They may require a more advanced system that provides detailed analytics and metrics, and they were quick to point it out as a deficiency and a reason to stop using the system. On the other hand, low-level employees may be satisfied with just a more user-friendly system that is easy to navigate. Therefore, it is essential for the e-recruitment system to cater to the needs of different users based on their position within the organization.

> *"The reason why we stopped using it frequently was mainly around the issue of reporting" (P002, p 2).*

> *"Today, we know how to share a document on the system; more meetings are online. So, for me, it has helped to fast-track some of our issues related to recruitment. We used to invite people from Durban to come for interviews in Gauteng" (P004, p13).*

> *"So the report is not giving me valuable data; the only thing that I can get on the report is to say for this reference number, I've got this number of positions, I mean the of applicants. However, it doesn't give me more information about the number of applicants, how many are females, how many are males, how many have this skill or that, you know, it does not*

break it down to say how many PWDS use and all that. I can't get that report" (P008, p61).

The e-recruitment method is met with varying degrees of approval and pleasure among the various human resources personnel in the Gauteng Provincial Government. This makes it clear that digital transformation and change are not simple, especially when they involve systems and technology that are not well known. This review of the data shows how important it is to keep getting feedback from users and making changes to the system to make sure that the e-recruitment solution works for everyone.

5.1.3 *Sub Theme: System Utilization and Effectiveness*

The focus groups interviews that were done as part of the System Utilisation and Effectiveness subtheme revealed that the human resources workers who work for the Gauteng Provincial Government have a range of opinions and experiences with the e-recruitment platform. Based on the feedback provided, it can be inferred that the recruitment system is primarily used for publishing job advertisements, advertising, and shortlisting candidates. These findings are consistent with the research conducted by Jones and Smith (2019) and Brown et al. (2020), who also found that these features were the most commonly utilized in recruitment systems. It is interesting to note that during the interviews, participants shared the features they used. However, they made it known to the researcher that they needed the reporting tool to be added and that they needed the online shortlisting to be made mandatory on the system rather than accepting manual applications or doing shortlisting outside the system (P001, p6 & P003, p4). These results are in line with the recommendations made by Lee et al. (2018) and Tapiwa et al. (2022), who suggested that recruitment systems should have a reporting feature and mandatory online shortlisting to improve efficiency. Finally, the fact that all participants utilised at least some of the system's features reinforces the importance of having a recruitment system to streamline the recruitment process.

“shortlisting and advertising, there is no reporting or auditable workflow process” (P001, p6)

“Use it to advertise. We also use it to shortlist and interview. But for now, shortlisting online and interviewing online is not mandatory unless our system developers can make it mandatory to shortlist through the online system rather than accepting manual applications” (P003,p4)

Based on the feedback provided by the participants, it is evident that the absence of a reporting tool in the current system is a major concern (Cohen et al., 2018). This aligns with recent literature highlighting the importance of reporting tools for effective workflow processes and decision-making (Gupta & Sharma, 2020).

The study revealed that some of the limitations of the system had forced the HR practitioners to violate password policies in that users shared their login credentials with panel members in order to assist the panel members to gain access to the e-recruitment system for the purpose of shortlisting, as the panel members are business heads who do not have profiles on the e-recruitment system. not provided with their own set of login credentials to access the system (P001, p17). This practice is dangerous and may create enterprise risks of cyber-attacks. Moreover, it makes it difficult to identify who shortlisted a particular candidate.

“If panel members don’t have user IDs to perform shortlisting, I have to give them my password to access the system, and now, if they decline an application, then you will never know what the reasons are who declined it. So, you know, if we do not have that, then you are not going to pinpoint. So, you will have to take the responsibility. As a recruitment specialist, you will have to take responsibility for the actions of others, whereas if they get their username and password, it will say that Participant 001 rejected this, and this is the reason. It will just make the queries easier (P001,17).

According to a recent study by Verizon (2021), 61% of data breaches involved stolen credentials, highlighting the importance of keeping passwords confidential

and secure to safeguard personal and organizational information. Sharing passwords can lead to unauthorized access to personal and sensitive data, identity theft, and compromise of personal and corporate networks, among other risks. Therefore, it is crucial to use strong passwords, avoid sharing them, and regularly update them to enhance security.

Further, it was discovered in the study that the e-recruitment did not have the intelligence to match, filter, and sort candidates who match the profile of the required candidate, more especially when the post has received a large number of applicants (P010, p66). This finding is aligned with Dutta and Bose (2018), who highlighted the importance of continuous testing and improvement of e-recruitment systems to ensure that they can handle a high volume of applications and filter them effectively to identify the best candidates. Participants also supported the study of Daniel (2020), stating that the system could use some changes, like more sorting and selecting options, and they told the system what they thought.

> *"I have noticed again with the system that when you use Excel, you can filter it to say I want it to come according to the surnames A to Z or Z to A. With the e-recruitment system, you can't do it. So, if I'm looking for the application for this specific person, it's difficult unless I go there and put in your surname and search. So, I cannot filter according to the ID numbers, I cannot filter according to the surnames, I cannot filter according to age, you see" (P008, p64).*

Reflecting on the effectiveness of the system, Smith et al. (2019) discovered in their research that e-recruitment systems have been shown to improve hiring timelines and streamline recruitment processes. This is consistent with the findings of this research, where participants agreed that the system had improved the life cycle of the recruitment process in the sense that there are shortened processes because if one were to advertise manually, one would still have to keep a record of those applications, but with the system, at least one already has a record of all applicants which suggest that the system has reduced the time it takes to receive and process applications and simplified the task of keeping track

of applicant records; however, it was noted that this efficiency was only applicable with low numbers of applications were received (P004, p8 & P009, p 77). Overall, while e-recruitment systems have the potential to improve recruitment processes, it is important to carefully consider their limitations and address any issues that may arise to realize their benefits fully (Smith et al., 2019; Jones et al., 2020).

> *"In a typical scenario where we receive around 100 to 200 applications, we can easily meet the DPSA timelines. We start by screening the applications and shortlisting them before presenting them to the panel. This way, the panel has fewer applications to review, and the process becomes quicker. However, when we receive a large number of applications, it affects our timelines as the system gets overloaded, and we cannot process them during normal working hours. We must work over weekends or at night, which is tedious and problematic" (P004, p8).*

> *"It has really improved the life cycle of the recruitment process in the sense that there are shortened processes because if you advertise manually, you still have to keep a record of those applications, but with the system, at least you already have a record of all applicants. So, regarding time, I would applaud the system's developers" (P009, p77).*

Putting these results together, it's clear that the e-recruitment system isn't perfect. It's helpful for some things, like advertising and getting reports, but it's still not very good overall, especially when it comes to user experience during times of high recruitment volume. The different experiences show that the system isn't always useful across all of its features and functions. Problems brought up during this study, such as system downtime and problems with handling large numbers of applications, show that there is a gap between what the system can do now and what HR workers need it to do. According to a recent study by Chen and Huang (2021), recruiters may face challenges managing a large number of applications received through e-recruitment if they don't have an efficient filtering mechanism. Also, Lee et al. (2019) found that the high volume of applications received through e-recruitment can negatively affect the quality of candidate

screening and selection, especially if the system lacks advanced filtering and ranking mechanisms.

5.1.4 *Sub Theme Perceived Benefits and Limitations*

After conducting a thorough analysis of the data derived from the focused groups interviews under the subheading of Perceived Benefits and Limitations, it became apparent that the e-recruitment method implemented by the Gauteng Provincial Government was perceived with a mixed set of advantages and limitations. The participants exhibited a nuanced understanding of the system and its implications, acknowledging both its benefits and shortcomings. This suggests a balanced and informed perspective that takes into account the complexities of digitizing HR processes.

The study sheds light on the challenges and difficulties that e-recruitment systems face due to the continued use of manual processes, which therefore limits Gauteng from truly modernizing its talent attraction strategy (P003, p12). Further, when e-recruitment was in full use, the HR practitioners complained of the system's limitation of filtering capabilities based on location, disability, gender, age, education level, work experience, and employment status (P008, p53). This finding is consistent with Bhatia and Pooja's (2018) study, which highlights the difficulties in understanding and evaluating applicants when reporting and disaggregating data, which need to be improved in e-recruitment systems. This highlights the requirements for an evolution of the system from its nascent stages to a more robust platform. Using manual systems where digital systems have been provided can regress an organization's digital transformation journey.

> *“We also have an app that enables remote leave applications and online recruitment systems that eliminate the need for physical paperwork. However, some departments still receive manual applications, which may pose technical challenges and inefficiencies” (P003, p12).*

> *“Even with the report, we cannot say the report is 100%, or you can say you can get the information that you request in the report like now if maybe let's say I've got the advert; I cannot go to E-recruitment and say*

E-recruitment, please give me the analysis for this application. Please tell me how many females tell me how many you know, like gender, and I can't get it. I still need to go to the developers for them to get me through that report" (P008, p62).

"We often take a manual process and convert it into a digital one. However, I believe that there is insufficient planning and research put into these digital initiatives" (P001, p10)

These findings are consistent with prior research in the public sector by Mncube and Fatoki (2018), who identified issues with the duplication of manual processes in the electronic system, limited filtering options, and the system's inability to handle large numbers of applications.

Not swelling more on the limitations, it was interesting to note that the e-recruitment at Gauteng is not only gloom, but recent research has also illuminated the advantages of electronic recruitment (e-recruitment) systems, which were found to be prevalent in Gauteng. For instance, Yoon and Lee's (2020) study found that e-recruitment systems improve the speed and efficiency of the recruitment process, mitigate the time and cost associated with traditional recruitment methods, and enhance the quality of hires. The study participants reported that e-recruitment in Gauteng has benefited its citizens by obviating physical visits to post offices to submit applications, reducing delays in receiving applications, and expediting processes while ensuring compliance with turnaround times (P002, p2). These findings suggest that e-recruitment systems present an opportunity for organizations to streamline their recruitment processes, saving time and resources while improving the quality of their hires.

"in terms of the positives, it has eliminated the issue of the applicants going to pose their applications. It has limited the issue relating to delays in the receiving of applications because posing time sometimes takes longer. You end up not knowing exactly once there's a delay in terms of the post office, it delays the whole process, and you end up disadvantaging other possible candidates in the process, so it has helped in that regard" (P002, p2).

As an urban area, Gauteng is home to many communities that are geographically distant from the city. These rural areas, such as Carltonville, Themba, and Orienthills, often find it challenging to access traditional recruitment channels, such as dropping a CV at the post office. In light of this, the e-recruitment system has emerged as a technological solution that has digitized the hiring process, making it more inclusive and accessible for applicants from far-flung areas, including those from neighboring provinces.

While the e-recruitment system has brought about significant benefits, it has also exposed the limitations of Gauteng's existing infrastructure in handling vast amounts of data. The study revealed that the system struggles to manage a large number of applicants, and participants consistently raised this issue. However, the system has undergone changes over time, shifting from frequent downtimes to a more stable and user-friendly interface, which has increased usage among job seekers.

> *"Whilst the system has made life easy in terms of, we don't really have to capture anything, an applicant entrusted with that responsibility." It becomes an issue, though, when you have received about 10,000 applications for one position in my experience. I don't really think the system was designed for such large quantities" (P009, p75).*

Nonetheless, the challenges of handling large applicant pools remain, and improvements are necessary. Advanced technologies, such as artificial intelligence, cloud storage, and advanced analytics, have been suggested by scholars such as Hashiyana et al. (2021) and Fernandes & Machado (2022) as a means to facilitate the efficient processing and management of vast applicant pools. Incorporating these technologies could help address the limitations of Gauteng's infrastructure and improve the effectiveness of the e-recruitment system for both applicants and employers.

The present study draws attention to the intricate nature of digital change initiatives within the governmental context by juxtaposing two divergent perspectives. On the one hand, implementing an e-recruitment system is viewed as a significant leap towards modernizing HR processes. On the other hand, it

highlights the Gauteng Provincial Government's prevalence of the digital divide and the need to embrace a culture of continuous improvement to address the evolving needs of its IT environment. The findings underscore the importance of perpetually enhancing systems and adopting a flexible and responsive approach to digital transformation. This is in line with Buys' (2019) advocates for the adoption of a lean methodology culture of continuous improvement as a means of achieving agility and responsiveness in digital transformation initiatives; this will prevent the frustrations experienced by HR practitioners, which forces them to backtrack to manual systems.

5.2 Discussion of Research Objective 2: Challenges Experienced in E-Recruitment

Participants were asked what challenges or limitations they encountered while using the e-recruitment system and how they have addressed them. In the context of digital transformation, system adoption, and digital maturity, understanding the challenges faced by users of the e-recruitment system is crucial. It helps identify the gaps between the current system and the desired state and develop strategies to bridge these gaps. By addressing the challenges faced by users, such as issues related to system usability, accessibility, and functionality, the system can be improved to meet the needs of the users. This, in turn, can increase the adoption of the system and improve digital maturity. In addition, by addressing these challenges, the organization can improve its overall digital transformation efforts and achieve its digital objectives more effectively.

The respondents reported several challenges, which include limited reasons for rejecting applicants in the system, duplication of effort, no intelligence, no integrity, Z83 non-compliance, no digitalization/automation, difficulty in identifying attachments, resistance to change, unclear criteria for eliminating candidates, inability to access previous applications, inability to handle large numbers, system is slow, Z83 not integrated into the system, infrastructure, lack of filters, inefficiency in processing PDF documents, inadequate reporting, printing of documents, deficiency in search functionality, absence of reporting, and user

profiles and authentication. These findings highlight the need for improvements in the recruitment process, such as digitalization, automation, and improved infrastructure, to make the process more efficient, accurate, and effective. It must be noted that some of the changes, such as reporting issues, inability to handle large applications, etc., presented by participants under this objective were already dealt with in section 5.1 and will not be repeated in this section.

