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Factors influencing the acceptance and use of a South African data-free job search application

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Background: Despite the rise of digital job search tools, many South Africans remain excluded due to connectivity and financial barriers. The digital divide, particularly among youth and low-income groups, limits access to job opportunities, exacerbated by data costs and limited digital skills.

Objectives: This study investigates the factors influencing the acceptance and use of a data-free job search application, focusing on challenges related to connectivity, data costs, and digital skills.

Method: A qualitative approach is employed, analysing Google Play Store reviews through thematic analysis. The Unified Theory of Acceptance and Use of Technology (UTAUT) framework is applied to explore the influence of performance expectancy, effort expectancy, social influence, and facilitating conditions on user adoption.

Results: Performance expectancy, effort expectancy, and facilitating conditions are key drivers of application usage. Positive user experiences with these factors enhance engagement, while negative perceptions of usability and technical issues limit consistent use.

Conclusion: Addressing connectivity and usability issues is essential to improving the acceptance and use of data-free job search applications in South Africa. Enhancing performance expectancy, effort expectancy, social influence, and facilitating conditions can significantly increase user engagement.

Contribution: The study offers practical insights for developers and policymakers to enhance the accessibility and usability of data-free job search tools, promoting more equitable access to job opportunities for disadvantaged groups.

Keywords: youth unemployment; digital divide; data-free; job search applications; UTAUT.

Introduction

Youth unemployment has emerged as a worldwide challenge, impacting not just affluent nations but also those in development. The International Labour Organization (2022) estimated 71 million unemployed young people worldwide: a number that is expected to rise in the coming years. Awad (2019) found that youth unemployment in Africa significantly surpasses global rates. According to Trading Economics (2023), the youth unemployment rate in South Africa is at an all-time high of 62.1% in the first quarter of 2023, an alarming trend hindering economic growth in the country. Youth unemployment in Africa, particularly South Africa, remains a persistent issue, primarily driven by limited access to job opportunities and job search resources. Sumberg et al. (2021) argued that Africa is facing a 'missing jobs' crisis, with the scarcity of employment opportunities having long-term effects on the economy and society.

In South Africa, young graduates entering the job market confront barriers that are worsened by the limited access to job search resources and job opportunities (Graham, Williams & Chisoro 2019). A study by Ohei and Alao (2019) highlighted the severe effects of these limitations: primarily prolonged unemployment. Graham et al.'s (2019) research underscored other challenges: a lack of relevant skills and inadequate access to job search resources. The lack of access has been widely recognised as a significant contributor to the high youth unemployment rates (Sumberg et al. 2021). The negative effects of youth unemployment can be severe and widespread, adding to the impetus to address the issue.

Recruiters are increasingly leveraging Internet-based job search networks to identify suitable candidates. Malki and Atlam (2021) demonstrated how technology empowered graduates to use

web-based e-recruitment systems to access job vacancies in real-time and