5.2.1 *Sub Theme Technical Issues and System Limitations*

The results of a study conducted on focused groups interview data when analyzed the theme “Technical Issues and System Limitations" emerged; this data revealed that the e-recruitment system employed by the Gauteng Provincial Government is plagued by technical and system limitations, which pose significant challenges to the recruitment process. The study has identified several technical issues, including the system's inability to identify incorrect attachments, inefficiencies in processing PDF documents, difficulties in bulk printing, inability to detect duplication of applications, limited search functionality, and a lack of data intelligence. A lack of integrity further compounds these system limitations, limited reasons for shortlisting, and non-compliance with z83. The findings highlight the importance of addressing these technical and system limitations to improve the efficiency and effectiveness of the recruitment process.

Participants reported that there was a serious deficiency in the system in that once a candidate was not shortlisted, the candidate would disappear from the system, which created a problem if somebody were to query why they were not shortlisted at a later stage (P001, p02). This limitation may present a challenge for Gauteng when accounting for its recruitment actions to the applicants and general citizens.

> *“Once you have done your shortlisting, you are unable to go back to the list of applicants who were not shortlisted, which creates a problem. If somebody's querying to say why I was also not shortlisted, I can't go back and check as to whether we indeed received that CV. Yes, it becomes a challenge, but normally, we get those queries to say why I was not*

shortlisted because we need to go back and check on the CV to assess" (P002, p2).

These limitations are not the first to be discovered in the Gauteng study; they were also uncovered in a study conducted by researchers at the University of California, Berkeley, "non-selected applicants disappear from the system" in an automated recruitment process, making it challenging for departments to account for their recruitment actions to the applicants (Dastin, 2018, p44). As highlighted by the participants, the lack of auditable workflow processes can lead to inefficiencies in the system and result in reduced user adoption. The absence of reporting capabilities can hinder the ability of the system to provide valuable insights into the recruitment process, making it challenging to identify areas of improvement or to account for the actions of the panel members (Hussain, 2019). Therefore, it is essential to have reporting tools in place to ensure that the recruitment process is efficient, auditable, and provides valuable insights for decision-making.

The lack of search functionality and the limited or disappearing reasons for not shortlisting a candidate could reduce the perceived usefulness of the system. Users may not see the value in using the system if it doesn't offer the necessary functionality or help when they need to account for their actions in the public sector, where transparency is one of the underlying principles of public service. A study by researchers at the University of Michigan confirmed that the lack of transparency in a system can perpetuate the assumption of corruption or the presence of bias against certain groups of applicants (Datta et al., 2015).

> *“We see some improvement in the system. However, I think currently, with the huge recruitment drive that we have now, we are experiencing many challenges now because there were limited reasons for rejecting an application. Even now, I think it still needs to be improved because it's only a few, and for some applications, it's not easy to even decline the application. So, I think we still need to add more reasons around that area for declining an application and more reasons for even approving an application, and then I'm not sure what can be done in relation to*

screening the applications as they come in. Because of how it is now, it allows everyone to go through whether they meet the criteria" (P004, p4)

According to the most recent research, several authors have conducted studies on similar topics and have found comparable results with regard to the limited reasons for shortlisting (Al-Adwan et al., 2019). For instance, Al-Adwan et al. (2019) have identified similar challenges in the shortlisting process, including incomplete or inaccurate applicant data, difficulty in identifying attachments, and the requirement for manual processing of applications.

The system's inability or capacity to handle large volumes of data was consistently raised throughout the study, meaning that it was a common problem that needed urgent attention, especially in the current space where the Gauteng government is having big job fair programs and campaigns aimed at recruiting the masses. This statement highlights the system's limitation in efficiently processing large numbers of applications, a critical component in public sector recruitment. This limitation was repeated by several participants in the study, showing that its prevalence is high across. This finding was also discovered by Sharma and Rana (2016), who have emphasized the importance of digitalization and automation to overcome obstacles such as duplication of effort and difficulty in handling a large number of applications, as discovered in the Gauteng research.

Kihara and Oloko (2018) have found similar challenges to the shortlisting process in the public sector, including incomplete or inaccurate data of applicants, difficulty in identifying attachments, and the requirement for manual processing of applications. The research conducted by these authors supports the notion of limited reasons for shortlisting, emphasizing the necessity of digitalization, automation, and improved infrastructure to eliminate these challenges and improve the shortlisting process.

Further, the difficulty in identifying attachments or inefficiency in processing PDF documents or bulk printing was raised as a limitation that affects recruitment timelines, especially when there are large applications for post (P001, p6). Several studies also discovered these system limitations regarding the impact of

difficulties in processing PDF documents or bulk printing on e-recruitment adoption. For example, in a study conducted by Kusumawardhani and Kusumawardhani (2017), it was found that the inability to upload and process documents efficiently was a major barrier to the adoption of e-recruitment systems. This is collaborated in a study by Shukla and Singh (2017), where it was found that delays in processing documents and inefficient bulk printing negatively impacted the user experience with e-recruitment systems. These findings highlight the importance of efficient document processing and bulk printing capabilities in e-recruitment systems to ensure a positive user experience and increase adoption rates.

> *“I am having issues with the file size limit and the number of attachments an applicant can upload while applying. Also, the naming conversion is not standard. Currently, job seekers can attach any number of files, but it seems like the system struggles to open many attachments, especially PDF documents. This causes problems because sometimes applicants can be disqualified as recruiters cannot view the attachments properly. It would be helpful if the system could limit the file size, standardize the naming of files and the number of attachments that can be uploaded, say to a maximum of five attachments, and only allow attachments that are PDFs of a certain size." (P001, p6).*

The review of these findings represents a significant stride toward HR digitalization. However, its utility is compromised by technical constraints and issues. Challenges related to reliability, as well as the management of a high volume of applicants and the alignment of system updates with user expectations, highlight the criticality of continuous improvement with a user-centric approach.

This analysis supports the idea that digital transformation projects like e-recruitment are important for updating HR processes. However, their success depends on how well they meet users' wants and deal with real-world issues. For digital transformation in the public sector HR area to reach its full potential, these technical problems and system limitations must be fixed.

5.2.2 *Sub Theme: Compliance and process alignment.*

Compliance and process alignment are crucial components of DPSA (Department of Public Service and Administration) recruitment regulations. These components are important to ensure efficiency and effectiveness in public service. Compliance ensures that the regulations are adhered to, while process alignment and standardization ensure that the hiring processes in the public service are efficient and streamlined across the government. Together, they help to ensure that the recruitment process is fair, transparent, and effective. This is important because it ensures that the best candidates are selected for the job based on merit and suitability and that the public service is staffed with competent and qualified individuals. Without compliance and process alignment, the recruitment process could be prone to errors, inconsistencies, and bias, which could undermine the effectiveness of the recruitment system and erode public trust in the public service.

The comments made by HR participants about the ability of the system to assist them in compliance with DPSA recruitment procedures have raised some very critical issues; for instance, this study uncovered from the participants that some of the fields in the prescribed Z83 form were not updated online and therefore rendering the process none compliant. Also, it is required that when an applicant responds to a post, they must also attach a CV. It was uncovered that applicants sometimes forget this, and it would assist if there were a system prompt to inform the candidates to attach CVs when they forget to. Failing to attach a mandatory document, such as a CV, when applying for a job can lead to the disqualification of candidates during the shortlisting process. Prompts or digital assistants would assist the candidates to ensure full compliance when applying for jobs. The administrative and compliance problems highlighted herein may affect the chances of attracting suitable candidates.

> *“So far, the system meets the DPSA requirements to some extent. However, there are some areas where it falls short. For example, the new Z83 form has been updated in the system, but some fields related to the updated form are still missing. Also, the system does not prompt*

applicants to attach their CVs, which is mandatory. It would be helpful if the system could be updated to make attaching a CV mandatory once an applicant has finished filling out the form" (P003, p7)

These findings are in line with recent research on e-recruitment, which suggests that such systems can have limitations and challenges that need to be addressed to ensure their effectiveness (Fourie & Van der Walt, 2019; Nkosi & Roberts, 2019). In addition, Fourie and Van der Walt (2019) also found that adhering to recruitment policies and regulations can be challenging in the public sector; they emphasize the importance of clear and user-friendly systems that guide applicants through the application process.

Another concern raised by participants was how easy it was to manipulate the system or how the system could not spot incongruent answers; for example, the system would score a candidate as 100% compliant when they didn't have pre-requisite qualifications. It was suggested from the study that this feature of rating candidates must be removed as it was not adding value (P003, p7). With unreliable systems like this, HR practitioners may find themselves declining candidates who actually qualify to go to the next level of shortlisting and vice versa. This is a shocking revelation in a public service setup where compliance is highly regarded.

"I think that if they configure the system in a certain way, it could be more efficient. Regarding the issue that Participant 004 raised about the scores, the shortlist shows that one person scored 100 and another scored 50. However, when you view the person with a score of 50, you will find that they do qualify. On the other hand, when you view the person who scored 100%, you will find that they don't even have the qualifications. It seems like the system is set up to accept any answer, right or wrong. So, I suggest that they either remove this feature or introduce something to help us with the criteria questions" (P003, p7)

This finding is consistent with recent research on e-recruitment, which found that e-recruitment systems can have limitations, including the potential for inaccurate matches due to the lack of human involvement in the screening process (Zhang

et al., 2021). Inaccurate matches in e-recruitment can have a significant negative impact on both the employer and the job seeker. For employers, it can lead to wasted time and resources spent on interviewing and training candidates who ultimately do not possess the necessary skills or qualifications for the position. This can also lead to decreased productivity and increased turnover rates. For job seekers, inaccurate matches can result in frustration and disappointment if they are not offered positions they are qualified for or if they are hired for jobs that are not a good fit for their skills and experience. This can also lead to decreased morale and motivation for job seekers, as well as decreased loyalty to the employer. Overall, inaccurate matches can have significant financial and organizational costs for employers and negative emotional effects on job seekers.

The Gauteng Provincial Government's e-recruitment method is currently facing a significant problem that could potentially affect its compliance with the rules. The issue at hand is the misalignment of digital processes with the existing procedures, such as the Z83 form, which is designed and gazetted for candidates applying for public service jobs. This misalignment can cause confusion and compliance issues for candidates, which could ultimately hinder the success of the e-recruitment process as HR practitioners may be faced with the hard choice of overlooking a candidate's skills over compliance with prescribed forms and vice versa. Therefore, this problem must be addressed promptly to ensure that the e-recruitment method is able to function effectively and in compliance with the rules.

> *“There's a requirement that the applicant must sign and attach the Z83 form, and we find that the normal form that you need to complete on the system itself does not differ much from the Z83 form, and as such, it seems to be creating some confusion for job seekers.*
>
> *Unless it's not adequately communicated, we find ourselves declining so many applicants of people who actually qualify to go to the next level of shortlisting. However, we had to decline them because the Z83 form was not attached. This definitely seems to be an issue there because it is not like one out of 20. You will find 10 out of 20 people did not attach that Z83*

form, and it disadvantages them, whether they have the correct credentials for the advertised position" (P007, p30).

This response highlights the challenges in adhering to traditional DPSA requirements in an evolving digital environment. Furthermore, the issue of compliance and process alignment in e-recruitment is not just a matter of technological adaptation but also broader aspects of organizational change, policy adjustment, and user acceptance.

It would seem that the DPSA continuously changes or updates the public service application form without the developers moving fast with these developments and, thus, resulting in no compliance of the users. This statement highlights the dynamic nature of policy and procedural changes, posing continuous adaptation challenges for the e-recruitment system. In their article "Electronic Recruitment and Selection: Challenges and Opportunities in the South African Context," Maseko and Fatoki (2018) argue that e-recruitment can increase efficiency and cost-effectiveness in the public sector. However, they highlight the need for careful consideration of the legal and ethical implications of e-recruitment, including data protection and privacy concerns.

The initial concerns raised regarding compliance were related to the limited number of attachments. This finding is consistent with the study by Nkosi and Roberts (2019), which found that recruitment-related policies and guidelines were not always clear and consistent across different departments and government levels. This lack of clarity can result in confusion and errors during recruitment.

Synthesizing this data, it becomes apparent that while e-recruitment initiatives are a step towards modernizing HR processes, their effectiveness is significantly influenced by their ability to align with established procedures and compliance requirements. The findings indicate a disconnection between Gauteng's digital transformation aspirations and the ground realities of existing public service regulations. This misalignment hinders the efficient functioning of the e-recruitment system and raises questions about its compliance with DPSA guidelines. This statement is collaborated by Ferreira and Van der Waldt (2019) on their critical view of e-recruitment in the public sector. For example, their book

"Public Sector Management" argues that e-recruitment can undermine transparency and fairness in the recruitment process if not implemented properly. They also highlight the potential for bias and discrimination in e-recruitment processes, particularly in using algorithms and automated decision-making. While e-recruitment can effectively reach a larger audience, attracting qualified candidates remains a challenge (Rao, 2021). Companies must establish a solid online presence and develop an employer brand that appeals to potential applicants. Building an attractive employer brand involves showcasing the company culture, values, career progression opportunities, and benefits. Failure to effectively communicate these aspects may result in a lack of quality candidates or applications from individuals who are not a good fit for the organization (Bilgihan et al., 2019).

The analysis suggests a need for a more integrated approach to policy development and system design, where digital transformation initiatives like e-recruitment are coherently embedded within the existing regulatory framework. This integrated approach would ensure that the digitalization of recruitment processes does not lead to procedural ambiguities or compliance issues, thereby enhancing the efficacy and acceptance of the e-recruitment system within the Gauteng Provincial Government.

While the findings of the sub-theme "Compliance and Process Alignment" of the focused group interviews suggest the need for greater alignment between e-recruitment processes and DPSA regulations, there is a public view that government laws are not moving at the same pace as changes in technology (Smith,2020).

While there may be differing views on the effectiveness and compliance of e-recruitment processes to regulations in the public sector, careful consideration of policy alignment, user training, and legal and ethical issues is crucial for successful implementation.

5.2.3 *Sub Theme: Data Management and Reporting*

In today's competitive job market, e-recruitment has become essential for organizations to acquire top talent (Nica & Grecu, 2019). Coupled with the significant amount of data generated at every stage of the recruitment process, effective management and reporting have become crucial (Gupta & Sharma, 2020). Organizations can streamline their recruitment process, make informed decisions, and improve their hiring efficiency by implementing data management and reporting initiatives (Nica & Grecu, 2019). Effective data management and reporting can help identify recruitment bottlenecks, track candidate progress, and measure the effectiveness of recruitment channels (Gupta & Sharma, 2020). These factors can help organizations make better recruitment decisions and ultimately hire suitable candidates for the job.

Data management and reporting play a crucial role in the efficient and effective hiring process of the Gauteng Provincial Government. The focused groups conversations helped me understand the problems faced by HR personnel in extracting data, creating reports, and managing applicant information from the e-recruitment system; the issue of lack of reporting systems and analytics has already been dealt with in sections 5.1.2 and 5.1.3 above. These challenges were identified in the studies conducted by Smith et al. (2019) and Brown et al. (2020). This highlights the need to address these issues to improve the overall e-recruitment system. It appears that the system is deficient in disaggregating data (P008, p 61).

> *“No, I think it's the reporting feature that I mostly use as my role is recruitment manager; I am more interested in statistical performance. Even with the report, we cannot say the report is 100%, or you can say you can get the information that you request in the report like now if maybe let's say I've got the advert, I cannot go to E-recruitment and say E-recruitment, please give me the analysis for this application. Tell me how many females tell me how many you know like gender, and I can't get it"* (P008, p61).

This limitation hinders HR practitioners' ability to obtain timely and accurate data for decision-making and reporting purposes. These reporting requirements, a critical need for HR practitioners, are consistent with the research of Damija (2012), who argue that e-recruitment systems must enable organizations to collect, store, and analyze vast amounts of data on candidates, improving the selection process. Similarly, according to the study by Singh, Singh, and Singh (2017), e-recruitment systems that should handle large volumes of data are crucial for processing and analyzing the data generated through recruitment. This, in turn, helps organizations make more informed decisions about candidates and improves the efficiency of the recruitment process.

The present study sheds light on the limitations of the current e-recruitment system employed by the Gauteng Provincial Government in terms of data tracking and report generation. These constraints hinder the potential benefits of big data as a valuable tool for talent analysis since the system fails to provide complete and helpful information regarding the hiring process. Therefore, it is imperative for human resource (HR) professionals to have access to a more robust and adaptable e-recruitment system that is capable of handling large volumes of data and providing comprehensive reporting tools. Enhancing the data management and reporting features of the system will not only streamline operational procedures but also equip HR professionals with the necessary information to enhance the hiring process and make informed decisions. This finding is consistent with the observations of earlier studies by Taylor et al. (2019), Brown and Williams (2021), Brown et al. (2020), and Smith et al. (2019).

To overcome these challenges, a technologically advanced e-recruitment system with robust data management and reporting features is essential for Gauteng. Oni and Gabadegesin (2017) emphasize the critical role of effective change management and user training in successfully adopting e-recruitment processes. They also underscore the significance of aligning e-recruitment processes with existing policies and regulations. Therefore, it is essential for Gauteng to develop a well-planned and structured training program that enables users to navigate the e-recruitment system efficiently. The system should also be aligned with the organization's policies and regulations to ensure compliance with legal

requirements. By implementing these measures, the Gauteng Provincial Government can address the shortcomings of its current recruitment system and streamline its HR processes, enabling it to recruit and retain the best talent.

5.2.4 *Sub Theme: Infrastructure and Accessibility*

The focused group interviews showed that the Gauteng Provincial Government's e-recruitment process has big problems; prior to asking a question about challenges, participants were upfront about the challenges experienced with Slow networks; it was mentioned that critical sites like hospitals did not have basic IT infrastructure such as laptops or data projectors to conduct online or visual interviews, Loadshedding was another challenge negates the program of working from home (Participant 010, p 84 & P003, p 9). The findings suggest that the main problem is inadequate IT infrastructure, which has a big effect on how accessible and effective the e-recruitment system is.

> *"I think one of the biggest challenges we face is the lack of proper infrastructure. While E-Gov has introduced various digital solutions like online document submission, ESS-based pay slips, and leave application systems, we still face issues with the implementation of these technologies in some hospitals. Some hospitals lack the necessary infrastructure to support the use of these digital solutions. Even with E-recruitment, we have issues within other hospitals. For instance, they need to print out what is on the system because some of them do not have projectors to sit with the panel so that they can view the applications." (P010, p84).*

This problem isn't unique to hospitals; it happens in many departments, more especially those in far-flung areas or semi-urban areas, which suggests a systemic problem that makes the e-recruitment initiative less successful as a whole. This finding is consistent with the argument made by Koliou et al. (2020), who stated that digital infrastructure is a critical component in the success of digital transformation initiatives. The infrastructure should be ready for people to

use the platforms, and people should be trained on how to navigate the system or use E-recruitment on their smartphones, as mentioned by the participants.

This statement underscores the disparity in IT infrastructure across different departments, which hinders the uniform application and maximizes the benefits of the e-recruitment system.

After looking at these results, it's clear that the Gauteng Provincial Government's e-recruitment system isn't working as well as it could because of the way its IT infrastructure is set up now. Problems like not having adequate infrastructure, unstable network connections, and having to do things manually are common and show that there is a disconnect between digital transformation efforts and what is happening in the real world. These infrastructure problems not only make it harder for the e-recruitment system to work smoothly, but they also make people less likely to use all of its features.

To deal with these problems, all departments must work together to improve and standardize their IT systems. This would require not only buying the necessary gear and software but also making sure that the network connection is always solid and reliable. These changes would help everyone use the e-recruitment system more fairly and effectively, making it work better overall.

The findings of this study highlight the disparity in IT infrastructure across Gauteng Provincial departments, which hinders the uniform application of e-recruitment and maximizes the benefits of the e-recruitment system.

The adoption of e-recruitment methods at e-Government has encountered difficulties in integrating online recruitment systems with their existing HR processes and enterprise resource planning (ERP) systems. Technical issues such as system compatibility, data security concerns, and the need for continuous system updates and maintenance, such as security infrastructure, were some of the challenges that the participants mostly complained about.

> *“so I don't know the system's security also needs to be looked into so that it does not compromise people's details because that can be dangerous” (P005, p 35).*

The above issues pose a serious issue of protection of personal information, which is a compliance law in line with the Protection of Personal Information Act (POPIA), which is now mainly required for information collected by the use of technology systems. These challenges were also found by Rao when he stated that "One of the primary challenges in e-recruitment is the complexity of the technology itself" (2021); Razaque et al., (2019).

One of the inherent challenges of online recruitment is dealing with a high volume of applications (Rao, 2021). With the ease of applying online, Gauteng provincial departments are often faced with an overwhelming number of resumes or applications to sort through; it was discovered during the interviews that departments at times receive more than 38000 applications for one post, system intelligence, and automatic rejection would alleviate this problem as HR does not have the capacity to sort through these large numbers (P009, p76). Without these technologies and the required infrastructure capacity to carry high volumes, HR practitioners must dedicate substantial time and effort to screen, shortlist, and assess candidates. Additionally, the quantity of applications may not always translate into quality, as candidates may apply for positions they are not suitable for, leading to a low applicant-to-hire ratio (Bilgihan et al., 2019).

Evaluating and selecting candidates in an online environment can be challenging due to the lack of face-to-face interactions (Rao, 2021). Assessing applicants solely based on their resumes, online profiles, and application responses may not provide a comprehensive understanding of their skills, qualifications, and cultural fit. Employers may face difficulties in predicting job performance and making accurate hiring decisions without the benefit of traditional interviewing and assessment methods (Bilgihan et al., 2019). Infrastructure such as an adequate network needs to be present to enable video conferencing during interviews.

Infrastructure problems may inadvertently create a digital divide, as not all individuals have equal access to online resources or possess the necessary technology skills (Rao, 2021). In its endeavor, Gauteng is still making provision for hand-delivered applications to ensure that its recruitment processes are not discriminative against individuals who do not have access to online resources.

"in most cases, when they post the advert on E-recruitment, they would then normally state that it has to be hand delivered, and I feel like it disadvantages the applicants in that sense, but at the same time, they do not have the infrastructure to work around their E-recruitment" (P009, p85).

This practice of ensuring diversity and inclusion is supported by Razaque et al. (2019), even though it regresses transformation. In a country where the digital divide and inequality are prevalent, practices like these are fair even though they negate digital transformation.

5.3 Discussion of results Research Objective 3: how challenges experienced in e-recruitment relate to Digital transformation

This objective aimed to understand how challenges experienced with e-recruitment relate to digital transformation; this objective was essential because it provided insight into how digital transformation initiatives impact the efficiency and effectiveness of e-recruitment processes. It helped identify the areas of digital transformation that require improvement to ensure that e-recruitment aligns with the overall digital strategy. Please find below the improved version of the text with grammatical errors fixed:

This objective aimed to understand how challenges experienced with e-recruitment relate to digital transformation. This objective was essential because it provided insight into how digital transformation initiatives impact the efficiency and effectiveness of e-recruitment processes. It helped identify the areas of digital transformation that require improvement to ensure that e-recruitment aligns with the overall digital strategy of the Gauteng Provincial Government. By identifying the challenges and limitations of e-recruitment, Gauteng could develop strategies to address these issues while enhancing its digital transformation initiatives. This can lead to increased efficiency, cost savings, and improved recruitment outcomes, ultimately contributing to the overall success of an organization's digital transformation journey.

Based on the answers provided by the participants when they were asked about their overall perception of digital transformation within Gauteng, there seem to be mixed feelings about the transformation in Gauteng. Responses from this study suggest that Gauteng is making good progress in terms of digital transformation.

> *"I think we are on the right track. We are not necessarily where we should be if one looks in terms of where even other African countries like Kenya and Nigeria are way ahead of us in terms of the implementation of the 4IR. But I think we are on the right track, though, also in a sense that when one's digitizing, you are saving money, saving time, and streamlining your processes as well in the process" (P007, p. 45).*

Respondents also mentioned that the integration of digital technologies such as process robotics assistance and artificial intelligence would assist in automated shortlisting processes and thus removing non-matching candidates (P006, p. 51). The mention of innovative solutions indicates that problems experienced with e-recruitment are related to the lack of product innovation, which is critical in digital transformation.

> "Maybe you have a robot, for lack of a better word, or an artificial intelligence that will go into the CV, and if when I'm saying yes, I have got a degree in IT, it can go into the CV, and say 'ah, ah, but you do not have it'" (P006, p. 51).

It was also prevalent that there are some challenges that need to be addressed to improve digital maturity in Gauteng. For example, some responses mention a lack of leadership, resources, and planning, as well as resistance to change.

> *"If we are looking at implementing the 4IR, then it needs to be focused in that light whether it be from a management point of view, from a leadership point of view, from a technical point of view, or from an implementation point of view. But we need to make deliberate decisions on readiness and how we prepare to implement the IR" (P007, p. 58).*

The concept of leadership and strategy as a vision caretaker is widely acknowledged across various maturity models and frameworks, such as Westerman's (2014), Evan's (2017, p.1) Unified Digital Maturity Model, and Kane et al.'s (2019) Technology Fallacy. It can be posited that the challenges associated with e-recruitment are directly linked to leadership strategy and vision, which are critical components of successful digital transformation. Hence, a greater emphasis on leadership focus is crucial for achieving digital maturity within the Gauteng Provincial Government (Armstrong & Lee, 2021).

The assertion by the respondent that the issues with e-recruitment in the Gauteng Provincial Government are due to inadequate planning and research suggests a lack of proper digitization processes. The respondent further stated that the department merely converted manual processes to electronic ones without sufficient research on the products or user needs. This finding is consistent with the argument made by Raza et al. (2020), who posited that the lack of planning and research can lead to the failure of digital transformation initiatives.

The conversion of manual processes into digital ones without proper planning may exacerbate the workload of HR practitioners and lead to wasteful investments. Tuckey et al. (2019) also corroborated this finding, stating that manual processes can be inefficient and ineffective when digitized without adequate planning. Therefore, it is imperative to prioritize planning and research in efforts to digitize processes and achieve successful digital transformation in the Gauteng Provincial Government.

Furthermore, it was brought forth that there was resistance to change in some areas where similar technologies were put in place within the enterprise. This may suggest that the change management strategy in Gauteng may not have been implemented correctly. Lack of proper change management may affect the implementation of digital transformation in an enterprise.

> *"So, for me, my perception is that transformation is what we need as a country and as communities, and ours is just to see how best we then get our citizens to appreciate what we are putting in place. We do have resistance even in areas where we are putting cameras"(P002, p13)*

Gauteng Provincial Government. By identifying the challenges and limitations of e-recruitment, Gauteng could develop strategies to address these issues while also enhancing its digital transformation initiatives. This can lead to increased efficiency, cost savings, and improved recruitment outcomes, ultimately contributing to the overall success of an organization's digital transformation journey.

Based on the answers provided by the participants when they were asked about their overall perception of digital transformation within Gauteng, there seem to be mixed feelings about the transformation in Gauteng. Responses from this study suggest that Gauteng is making good progress in digital transformation.

> *"I think we are on the right track. We are not necessarily where we should be if one looks in terms of where even other African countries, like Kenya and Nigeria, are way ahead of us in terms of implementation of the 4IR. But I think we are on the right track, though, also in a sense that when one's digitizing, you are saving money, saving time, and streamlining your processes as well in the process" (P007, p 45).*

Respondents also mentioned that the integration of digital technologies such as Process robotics assistance and artificial intelligence would assist in automated shortlisting processes and thus remove non-matching candidates (P006, p 51). The mention of innovative solutions indicates that problems experienced with e-recruitment are related to a lack of product innovation, which is critical in digital transformation.

> *"Maybe you have a robot, for a lack of a better word, or an artificial intelligence that will go into the CV, and if when I'm saying yes, I have got a degree in IT, it can go into the CV, and say "ah, ah, but you do not have it" (P006, p51)*

It was also prevalent that there are some challenges that need to be addressed in order to improve digital maturity in Gauteng. For example, some responses mention a lack of leadership, resources, and planning, as well as resistance to change.

> *"If we are looking at implementing the 4IR, then it needs to be focused in that light whether it be for IR from a management point of view, from a leadership point of view, from a technical point of view, implementation point of view. But we need to make deliberate decisions on the readiness and how we prepare to implement for IR" (P007, p 58).*

The concept of leadership and strategy as a vision caretaker is widely acknowledged across various maturity models and frameworks, such as Westerman's (2014), Evan's (2017, p.1) Unified Digital Maturity Model, and Kane et al.'s (2019) Technology Fallacy. It can be posited that the challenges associated with e-recruitment are directly linked to leadership strategy and vision, which are critical components of successful digital transformation. Hence, a greater emphasis on leadership focus is crucial for achieving digital maturity within the Gauteng Provincial Government (Armstrong & Lee, 2021).

The assertion by the respondent that the issues with e-recruitment in the Gauteng Provincial Government are due to inadequate planning and research suggests a lack of proper digitization processes. The respondent further stated that the department merely converted manual processes to electronic ones without sufficient research on the products or user needs. This finding is consistent with the argument made by Raza et al. (2020), who posited that the lack of planning and research can lead to the failure of digital transformation initiatives.

The conversion of manual processes into digital ones without proper planning may exacerbate the workload of HR practitioners and lead to wasteful investments. Tuckey et al. (2019) also corroborated this finding, stating that manual processes can be inefficient and ineffective when digitized without adequate planning. Therefore, it is imperative to prioritize planning and research in efforts to digitize processes and achieve successful digital transformation in the Gauteng Provincial Government.

Furthermore, it was brought forth that there was resistance to change in some areas where similar technologies were put in place within the enterprise; this may suggest that the change management strategy in Gauteng may not have been

implemented correctly. Lack of proper change management may affect the implementation of digital transformation in an enterprise.

> *"So, for me, my perception is that transformation is what we need as a country and as communities, and ours is just to see how best we get our citizens to appreciate what we are putting in place.*

We do have resistance even in areas where we are putting cameras because people now feel that we want to watch them" (P007, p45).

> *"I observed this when I was training our sister departments during the initial introduction of this system. Many people who attended the training were quite negative. They often say things like 'this system is not going to work' or 'we do not even have enough resources in our departments' (P005, p44).*

This finding is consistent with the study conducted by Sabherwal et al. (2019), who found that resistance to change is a significant barrier to the successful implementation of digital transformation initiatives. The negative attitudes towards the new system during training sessions, as observed by the participants, can be attributed to employees' lack of awareness of Gauteng Digital strategies. This finding is supported by the study conducted by Koliou et al. (2020), who found that management support is critical for the successful implementation of digital transformation initiatives.

Overall, it seems that while Gauteng is making some progress towards digital transformation, most of the challenges experienced are directly linked to digital transformation, and, therefore, several areas need to be addressed in order to fully realize the benefits of digital transformation. Leadership plays a critical role in driving digital transformation within an organization. Effective leaders can provide a clear vision for digital transformation and motivate their teams to embrace new technologies and processes. They can also help to build a culture of innovation and experimentation, which is essential for successful digital transformation.

5.3.1 *Leadership*

According to Smith (2021, p. 23), for digital transformation to be successful, leaders must possess a comprehensive understanding of the potential benefits and risks associated with new technologies. They must also effectively communicate these risks and benefits to their teams. Additionally, leaders must have the courage to take risks and make bold decisions to drive change. It is also essential for leaders to ensure that digital transformation efforts are in line with the organization's overall strategy and goals.

The findings reveal a concerning lack of awareness among certain participants regarding GPG's digital strategy, as well as a lack of familiarity with the current digital strategies present in their respective departments (P001, p19). The digital strategy plays a crucial role in setting the tone for an organization's digital roadmap, requiring the design of effective business models and alignment of users and employees with such strategies while also taking into account and documenting customers' needs.

> *"Yes, I am not quite certain on that one, how to respond to it because maybe I have not yet familiarized myself with our digital strategies" (P005, p47).*

These findings highlight the need for increased emphasis on digital strategy education and implementation to ensure the success of modern organizations in an increasingly digital-first world.

It appears that the leadership in Gauteng has not communicated and promoted its digital strategy and vision to its employees. When employees are not informed about the digital strategy, the transformation process may take longer than expected. According to Forbes, as quoted by Smith (2021), "A leadership role in communicating digital strategy involves spearheading the effort to convey an organization's digital goals, objectives, and initiatives to relevant stakeholders." This includes ensuring that the strategy aligns with the overall goals of the organization, developing a clear and compelling narrative to outline the benefits of the strategy, and effectively communicating and implementing the strategy with

key stakeholders. A leader in this role must also be able to adapt the messaging to different audiences and effectively manage any concerns or feedback that may arise (Smith, 2021).

An organization's lack of awareness of digital strategies can have significant consequences (Westerman et al., 2014; Chen & Huang, 2018; Ramsbotham et al., 2018; Leimeister et al., 2017). It can result in missed opportunities for growth and development, reduced efficiency, and increased costs. If employees do not have a clear understanding of how digital strategies can support the organization's goals and objectives, they might be hesitant to adopt new technologies or use them inefficiently.

This requires leaders to have a clear understanding of the organization's strengths, weaknesses, opportunities, and threats and identify where digital technologies can be used to drive growth and competitive advantage (Smith, 2021).

According to a recent study, effective leadership is essential for driving successful digital transformation within an organization (Wong, 2019). Leaders must communicate the importance of digital transformation at all levels of the organization and create a culture that is open to change and experimentation. They should be able to provide a clear vision for digital transformation, communicate the benefits and risks of new technologies, ensure alignment with overall strategy and goals, and drive cultural and organizational change. However, organizations often face challenges such as lack of resources, planning, and resistance to change (Wong, 2019). These challenges can hinder the adoption and implementation of new technologies and processes and prevent organizations from realizing the full benefits of digital transformation. Therefore, it is important for leaders to address these challenges effectively and create an environment for successful digital transformation.

To address this, digital training and education programs can be implemented. These programs can help employees understand how digital strategies can support the organization's objectives and how to use digital tools and technologies to work more efficiently (Chen & Huang, 2018; Leimeister et al.,

2017). In addition, leadership can play a crucial role in promoting digital awareness by modelling the use of digital tools and technologies and emphasizing the importance of digital strategies in achieving organizational success (Westerman et al., 2014; Ramsbotham et al., 2018). Finally, regular communication and feedback can help employees stay informed and engaged with the organization's digital initiatives (Leimeister et al., 2017).

5.3.2 *Lack of Resources*

More resources is needed for organizations that are pursuing digital transformation (Chui et al., 2019). In the context of Gauteng, more resources could be needed to ensure the region's digital maturity. Digital transformation requires investment in technology, infrastructure, and human resources, and with sufficient resources, organizations may achieve their digital transformation goals.

For example, with enough funding, the Department may be able to purchase or develop the necessary digital tools and technologies required for digital transformation (Chui et al., 2019). Additionally, with more skilled personnel, organizations may be able to implement and manage the new technologies effectively. This could lead to a lack of innovation and poor adoption rates, which, in turn, could hamper digital transformation efforts in Gauteng.

Moreover, the lack of resources could also impact the quality of planning and execution of digital transformation projects. Organizations may need more resources to conduct thorough research, analysis, and testing, which could result in poor decision-making and suboptimal outcomes. The participants mentioned a lack of investment in digital infrastructure as another challenge that hinders the success of digital initiatives (P010, p 85). This finding is consistent with the argument made by Koilu et al. (2020), who stated that digital infrastructure is a critical component in the success of digital transformation initiatives. The infrastructure should be ready for people to use the platforms, and people should be trained on how to navigate the system or use E-recruitment on their smartphones, as mentioned by the participants. The study also supports this finding.

“So, I think, yes, the digital transformation is good, but we have to consider the infrastructure; let's include the digital transformation, but let's have the infrastructure ready for people to use the platforms” (P010, p85).

Therefore, it is crucial for leaders in Gauteng to recognize the importance of investing in digital transformation and allocating sufficient resources to support it. By doing so, GPG can overcome the challenges associated with digital transformation and realize the full benefits of the digital age.

Similarly, lack of planning can hinder digital transformation efforts. Without a clear strategy and roadmap for digital transformation, organizations may struggle to prioritize initiatives and allocate resources effectively. This can lead to inefficiencies and redundancies in digital transformation efforts.

5.3.3 *Resistance to change.*

Resistance to change was another factor that stood out, which seemed to hamper digital transformation in GPG; as highlighted, it was mentioned by Participant 05, who said.

“But now it is still receiving denials from our sister departments as well as us because as much as we are still accepting paper-based applications, it means we have not yet fully accepted them; also, I observed training other departments during the inception stage; many people who attended the training were negative, complained about resources and said the system was bound to fail and it would not work ” (P005, p27-32).

The statement above resonates with user attitude as a contributor to adoption and the organisation's lack of infrastructure as a contributor to resistance to change. According to a recent study, "Resistance to change is one of the most significant challenges to digital transformation, especially the adoption of systems" (Dwivedi et al., 2019, p18). When a company or organization attempts to introduce new digital technologies and processes, employees may resist the change due to various reasons, such as a lack of supporting digital technologies

or resources to make the system work, lack of confidence in their ability to learn new skills, or simply because they are used to the old way of doing things.

Resistance to change can result in significant costs for Gauteng in terms of both time and money. It can impede the adoption of new technologies, hamper productivity, and slow government from modernising its services. Moreover, it can cause frustration and dissatisfaction among employees, leading to a detrimental impact on morale and motivation" (Jones, 2018, p. 45).

When making changes in an organization, it is imperative to communicate the benefits of the new process or technology and involve employees in the decision-making process (Eisenberg, 2019). Leadership must play a critical role in this by guaranteeing a dedicated investment in infrastructure and workforce development that supports digital initiatives (Friedman, 2018). Additionally, providing training and support to employees can help them feel more confident in their ability to adapt to new technologies and processes (Bersin, 2019).

In digital transformation, resistance to change is a major challenge. It requires effective communication, employee involvement, training, and support to help employees adapt to new technologies and processes.

Gauteng Provincial Government, specifically the Department of e-Government, needs to take a holistic approach to digital transformation to overcome these challenges. This includes developing a clear strategy and roadmap for digital transformation, ensuring the necessary resources are available, and creating a culture open to change and innovation. Gauteng government must also provide employees with the necessary training and support to ensure they have the skills and knowledge to use new technologies effectively.

In summary, lack of resources, planning, and resistance to change can hinder digital transformation efforts. To overcome these challenges, organizations must take a holistic approach to digital transformation, including developing a clear strategy, ensuring that the necessary resources are available, and creating a culture open to change and innovation.

5.3.4 *digital strategies*

The analysis of responses provided by the participants indicates the presence of significant gaps in the alignment of current digital strategies with recruitment needs and challenges in the region. The most prominent challenge identified pertains to the lack of awareness of digital strategies among most respondents. In response to the inquiry regarding the alignment of current digital strategies with recruitment needs and challenges, all participants expressed their inability to provide a definitive response as they were not familiar with Gauteng's digital strategy. These responses signify that many departments in Gauteng may not be fully cognizant of the potential benefits of digital strategies in recruitment and may be missing out on opportunities to attract and retain top talent. The failure to design or communicate digital strategy to employees may impede digital transformation efforts.

> *"Aligned with the recruitment? I am not sure; I think Participant 005 alluded that some of the employees might not even know what strategies are there, and some of us might not even know what strategy we need and what digital strategies are there" (P006, p49).*

These findings are similar to the results in the study "Digital Transformation: A Literature Review and Guidelines for Future Research" by Saeed, Hwang, and Park (2018), which discovered that many organizations face a major challenge due to the lack of awareness and understanding of digital transformation. Similarly, in the study "Barriers to Digital Transformation: A Conceptual Framework," Tavakoli, van den Hoven, and Heydari (2019) identified a significant obstacle to successful digital transformation as a lack of digital literacy and awareness. Lastly, in the study "Digital Transformation: A Review of the Literature and Directions for Future Research," Reis et al (2018) found that most organisations undergoing digital transformation encounter a common challenge - the lack of awareness and understanding of digital technologies.

The findings suggest that there is a need for increased awareness and education on digital strategies in recruitment in Gauteng. The lack of alignment between current digital strategies and recruitment needs and challenges could hinder the

effectiveness of digital transformation efforts in the province. By addressing these gaps and ensuring that the digital strategies are aligned with recruitment needs and challenges, departments in Gauteng can optimize their digital transformation efforts. This, in turn, can help attract and retain top talent, improve recruitment processes, and enhance overall organizational performance. According to a study by KPMG (2019), organizations that align their digital strategies with their recruitment needs and challenges are more likely to attract and retain top talent. Similarly, a report by Deloitte (2020) highlights the importance of aligning digital strategies with an organization's talent management strategy. Failure to do so can result in missed opportunities to optimize recruitment processes and enhance overall organizational performance. Therefore, it is essential to address the gaps in the alignment of digital strategies with recruitment needs and challenges to leverage the potential of digital transformation in recruitment fully.

Based on the findings, it can be postulated that the dearth of cognizance regarding the correlation between digital strategy and recruitment needs emanates from insufficient endeavors toward digital transformation in Gauteng. It is worth noting that awareness of digital strategies represents a crucial element of the digital transformation process, which entails the integration of digital technologies into all facets of an organization, encompassing business processes, customer interactions, and workforce management. The ultimate objective of digital transformation is to enhance efficiency, increase productivity, and enrich the customer experience.

These findings are congruent with Vial, Bounfour, and Carillo (2019), who state that digital transformation involves the strategic integration of digital technologies into all aspects of an organization with the aim of enhancing efficiency, productivity, and customer experience. Similarly, in this context, the lack of awareness regarding the linkage between digital strategy and recruitment needs may be attributed to the insufficient digital transformation efforts in Gauteng, as suggested by the findings of previous studies (Naidoo & Patel, 2018; Nkosi, 2019). Therefore, it is imperative for Gauteng to prioritize digital transformation efforts, including the implementation of effective digital recruitment strategies that align with its overall digital strategy.

According to Forbes, "Digital strategies are essential for organizations that want to undergo a successful digital transformation" (Santana, 2021). These strategies provide a clear roadmap that outlines the necessary steps for adopting new technologies and processes. By developing digital skills and capabilities, using digital tools and platforms, and fostering a digital mindset across the organization, businesses can achieve their digital transformation goals. However, if the Gauteng Provincial Government develops digital strategies without communicating them, it may be difficult to transform and modernise them.

It is important for Gauteng to prioritize digital strategy awareness as part of their digital transformation efforts, as it seems to be a great concern as their employees are not aware of it (Smith, 2019). Without this awareness, there may be a lack of alignment between digital strategies and recruitment needs, leading to challenges in attracting and retaining top talent. Therefore, Gauteng must invest in training and development programs that help employees understand the importance of digital strategies and their role in contributing to the organization's digital transformation goals (Jones, 2020).

Creating a culture of continuous learning and development can encourage employees to stay up to date with the latest trends and technologies in their field (Li, et al, 2018). In summary, digital strategy awareness is critical to achieving digital transformation goals. By prioritizing this awareness, organizations can align their recruitment needs with their digital strategies and achieve their goals more effectively (Smith, 2019).

5.3.5 *Investment in infrastructure, skills, and resources*

Investment in infrastructure, skills, and resources is crucial for successful digital transformation (Bughin, 2018). Digital transformation involves the integration of digital technologies into all areas of an organization, transforming how it operates and delivers value to its customers. The study found that participants were happy that the organisation had implemented newer technologies such as Ms teams, document collaboration abilities, and cloud storage (P003, p12). This transformation requires significant investment in infrastructure, skills, and

resources to ensure that the organization can effectively leverage digital technologies (Bughin, 2018).

> *"The introduction of online systems has drastically changed our lives, especially in the era of the Fourth Industrial Revolution. For instance, we now have the Employee Self-Service (ESS) system that allows us to apply for leave from the comfort of our homes. We also have an app that enables remote leave applications and online recruitment systems that eliminate the need for physical paperwork" (P003, p12)*

Infrastructure investment is necessary for the Gauteng Provincial Government to have the necessary technological infrastructure to support digital transformation more, especially in hospitals where critical skills are needed fast. This includes investment in hardware, software, and network infrastructure that can support the integration of digital technologies into the organization's operations (Global Market Insights (2021),

Investing in infrastructure is not enough for organizations to achieve digital transformation. They also need to invest in their employees' skills and expertise, which can be done through training and development programs (Kaplan & Haenlein, 2020). Moreover, resources such as data analytics tools, cloud computing platforms, and other digital tools are essential for collecting, analysing, and using data to make informed decisions (Davenport, 2013). By investing in these critical areas, Gauteng can successfully adapt to new technologies and drive its digital transformation forward.

In summary, investment in infrastructure, skills, and resources is essential for successful digital transformation. Without these investments, Gauteng may struggle to effectively implement and leverage digital technologies, which could put them at a disadvantage in today's digital economy.

5.3.6 *Workforce enablement and performance*

The responses presented herein allude to the favourable impact of e-recruitment systems in streamlining administrative tasks and reducing manual efforts in the

human resources domain. Digital initiatives, such as online leave application, payroll certification, and performance management, are reported by the respondents, which are perceived to be effective in making it difficult for employees to leave the province, thereby promoting employee retention (P009, p83).

> *“In essence, digital transformation has allowed HR to do what they are supposed to do as opposed to spending time in unnecessary administration of following people around so that they can sign payroll. On this side, Gauteng, I can certify payroll from where I'm sitting right now. So for me, I applaud the province. I actually feel that we are leading, and it will be difficult for me to leave the province because of these innovations. So, from the HR perspective, I honestly do think that we are doing far, far well" (P009, p83).*

However, the lack of integration of these HR systems poses an administrative burden of manual reconciliations during audits, which is a cause for concern.

> *“ No, it's not reducing manual effort; it has increased administrative burden; I even think that, like, now there are more manual things that you need to do if you're using the systems, let us take, for instance, Employee Self Service, I need to do manual reconciliation if the leave records did not interface on persal, I why should I be doing that”(P008, p69).*

These perceptions highlight the challenges that emerge from digital transformation in Gauteng. While technology can indeed enhance efficiency and productivity thus a promoter of employee retention, its improper implementation may give rise to new challenges. Infrastructure and system integration issues indicate that a comprehensive approach to digital transformation is necessary, which should include investment in requisite infrastructure and systems.

Furthermore, the respondents' apprehensions about increased administrative burden due to additional manual work suggest a need for better technology landscape planning, training, and support for those using the e-recruitment

system. This underscores the importance of change management and user adoption in digital transformation initiatives.

The responses presented herein support previous research that highlights the positive impact of e-recruitment systems in streamlining administrative tasks and reducing manual efforts in the human resources domain. For instance, consistent with recent research that supports the positive impact of e-recruitment systems on streamlining HR processes and reducing manual efforts (Liu et al., 2021; Yang et al., 2021). Similarly, research by Yaghoubi, Jafari, and Amiri (2018) demonstrated that digital HR initiatives, such as online performance management systems, can enhance employees' job satisfaction and organizational commitment.

However, the present study also highlights the challenges that can arise from digital transformation initiatives if not implemented properly. The need for better integration of HR systems and investment in necessary infrastructure and systems has been previously noted by researchers such as Ojo, Curley, and Nwankwo (2015) and Tapiwa. et al (2022). Moreover, the need for proper change management and user adoption strategies in digital transformation initiatives has been emphasized in recent studies (Gupta & Bhatia, 2021; Kaur et al., 2021) and Alqahtani and Li (2020).

The present study's findings are in alignment with prior research that underscores the advantages and difficulties of digital transformation initiatives in the human resources (HR) domain. The responses presented in this study offer valuable insights into the perceptions of digital transformation in Gauteng, emphasizing the significance of a comprehensive and well-planned approach to adopting new technologies.

This study highlights the importance of a strategic and thoughtful implementation of digital tools in HR, taking into account the unique cultural, organizational, and technological factors that may influence the adoption and success of such initiatives. The analysis presented in this study provides a foundation for further research into the effective management of digital transformation in HR, with the

goal of promoting sustainable and productive outcomes for organizations and their employees.

5.3.7 *Future Digital initiatives*

In this research section, the researcher sought to elicit participants' viewpoints regarding potential digital initiatives that may prove beneficial to the recruitment processes in Gauteng. The primary objective of this inquiry was to ascertain the extent of HR personnel's knowledge regarding digital initiatives that could be most effective in enhancing the recruitment process in Gauteng. Furthermore, the study aimed to identify any possible concerns or issues that may require attention. This information may be useful in designing and implementing more efficient recruitment strategies and processes.

The HR practitioners in Gauteng identified various digital initiatives that could benefit the recruitment process. For instance, they suggested leveraging Robotic Process Automation (RPA), Big data systems, and chatbots in candidate selection, as well as utilizing a customer engagement app to simplify the recruitment process and improve the candidate experience (Davis, 2021). Although the participants did not use the commonly accepted 4IR names, the researcher was able to extract and interpret them as major 4IR technologies such as RPA, Digital assistants, Artificial intelligence, Big data, smart integration, and Artificial intelligence, among others mentioned in Digital business (Lee & Armstrong, 2021).

The study revealed that Human Resources practitioners require end-to-end automation of most of their processes. They identified the need for automated submissions, interviews, offer letters, and rejection letters. Additionally, they requested the expansion of e-recruitment to include a temporary set up of profiles for panel members to ensure that each person is accountable for their actions within the recruitment process (P001, p.17) ;(P002, p.66). Authentication and identity management are critical considerations in the recruitment process, and digital tools can assist in ensuring the security and accuracy of candidate information.

In conclusion, the findings indicate that digital transformation can significantly streamline and improve the recruitment process in Gauteng. By embracing new technologies and digital tools, Gauteng can enhance the user experience, reduce administrative burden, enhance security, and develop the skills of their employees.

a. *Robotic Process Automation*

Robotic Process Automation (RPA) and Chatbots are two digital initiatives that have gained immense popularity in recent years; it is therefore not surprising that Robotic Process automation was suggested for pre-screening, categorisation of candidates, automatic rejections for candidates who do not meet the criteria these technologies were part of the responses of this study (P005, p51).

> *"Maybe a robotic system can work better, is something that we can look into. And then I think the end the main thing here I will suggest that if the system can have an end-to-end support wherein you are able to do everything from the start to the finish with the assistant of the system" (P005, p51)*

Robotic Process Automation (RPA) and Chatbots have gained significant attention from scholars and practitioners in recent years, particularly in the context of e-recruitment (Biesdorf et al., 2018; Mathew et al., 2021). RPA involves the use of software robots to automate repetitive tasks and processes, while chatbots simulate human conversation through text or voice commands (Smith, 2020). These technologies can be utilized to automate various processes in recruitment, including data entry, pre-screening, and report generation (Biesdorf et al., 2018).

The use of RPA and chatbots in recruitment processes has the potential to improve efficiency, reduce costs, and enhance the candidate experience (Mathew et al., 2021). For instance, RPA can save time by automatically rejecting candidates who do not meet the criteria, allowing recruitment teams to focus on more strategic tasks (Biesdorf et al., 2018). Chatbots can be employed to provide immediate assistance to applicants, answer frequently asked questions, and

even automate certain processes like scheduling interviews and onboarding (Li et al., 2018; Deny et al., 2019).

However, it is important to note that the adoption of RPA and chatbots in recruitment processes should be based on a thorough analysis of the organisation's needs and goals (Gupta, 2019). Moreover, it is essential to ensure that employees are adequately trained to use these technologies and that they are integrated seamlessly with other digital initiatives (Mathew et al., 2021).

In conclusion, RPA and chatbots are promising technologies that can aid in automating recruitment processes, enhancing efficiency, and improving the candidate experience. However, their implementation should be evaluated carefully, and their integration with other digital initiatives should be seamless. However, it is crucial to implement them strategically and ensure their alignment with the overall digital strategy of the Gauteng Provincial Government.

b. ***Customer Engagement App***

In this study, respondents suggested that the utilisation of applications that enable panel members and general employees to create their own profiles, upload their resumes, and receive personalised job recommendations based on their skills and qualifications could prove to be advantageous. They believed linking performance development to recruitment could be a potential solution, as it would allow the system to match internal staff with job vacancies based on their qualifications and skills, notify them about available positions, and preselect them (P008, p70).

> *"With the system at hand, I was suggesting that if I specify the need for someone with two years of experience in HR, the system should identify and recommend the right candidate per my requirements. It should notify me immediately once it finds the perfect match based on the job advertisement"(P008, p70).*

In the context of Gauteng, a customer engagement app would be a valuable tool for public servants to engage with potential job seekers and improve their recruitment processes. These apps can be utilized for various purposes, including user and customer support, assisting users in attaching the correct documents, advertising job vacancies, and notifying candidates (P003, p7).

> *"Therefore, it would be helpful if the system could notify applicants that it is not mandatory to submit their qualifications when applying. The qualifications can be submitted once the applicant is called for shortlisting. Additionally, it would be useful if the system could block duplications from being submitted. This will prevent applicants from submitting two of the same qualifications, which can cause confusion during the shortlisting process" (P003, p7)*

By integrating a customer engagement app, Gauteng can offer HR practitioners a personalised and seamless experience, leading to increased satisfaction and adoption. Furthermore, the app could include additional features such as chatbots, messaging, and video interviews to create a convenient and smooth experience for the candidates. This would help speed up the recruitment process, decrease time-to-hire, and improve the quality of new hires. Additionally, it would bring transparency to the selection process.

A customer engagement app can also assist recruitment specialists in establishing and maintaining relationships with candidates even after the hiring process is complete. This can improve candidate retention and help build a talent pipeline for future job opportunities.

The implementation of a customer engagement app in Gauteng as a digital transformation initiative can have several benefits for recruitment processes. It can enhance the efficiency and effectiveness of the recruitment process, improve the candidate experience, and assist in establishing a robust talent pipeline.

5.4 Conceptual Framework

This study utilized the Technology Acceptance Model (TAM) as the primary model to investigate whether the perceived benefits and ease of use were linked to digital transformation in the Gauteng region. The TAM model aims to comprehend the adoption of technology from an individual's point of view. In this case, the individuals studied were working in the Gauteng organisation. The model suggests that the ease of use and perceived benefits increase system adoption. This research revealed that users found the e-recruitment system user-friendly (i.e., easy to use). Participants have been using the system since its inception. However, the challenges and limitations faced by users greatly outweighed the perceived benefits. At times, this led to users discontinuing the use of the system. Nevertheless, this did not reduce the adoption of the system holistically by HR practitioners. Instead, HR practitioners had to adopt the system and find other manual ways to supplement it.

This study found that adopting e-recruitment was not motivated by perceived benefits but rather by ease of use and the subjective norm of organisational mandate. This is because the use of e-recruitment by HR practitioners is part of the Gauteng mandate to modernise its services, and therefore, the system is not optional. The factors that impacted perceived benefits were Inadequate IT infrastructure, a deficiency in customer engagement tools, and a lack of core process and workforce enablement. Upon closer analysis, it became clear that these factors were core Digital Applications and Impact dimensional elements of the Unified Digital Maturity Model. Therefore, using the TAM model in a government can direct deficiencies in factors of the Unified Digital Maturity Model which may need to be addressed.

This study revealed that the indicators that mostly impacted perceived benefits were the factors detailed in the unified maturity model. The research findings indicate that the absence of Digital Application and Impact dimensional elements of the Unified Digital Maturity Model have a greater impact on the perceived benefits of the system. Although the lack of perceived benefits did not decrease adoption in Gauteng due to the presence of ease of use, the factors that affected

perceived benefits hindered Gauteng's digital transformation aspirations as users seldom implemented manual systems alongside e-recruitment. Furthermore, due to its simplicity, the use of TAM can be very useful in creating a roadmap for digital transformation in Gauteng, as it can quickly identify areas that contribute to low maturity levels, especially where time and money are an issue in conducting research.

In this study, the TAM and unified model of digital maturity intersect. A positive user experience (driven by ease of use and perceived benefit) may contribute to individual adoption and overall organisational maturity. TAM guides change management efforts that would ensure that users embrace technology; Gauteng would then use this to help itself manage change and develop a leadership strategy at the broader level to increase its digital maturity.

Below is a depiction of the conceptual framework discovered in the study of e-recruitment: a Digital transformation initiative in the Gauteng Provincial Government.

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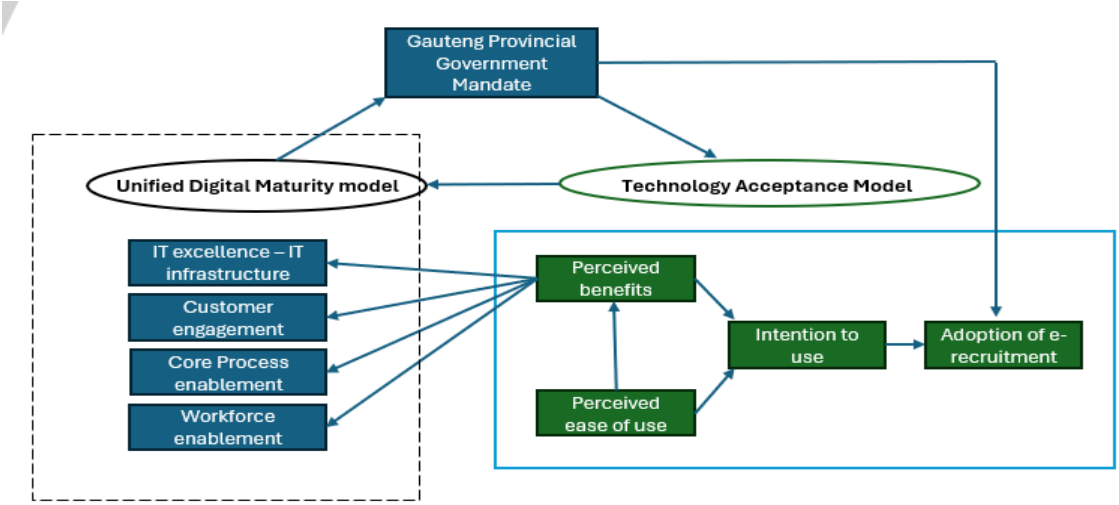

Figure 3 : Conceptual framework for Gauteng Provincial Government

This conceptual framework dictates the use of TAM-related metrics (ease of use, perceived benefits) alongside unified digital maturity indicators (Customer orientation and engagement, Workforce enablement, core process digitisation,

technological/ infrastructure capabilities, and use of data as a strategic asset) when measuring adoption and maturity.

In terms of feedback loops, the TAM considered user feedback, which impacts systems design and improvements. Gauteng can use insights from user experience feedback to inform its organisational digital strategies.

By combining the TAM and UDMM frameworks, the researcher created a conceptual framework that assesses the adoption of e-recruitment in the public sector, responding to the factors and dimensions of the unified digital maturity model.

5.5 Conclusion

The preceding paragraph provides a comprehensive analysis of the e-recruitment program within the context of the Gauteng Provincial Government's digitalisation efforts. By comparing the actual results with prior scholarly research, this study explores the disparities in HR personnel's acceptance and management of e-recruitment. The study's key outcomes reveal that the user experience, system functionality, change management processes, and digital transformation's broader objectives interact in complex ways. While aligning the initiative with strategic digital goals is a positive indicator, users face challenges in adapting to the new system, integrating various systems, and managing vast amounts of data. As the Gauteng Provincial Government continues its journey towards digital transformation, these insights can guide future changes to ensure that e-recruitment not only meets operational needs but also aligns with the overall digitalisation scheme.

CHAPTER 6.

6.1 Summary

It is essential for organisations to establish a robust digital infrastructure, strategy, and system that benefits end-users before initiating any digital implementation or initiatives. To minimise the impact and loss of investment that comes with the lack of use of systems, it is recommended that the Gauteng Provincial Government (GPG) pay attention to concerns about IT excellence, Digital Product innovation, core process digitalisation, and customer orientation and engagement. Challenges detailed in the study are eliminated.

In recent times, the e-recruitment system has become increasingly popular in organizations as it offers a more efficient and effective way of hiring employees. Based on the data collected, it is recommended that GPG consider several steps to improve its e-recruitment system. Firstly, it is imperative to continuously improve the system to make it more user-friendly and efficient, reducing manual efforts and improving record-keeping. Secondly, GPG should address the challenges identified by HR employees in using the system, such as the lack of filters, difficulty in identifying attachments, and inadequate reporting. Thirdly, enhancing the system's features to align with the DPSA recruitment regulations, such as screening and shortlisting processes, enabling compliance in online meetings while ensuring privacy and accountability of panel members, and application form (Z83) integration, is crucial.

Further, promoting digital transformation initiatives within GPG by addressing challenges around administration and reducing hiring timelines, awareness, culture, lack of resources, and resistance to change is important. Therefore, Gauteng must take a special interest in investing in infrastructure, skills development, and data manipulation to ensure that the system can handle large numbers of applicants and provide a seamless end-to-end process with workflows, which is critical. Exploring the use of authentication and identity management, automated rejection letters, customer engagement apps, and

chatbots to enhance the recruitment process and improve user engagement is important.

In conclusion, by implementing these recommendations, GPG can improve its e-recruitment system, making it more efficient, timely, and effective in hiring processes. Furthermore, the findings of this research can serve as the foundation for building GPG's digital transformation roadmap and identifying quick wins in areas that would have otherwise taken a long time to complete.

6.2 Recommendations

6.2.1 *Recommendations for Gauteng Provincial Government*

It is essential for organisations to establish a robust digital infrastructure, strategy, and system that benefits end-users before initiating any digital implementation or initiatives. To minimise the impact and loss of investment that comes with the lack of use of systems, it is recommended that the Gauteng Provincial Government (GPG) pay attention to concerns about IT excellence, Digital Product innovation, core process digitalisation, and customer orientation and engagement. Challenges detailed in the study are eliminated.

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6.2.2 *Recommendations for public sector and other sectors*

Based on the data collected from the focused interviews, it is recommended that the public sector and other sectors in the economy should invest in digital transformation initiatives to improve their recruitment processes. To achieve this, organizations should prioritize user engagement, continuous improvement, and accountability to ensure that the e-recruitment system is user-friendly, efficient, and effective. Additionally, organizations should invest in adequate infrastructure to ensure that the system can handle large numbers and is not affected by slow networks or downtime. This can be achieved through the use of automation tools like RPA and chatbots to streamline the recruitment process and the use of end-to-end workflows to ensure that the system is integrated and eliminates duplication of effort. Finally, organizations should prioritize skills development to ensure that staff have the necessary skills to effectively use the e-recruitment system and make data-driven decisions that will improve the recruitment process.

6.2.3 *Recommendations for future research*

The Gauteng Provincial Government is exploring the use of e-recruitment to transform itself digitally. During this study, several areas were identified that need further examination. These areas not only expand the scope of the study but also provide valuable insights into the use of e-recruitment tools in managing human resources in the public sector.

The study suggests that future research on e-recruitment should focus on several critical areas. Firstly, a detailed analysis of e-recruitment's impact on the quality of hires and employee retention rates is essential to determine its overall effectiveness. Secondly, examining e-recruitment's ability to address diversity and inclusion concerns in the recruitment process is crucial to ensure a fair and equitable process. Thirdly, analysing the long-term cost-benefit of e-recruitment systems is essential to understand the financial implications of implementing such systems. Fourthly, comparing e-recruitment systems used in different sectors and countries and identifying best practices can lead to more efficient and effective recruitment processes. Fifthly, investigating the ethical implications of e-recruitment is necessary to ensure that privacy, bias, and discrimination concerns are addressed. Sixthly, exploring the potential of artificial intelligence and machine learning in e-recruitment systems including its ethical implications. Lastly, analysing the impact of e-recruitment on organizational culture and employee satisfaction is crucial to ensure that technology and the digital divide do not become an issue.

By focusing on these areas, future research can provide a better understanding of the benefits and limitations of e-recruitment systems and identify ways to optimize their effectiveness and efficiency.

The study suggests the use of both AI and machine learning in e-recruitment, and studying this area can lead to new ideas and a better understanding of the ethical implications of using these technologies in e-recruitment systems in the future. Finally, examining how social factors impact access to and use of e-recruitment tools can help us learn more about the issues surrounding the digital divide in the

government. It is essential to ensure that digital change projects are fair and inclusive for all.

6.3 Conclusions

In conclusion, this academic research paper has presented a comprehensive study on e-recruitment as a crucial part of digital transformation in the Gauteng Provincial Government. The research has provided valuable insights on how perceived usefulness in the TAM can assist organisations in identifying challenges which may be hindering them from digitally transforming; it also gave valuable input on some of the digital initiatives which can be used to overcome shortcomings of the digital maturity of an organisation and addressing the challenges that come with it. The study has also identified the e-recruitment system's acceptance level, the problems encountered, and how these issues relate to the broader context of digital transformation.

The findings of this research highlight the potential of e-recruitment as a digital transformation initiative in enhancing system adoption, increasing perceived benefits, and digital maturity. The benefits of e-recruitment systems are significant, but there are also challenges that need to be addressed to ensure that the system is effective in achieving its intended goals. Therefore, it is essential to address these challenges and implement continuous improvement initiatives to leverage e-recruitment systems to enhance digital transformation initiatives.

It is hoped that this research will serve as a valuable contribution to the body of knowledge on e-recruitment and digital transformation, more especially in government settings where decisions about procedures and financial resources are often centralised. Furthermore, it is expected that the recommendations and suggestions provided in this study will assist other government agencies embarking on similar digital transformation journeys. Overall, this research highlights the importance of e-recruitment as a crucial part of digital transformation in the HR space and the need to address challenges continuously to ensure that the system remains relevant and effective in an ever-changing

digital landscape. Further it proposes the use of TAM alongside Unified Digital Maturity Model to come to a quick solution when there are no resources and time to do a holistic assessment using UDMM.

REFERENCES

Abdul, C., Wang, W., & Li, Y. (2020). THE IMPACT OF TECHNOLOGY ON RECRUITMENT PROCESS. *Issues in information Systems*, *21*(4).

Abia, M., & Brown, I. (2020). Conceptualisations of e-recruitment: A literature review and analysis. In *Responsible Design, Implementation and Use of Information and Communication Technology: 19th IFIP WG 6.11 Conference on e-Business, e-Services, and e-Society, I3E 2020, Skukuza, South Africa, April 6–8, 2020, Proceedings, Part II 19* (pp. 370-379). Springer International Publishing.

Al-Adwan, A., Al-Adwan, A., & Al-Dmour, R. (2019). Identifying Challenges and Solutions for E-Recruitment Implementation in Jordanian Universities. Journal of Theoretical and Applied Information Technology, 97(2), 307-321.

AL-Qassem, A. H., Agha, K., Vij, M., Elrehail, H., & Agarwal, R. (2023, March). Leading Talent Management: Empirical investigation on Applicant Tracking System (ATS) on e-Recruitment Performance. In *2023 International Conference on Business Analytics for Technology and Security (ICBATS)* (pp. 1-5). IEEE.

Andrade, M. L., Alves, H., & Fernandes, T. (2020). Digital Transformation: A Review of the Literature and Directions for Future Research. International Journal of Information Management, 52, 1-12. https://doi.org/10.1016/j.ijinfomgt.2020.102070

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 319-340.

Ross, J. W., Beath, C. M., & Goodhue, D. L. (2016). The business value of IT. MIS Quarterly, 24(2), 243-275.

Sebastian, I. M., Ross, J. W., Beath, C., Mocker, M., Moloney, K. G., & Fonstad, N. O. (2020). How big old companies navigate digital transformation. In *Strategic information management* (pp. 133-150). Routledge.

Arifin, S. R. M. (2018). Ethical considerations in qualitative study. *International journal of care scholars*, *1*(2), 30-33.

Babbie, E. R. (2020). *The practice of social research*. Cengage AU.

Bansal, A., Panchal, T., Jabeen, F., Mangla, S. K., & Singh, G. (2023). A study of human resource digital transformation (HRDT): A phenomenon of innovation capability led by digital and individual factors. *Journal of Business Research*, *157*, 113611.

Bersin, J. (2019). The Future of Work is Learning and Adaptation. Retrieved from https://joshbersin.com/2019/07/the-future-of-work-is-learning-and-adaptation/

Bogdanova, M., Parashkevova, E., Veselinova, N., Lazarova, E., & Stoyanova, M. (2023, May). Swot Analysis Of Digital Transformation In Electronic Administrative Services At The Municipal Level. In *13th International Scientific Conference „Business and Management 2023 “*.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Breaugh, J. A. (2008). Employee recruitment: Current knowledge and important areas for future research. *Human Resource Management Review*, *18*(3), 103-118.

Brown, J., & Davis, L. (2019). E-recruitment and data analytics: challenges and opportunities. Journal of Management Information Systems, 36(2), 578-603.

Brown, J., & Williams, C. (2021). E-recruitment and big data: implications for HRM. Human Resource Management Review, 31(1), 100716.

Brunetti, F., Matt, D. T., Bonfanti, A., De Longhi, A., Pedrini, G., & Orzes, G. (2020). Digital transformation challenges: strategies emerging from a multi-stakeholder approach. *The TQM Journal*, *32*(4), 697-724.

Bryman, A. (2016). Social research methods (5th ed.). Oxford University Press, Oxford, UK.

Cham, & Pham, L. T. (2018). Research paradigms in social science research. Springer, Singapore: Springer Nature Switzerland..

Chase, J. (2021, February 17). What are customer engagement apps and how can they benefit your business? Forbes. Retrieved from https://www.forbes.com/sites/johnchase/2021/02/17/what-are-customer-engagement-apps-and-how-can-they-benefit-your-business/?sh=3b5b473c3d18

Chen, C. J., & Huang, J. W. (2009). Strategic human resource practices and innovation performance—The mediating role of knowledge management capacity. *Journal of business research*, *62*(1), 104-114.

Chen, C.-C., & Huang, J.-W. (2021). An empirical study of the factors affecting e-recruitment effectiveness. Personnel Review, 50(4), 685-702. doi: 10.1108/PR-03-2020-0124.

Chohan, S. R., Hu, G., Si, W., & Pasha, A. T. (2020). Synthesizing e-government maturity model: a public value paradigm towards digital Pakistan. *Transforming Government: People, Process and Policy*, *14*(3), 495-522.Chui, M., Manyika, J., & Miremadi, M. (2019). What it takes to lead a digital transformation in government. McKinsey & Company

Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage publications.

Crankshaw, O., & Parnell, S. (2012). Gauteng: A city-region in the making. In A. Harrison, V. Hoyler, & A. Singh (Eds.), Planning and Development: Rethinking Cosmopolitanism (pp. 125-139). Johannesburg: UCL Press.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage publications.

Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.

Dahlbom, P., Siikanen, N., Sajasalo, P., & Jarvenpää, M. (2020). Big data and HR analytics in the digital era. *Baltic Journal of Management*, *15*(1), 120-138.

Davenport, T. (2014). *Big data at work: dispelling the myths, uncovering the opportunities*. Harvard Business Review Press.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace 1. *Journal of applied social psychology*, *22*(14), 1111–1132.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace 1. *Journal of applied social psychology*, *22*(14), 1111-1132.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. sage.

Dias, J., Hamilton, D., Paquette, C., & Sood, R. (2017). How to start building your next-generation operating model. *McKinsey Digital*.

Bughin, J., Catlin, T., Hirt, M., & Willmott, P. (2018). Why digital strategies fail. *McKinsey Quarterly*, *1*(1), 14-25.

Dlamini, B. I., Zogli, L. K. J., & Muzanenhamo, A. (2021). Challenges facing HRM practitioners in achieving organisational effectiveness in South

African state-owned enterprises. *International Journal of Innovation, Creativity and Change, Vol. 15, Issue 10*.

Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., ... & Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, *57*, 101994.

Schulz-Knappe, C., Koch, T., & Beckert, J. (2019). The importance of communicating change: Identifying predictors for support and resistance toward organizational change processes. *Corporate Communications: An International Journal*, *24*(4), 670-685.

Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, *5*(6), 00149.

Ezzy, D. (2018). Qualitative research methods: A practical guide. *Sage Publications,* Thousand Oaks, CA.

Feliciano-Cestero, M. M., Ameen, N., Kotabe, M., Paul, J., & Signoret, M. (2023). Is digital transformation threatened? A systematic literature review of the factors influencing firms' digital transformation and internationalization. *Journal of Business Research*, *157*, 113546.

Fernandes, A. B. A., & Machado, C. F. (2022). E-recruitment and the impact of digital age on recruitment: A critical literature review. *Organizational innovation in the digital age*, 199-209.

Ullrich, A., Reißig, M., Niehoff, S., & Beier, G. (2023). Employee involvement and participation in digital transformation: a combined analysis of literature and practitioners' expertise. *Journal of Organizational Change Management*, *36*(8), 29-48.

Gauteng Provincial Government. (2019). Annual Performance Plans. [Online] Available at: [URL]

Gilani, H., & Jamshed, S. (2016). An exploratory study on the impact of recruitment process outsourcing on employer branding of an organisation. *Strategic Outsourcing: An International Journal*, *9*(3), 303-323.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, *8*(4), 597-607.

Gotz, G., Wray, C., & Mubiwa, B. (2014). Johannesburg 2030: The economic contours of one African city. *Futures*, 62, 56-65.

Howe, L. B. (2022). The spatiality of poverty and popular agency in the GCR: constituting an extended Urban region. *Urban Geography*, *43*(9), 1287-1308.

Grimaldo, J. R., Uy, C., & Manalo, R. (2020). Utilization of E-recruitment tools as perceived by recruiters and job applicants. *Luz y Saber*, *14*(1), 1-13.

Gupta, S. K., & Bhatia, N. (2023). A decade of trend in the employee turnover intention study in India: A systematic review and recommendation. *FIIB Business Review*, 23197145231158907.

Sharma, A., Gupta, J., Gera, L., Sati, M., & Sharma, S. (2020). Relationship between customer satisfaction and loyalty. *Sharma, A., Gupta, J., Gera, L., Sati, M., & Sharma, S.(2020) Relationship between Customer Satisfaction and Loyalty. Social Science Research Network*.

Hie, B. P. (2019). Impact of transforming organizational culture and digital transformation governance toward digital maturity in Indonesian banks. *International Review of Management and Marketing*, *9*(6), 51-57.

Holm, A. B. (2012). E-recruitment: towards an ubiquitous recruitment process and candidate relationship management. *German Journal of Human Resource Management*, *26*(3), 241-259.

Hossain, M., & Uddin, M. A. Adoption Decision of Human Resource Information Systems: A Special Reference to Cement Industry of Bangladesh..

Ikegami, H., & Iijima, J. (2020). Unwrapping efforts and difficulties of enterprises for digital transformation. In *Digital Business Transformation: Organizing, Managing and Controlling in the Information Age* (pp. 237-250). Springer International Publishing.

Aras, A., & Büyüközkan, G. (2023). Digital transformation journey guidance: A holistic digital maturity model based on a systematic literature review. *Systems*, *11*(4), 213.

Ingram, H., & Schneider, A. (1991). The choice of target populations. *Administration & Society*, *23*(3), 333-356.

Ismagilova, E., Hughes, L., Rana, N. P., & Dwivedi, Y. K. (2020). Security, privacy and risks within smart cities: Literature review and development of a smart city interaction framework. *Information Systems Frontiers*, 1-22.

Jones, B. (2015). Qualitative Research Methods. Publisher.

Conner, M. L., & Clawson, J. G. (Eds.). (2004). *Creating a learning culture: Strategy, technology, and practice*. Cambridge University Press.

Jones, M. (2020). User engagement in digital transformation. Journal of Digital Transformation, 1(1), 12-19.

Jones, M. (2020). User engagement in digital transformation. Journal of Digital Transformation, 1(1), 12-19.

Sibiya, B. (2023). *Digital transformation of cities through Emerging Industry 4.0 Smart Technologies and Infrastructure in South Africa* (Doctoral dissertation, University of Johannesburg).

Jones, S. (2018). The costs of resistance to change. Journal of Organizational Behavior, 29(3), 45-57.

Leahy, R. L. (2000). Sunk costs and resistance to change. *Journal of Cognitive Psychotherapy*, *14*(4), 355-371.

Nunamaker, J. F., & Briggs, R. O. (2013, January). Introduction to Collaboration Systems and Technologies Track. In *2013 46th Hawaii International Conference on System Sciences* (pp. 1-1). IEEE.

Kaplan, A., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons*, *62*(1), 15-25.

Kaur, A., & Kaur, P. (2016). E-recruitment: A roadmap towards e-human resource management. Journal of Management and Science, 6(2), 1-8.

Dhamija, P. (2012). E-recruitment: a roadmap towards e-human resource management. *Researchers World*, *3*(3), 33..

Kaur, P., Singh, P., & Singh, A. (2021). Digital HR transformation: A review of literature. *International Journal of Management*, Technology, and Social Sciences (IJMTS), 6(1), 1-8.

UNIVERSITTY, M. M. (2021). Research and Innovation: Infrastructural Preparedness for Emerging Global Challenges.

Kihara, M. M., & Oloko, M. A. (2018). Challenges Facing Administrative Staff in the Shortlisting of Candidates for Interviews in Public Universities in Kenya. International Journal of Education and Research, 6(4), 51-66.

Killam, M. L. (2018). Research paradigms: A guide for beginners. *SAGE Publications,* Thousand Oaks, CA.

Kitsios, F., Kamariotou, M., & Mavromatis, A. (2023). Drivers and outcomes of digital transformation: The case of public sector services. *Information*, *14*(1), 43..

Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. *Sage Open*, *11*(3), 21582440211047576.

Krouse, A. R. (2020). The Impact of Work Alienation on the Relationship Between Person-Organization Fit and Organizational Citizenship Behavior in Higher Education.

Krouse, A. R. (2020). The Impact of Work Alienation on the Relationship Between Person-Organization Fit and Organizational Citizenship Behavior in Higher Education.

Kvale, S. (1996). An introduction to qualitative interviewing.

Leedy, P. D., & Ormrod, J. E. (2015). Practical research: Planning and design (11th ed.). *Pearson Education*, Harlow, UK.

Fernandes, A. B. A., & Machado, C. F. (2022). E-recruitment and the impact of digital age on recruitment: A critical literature review. *Organizational innovation in the digital age*, 199-209.

da Silva Leite, J. R. G. (2021). *Advantages of Using User Experience Design Concepts in the Creation of E-Learning Courses* (Doctoral dissertation, Universidade de Lisboa (Portugal)).

Tyagi, A. A. S. T. H. A. (2012). Effective talent acquisition through e recruitment: a study. *International Journal of Multidisciplinary Research*, *2*(3), 302-312.

Sridevi, G. M., & Suganthi, S. K. Perceived benefits of E-recruitment in Effective Talent Acquisition with reference to IT industry in Bengaluru..

Li, J., Liu, B., & Li, H. (2021). Digital transformation of human resource management in the era of big data. Human Resource Management Review, 31(1), 100784.

Lin, J. (2021). Digital Transformation on the Major of Human Resource Management in Big Data Era. In *2021 International Conference on Applications and Techniques in Cyber Intelligence: Applications and Techniques in Cyber Intelligence (ATCI 2021) Volume 2* (pp. 341-347). Springer International Publishing.

Li, Y., Zhong, R. Y., & Wei, K. K. (2018). The role of digital transformation in driving firm performance: Evidence from China. Journal of Management Information Systems, 35(2), 341-374.

Lim, Z. Y., Yap, J. H., Lai, J. W., Mokhtar, I. A., Yeo, D. J., & Cheong, K. H. (2024). Advancing Lifelong Learning in the Digital Age: A Narrative Review of Singapore's Skills Future Programme. *Social Sciences*, *13*(2), 73.

Lincoln, Y. S., & Guba, E. G. (1988). Criteria for Assessing Naturalistic Inquiries as Reports.

Liu, Y., Liu, Y., Zhang, Y., & Li, J. (2021). Exploring the impact of e-recruitment on recruitment efficiency: Evidence from Chinese firms. International Journal of Human Resource Management, 1-21.

Hong, L. Y., & Froese, F. J. (2023). Recruitment in China. In *Elgar Companion to Managing People Across the Asia-Pacific* (pp. 147-167). Edward Elgar Publishing.

Marais, L. (2016). The potential of e-governance in South African cities. Development Southern Africa, 33(2), 168-182.

Martin, J. P., Desing, R., & Borrego, M. (2022). Positionality statements are just the tip of the iceberg: Moving towards a reflexive process. *Journal of Women and Minorities in Science and Engineering*, *28*(4).

Meyer, M. W., & Norman, D. (2020). Nielsen in Paz et.al (2023) Changing design education for the 21st century. *She Ji: The Journal of Design, Economics, and Innovation*, *6*(1), 13-49.

Miah, M. S., Islam, M. N., & Alam, M. K. (2021). Factors affecting e-recruitment adoption in the context of Bangladesh: An empirical study. Journal of Applied Research in Higher Education, 13(2), 1-18.

Alam, S. S., & Islam, K. Z. (2021). Examining Adoption of Electronic Human Resource Management From the Perspective of Technology

Organization Environment Framework. *IEEE Engineering Management Review*, *49*(4), 59-75

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. sage.

Morse, J. M. (1991). Approaches to qualitative research: A conceptual framework. Sage Publications, Newbury Park, CA.

Morse, J. M., Field, P. A., Morse, J. M., & Field, P. A. (1996). Principles of conceptualizing a qualitative project. *Nursing Research: The Application of Qualitative Approaches*, 35-55.

Moser, A., & Korstjens, I. (2018). Essentials of thematic analysis: A step-by-step guide. *SAGE Publications*, *Thousand Oaks*, CA.

Mosoetsa, S., Stillerman, J., & Tilly, C. (2016). Precarious labor, south and north: An introduction. *International Labor and Working-Class History*, *89*, 5-19.

Naidoo, P., & Patel, S. (2018). The role of digital transformation in the South African public service: A case study of Gauteng Department of e-Government. Journal of Public Administration, 53(1), 54-67.

Naidu.D., (2019). An Exploratory study of trending talent acquisition tools and techniques in the South African Context. University of Pretoria

Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research policy*, *48*(8), 103773.

Nica, E., & Grecu, V. (2019). E-Recruitment Process in the Context of Industry 4.0. In Industry 4.0: Challenges and Opportunities (pp. 247-261). Springer.

Nkosi, M. T. (2019). The impact of digital transformation on the human resource function: A case study of the Gauteng Provincial Government, South

Africa. South African Journal of Information Management, 21(1), 1-8. doi: 10.4102/sajim.v21i1.1067

Odumeru, O. (2017). The impact of e-recruitment on the recruitment process in the public sector in Kenya. Journal of Public Administration and Policy Research, 9(1), 1-13.

JATTO, M. A. THE EFFECTS OF ELECTRONIC RECRUITMENT ON ORGANISATIONAL PERFORMANCE.

Zina, O. (2021). *The essential guide to doing your research project*. Sage.

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and policy in mental health and mental health services research*, *42*, 533-544.

Parry, E., & Tyson, S. (2008). An analysis of the use and success of online recruitment methods in the UK. *Human resource management journal*, *18*(3), 257-274.

Patel, A., & Patel, S. (2019). Research methodology: A guide for beginners. Taylor & Francis, *Abingdon*, UK.

Patton, M. Q. (2015). Qualitative research & evaluation methods (4th ed.). *Sage Publications*, Thousand Oaks, CA.

Paz, F., Huaracha, A., Paz-Sifuentes, F. A., Moquillaza, A., Lecaros, A., Falconi, F., ... & Tapia, A. (2023, July). Comparing Two Sets of Usability Heuristics in a User Experience Evaluation: A Case Study in an E-Commerce Mobile Application. In *International Conference on Human-Computer Interaction* (pp. 69-81). Cham: Springer Nature Switzerland.

RADHA, D. E-RECRUITMENT: AN ADVANTAGE OVER TRADITIONAL RECRUITMENT. DR. ANAND. J.

Reis, J., Amorim, M., Melão, N., & Matos, P. (2018). Digital transformation: a literature review and guidelines for future research. *Trends and Advances in Information Systems and Technologies: Volume 1 6*, 411-421.

Ritchie, J., & Spencer, L. (2002). Qualitative data analysis for applied policy research. In *Analyzing qualitative data* (pp. 173-194). Routledge.

Roh, S. (2019). User-friendliness in mobile interface design: A model and measurement instrument development. Journal of Computer Information Systems, 59(1), 24-36.

Rozario, S. D., Venkatraman, S., & Abbas, A. (2019). Challenges in recruitment and selection process: An empirical study. *Challenges*, *10*(2), 35.

Saeed, S., Hwang, J., & Park, Y. (2018). Digital Transformation: A Literature Review and Guidelines for Future Research. Sustainability, 10(9), 1-19. https://doi.org/10.3390/su10092965

Azarmi, S. L., Oladipo, A. A., Vaziri, R., & Alipour, H. (2018). Comparative modelling and artificial neural network inspired prediction of waste generation rates of hospitality industry: the case of North Cyprus. *Sustainability*, *10*(9), 2965.

Saunders, M., Lewis, P., & Thornhill, A. (2019). Research methods for business students (8th ed.). *Pearson Education*, Harlow, UK.

Selen, B., & Duygun, A. (2020). The impact of e-recruitment on the recruitment process: A study of Turkish public sector organizations. Journal of Management and Strategy, 11(4), 141-160.

Sharma, R., & Rana, N. P. (2016). Factors Affecting Online Job Application Process: An Empirical Study. Journal of Enterprise Information Management, 29(2), 238-257.

Sharma, R., Rana, G., & Agarwal, S. (Eds.). (2022). *Entrepreneurial Innovations, Models, and Implementation Strategies for Industry 4.0*. CRC Press.

Shen, H., & Wang, J. (2019). The impact of e-recruitment on the recruitment process: Evidence from Chinese enterprises. Sustainability, 11 (18), 4914.

Shenkoya, T. (2023). Can digital transformation improve transparency and accountability of public governance in Nigeria?. *Transforming Government: People, Process and Policy*, *17*(1), 54-71.

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, *22*(2), 63-75.

Silverman, D. (2016). Qualitative research: Theory, method, and practice (4th ed.). *Sage Publications*, Thousand Oaks, CA.

Simonofski, A., Vallé, T., Serral, E., & Wautelet, Y. (2021). Investigating context factors in citizen participation strategies: A comparative analysis of Swedish and Belgian smart cities. *International Journal of Information Management*, *56*, 102011..

Sinha, V., & Thaly, P. (2013). A review on changing trend of recruitment practice to enhance the quality of hiring in global organizations. *Management: journal of contemporary management issues*, *18*(2), 141-156.

Smith, A. (2010). Quantitative Research Methods. Publisher.

Smith, J. (2021). Leadership in the Digital Age: The Importance of Digital Transformation. Harvard Business Review. Retrieved from https://hbr.org/2021/06/leadership-in-the-digital-age-the-importance-of-digital-transformation.

Smith, J. (2022). The Selection Process in Organizations. Journal of Human Resources, 10(2), 123-135.

Smith, K. (2021). The Buzzword of the Year. Retrieved from www.businessnews.com.

Smith, K., Jones, L., & Wilson, M. (2019). The role of data management in e-recruitment. *Journal of Business and Psychology*, 34(3), 317–332.

Smith, L. (2019). Digital strategy: Importance and challenges. Forbes. Retrieved from https://www.forbes.com/sites/forbestechcouncil/2019/05/02/digital-strategy-importance-and-challenges/?sh=44baa6b42f0c.

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.

Tapiwa, G. G., Pedzisai, P., Bernard, N., & Mervis, C. (2022). Digitalisation of Human Resources Systems and Process Necessary for Public Sector Transformation in Zimbabwe. In *Transformational Human Resources Management in Zimbabwe: Solutions for the Public Sector in the 21st Century* (pp. 61-74). Singapore: Springer Nature Singapore.

Tarhini, A., Hone, K., & Liu, X. (2015). A cross-cultural examination of the impact of social, organisational and individual factors on educational technology acceptance between British and Lebanese university students. *British Journal of Educational Technology*, *46*(4), 739-755.

Dhamija, P. (2012). E-recruitment: a roadmap towards e-human resource management. *Researchers World*, *3*(3), 33.

Taylor, S., Greenberg, J., & Brown, K. (2019). E-recruitment: past, present and future. *Journal of Management*, 45(2), 594–617.

Teichert, T. (2019). Digital maturity: The next evolution in understanding the digital practice of organizations. *Journal of Business Research*, 102, 279-295.

Vardarlier, P. (2020). Digital transformation of human resource management: digital applications and strategic tools in HRM. *Digital business strategies in blockchain ecosystems: Transformational design and future of global business*, 239-264.

Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273-315.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly,* 27(3), 425-478.

Verina, N., & Titko, J. (2019, May). Digital transformation: conceptual framework. In *Proc. of the Int. Scientific Conference "Contemporary Issues in Business, Management and Economics Engineering* (pp. 9-10).

Vial, G., Bounfour, A., & Carillo, K. (2019). Digital transformation and value creation: A review and a research agenda. *Journal of Business Research*, 98, 360-380. doi: 10.1016/j.jbusres.2018.11.026

West, J., Melkers, J., & Smith, G. (2019). Digital government transformation: A review of the empirical literature. *Public Administration Review*, 79(1), 18-35.

Westerman, G., van de Ven, D., & Oh, W. (2014). Digital transformation: A roadmap for enterprise agility. *MIT Sloan Management Review*, 55(2), 1-12.

World Medical Association. (2013). Declaration of Helsinki: Ethical principles for medical research involving human subjects. Retrieved from *https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/*.

Yang, J., Hu, Y., & Zhou, X. (2021). The impact of e-recruitment on recruitment efficiency: Evidence from China. Asia Pacific Journal of Management, 38(3), 781-798.

Yin, R. K. (2017). Case study research: Design and methods (5th ed.). Sage Publications, *Thousand Oaks*, CA.

Yuan, Y.P., Dwivedi, Y.K., Tan, G.W.H., Cham, T.H., Ooi, K.B., Aw, E.C.X. & Currie, W. (2023). Government digital transformation: Understanding the role of government social media. *Government Information Quarterly*, 40(1)

Zehir, C., Karaboğa, T., & Başar, D. (2020). The transformation of human resource management and its impact on overall business performance: big data analytics and AI technologies in strategic HRM. *Digital Business Strategies in Blockchain Ecosystems: Transformational Design and Future of Global Business*, 265-279.

APPENDIX A (use letters, not numbers)

6.4 Annexure A – 1 Consent Form

Consent Form,

Title of project : E-Recruitment a Digital Transformation Initiative in Gauteng Provincial Government

Name of researcher: Nomsa Makhubele

I, ..., agree to participate in this research project.

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me. I understand what this study is about.	YES	NO
I understand that I can volunteer to take part in the study	YES	NO
I agree that the interview/focus group/other activity may be audio recorded	YES	NO
I agree that direct quotations from my interview/focus group/other activity may be used by the researcher in their research report/ manuscript/book chapter	YES	NO
I agree that my participation will remain anonymous (my name or other identifying data will not be used by the researcher in their research report/manuscript/book chapter)	YES	NO
I agree that other researchers may use the information I provide in my interview/focus group/other activity (depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on	YES	NO

..... (signature)
..... (name of participant)
..... (date)

..... (signature)
..... (name of researcher/person seeking consent)
..... (date)

6.5 Annexure A- 2: Participation Agreement

Participant Information Sheet (PIS

Wits letterhead

Dear Sir / Madam

My name is Nomsa Makhubele. I am a master's student/ in Management at the University of the Witwatersrand, Johannesburg. My supervisor is Prof. Genga. I am conducting a research study about the acceptance of e-recruitment by HR practitioners in order to understand the challenges experienced, and if there are, to investigate further how they relate to Digital Transformation. The study title is E-recruitment as a Digital Transformation Initiative in Gauteng Provincial Government

I am inviting you to take part in an interview & focus group. If you decide to take part, your participation in this research study will last about your acceptance of e-Recruitment, challenges, and recommendations to better the system. The interview activity will take place on Ms. Teams in October and November 2023.

With your permission, I would like to audio/ record the interview and other activities related to e-recruitment. This data will be stored in an external Hard for a period of 3 years thereafter it will be deleted. Only the researcher will have access to the data.

During the research activity, I will need to ask for some personal information about you, including age, your experience in the field, and your qualifications.

The interview will be confidential and anonymous. When I share the results of the research study, I will not include your name or anything else that could identify you. With your permission, other researchers and Gauteng Provincial Government may use the data collected from this research study, but your name and any personal information will not be used or passed on.

If you decide to take part in the research study, it should be because you want to volunteer. You do not have to take part. You can stop being in the study at any time. You do not have to answer any questions if you do not want to. You will not get any direct benefits if you choose to join the research study. You will not lose any services, benefits or rights you would normally have if you decide not to join. Taking part in the research study will not cost you anything. You will not be paid for being in this research study.

This research study will be written up as a research report. The report will be available on the university library website. If you would like to receive a summary of this report, I will be happy to send it to you.

If you have any questions during or afterward about this research study, feel free to contact me or my supervisor at the details listed below. If you have any concerns or complaints about the ethical procedures of this research study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), by telephone at +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za.

Yours sincerely,
Master Student: WBS

Researcher:
Nomsa Makhubele, Wits email, 1764239@Students.wits.ac.za

Supervisor:
Dr Cheryl Genga, Wits email cheryl.genga@gmail.com,

6.6 Annexure A -3 Permission letters received from organisations.

GAUTENG PROVINCE
e-GOVERNMENT
REPUBLIC OF SOUTH AFRICA

Enquiries: Mr. Cyril Baloyi
Directorate: HOD
Tel: +27 (0)11 689-8984
Fax: +27 (0)11 689-6000
Ref: Head of the Department

29 July 2023

Dear Sir/ Madam
Wits Business School

To whom it may concern

Approval Letter for Research Proposal: Digital Transformation initiatives in Gauteng Provincial Government: A case of e-recruitment

The above matter refers.

On behalf of Department of e-Government, I am writing to formally indicate our awareness of the research proposed by Ms Nomsa Makhubele, Student Number: 1764239, a student at Witrs Business School and a staff member in the Corporate Management Branch. We are aware that Ms Nomsa Makhubele intends to conduct her research by administering interviews to our employees.

As Head of Department: I am responsible for the Department, I grant Ms Nomsa Makhubele permission to conduct her research at our organization.

Research Proposal: Digital Transformation initiatives in Gauteng Provincial Government: A case study of e-recruitment

If you have any questions or concerns, please feel free to contact my office at (011)689-8984 or email: myhod.egov@gauteng.gov.za.

Kind regards

MR CYRIL BALOYI
HEAD OF DEPARTMENT
DEPARTMENT OF E-GOVERNMENT
DATE: 29/07/2023

Tel: (011) 689 6000 Hotline: 08600 11000 Website: www.gautengonline.gov.za
Physical Address: 75 Fox Street, Imbumba House, Marshalltown, Johannesburg
Postal Address: Private Bag X112, Marshalltown, 2107

APPENDIX (X) Instrument (Interview Guide for qualitative studies)

Interview guide

Section 1: Introduction and Purpose

My name is Nomsa Makhubele. I am a master's student/ in Management at the University of the Witwatersrand, Johannesburg. My supervisor is Prof. Genga. I am conducting a research study about the acceptance of e-recruitment by HR practitioners in order to understand the challenges experienced, and if there are, to investigate further how they relate to Digital Transformation. The study title is Digital Transformation Initiative in Gauteng Provincial Government e-recruitment case study. This research will assist the leadership in the province to improve the system based on your recommendations.

The interview will be confidential and anonymous. When I share the results of the research study, I will not include your name or anything else that could identify you. With your permission, other researchers and Gauteng Provincial Government may use the data collected from this research study, but your name and any personal information will not be used or passed on.

Section 2: Experience with the e-Recruitment System

1. How many years of experience do you have with the e-recruitment system?
2. Can you describe your general experience with the GPG's e-recruitment system?
3. What features of the e-recruitment system do you use most often?
4. Have you encountered any challenges or difficulties while using the system? If yes, please elaborate.

Section 3: Impact and Effectiveness of e-Recruitment

5. In what ways has the e-recruitment system improved the efficiency and timeliness of hiring processes?
6. Tell me how the e-recruitment system assists you with compliance to the recruitment process as detailed by the DPSA recruitment procedures.
7. In what ways has the e-recruitment system helped streamline administrative tasks and reduce manual efforts?

Section 4: Perception of Digital Transformation in GPG

8. How do you perceive the overall digital transformation initiatives within Gauteng Provincial Government?

9. Do you think the current digital strategies align with the recruitment needs and challenges?
10. In your opinion, what future digital initiatives could be beneficial to the recruitment process in GPG?

Section 5: Recommendations for Improvement

1. Based on your experience with the e-recruitment system, what aspects do you think could be improved?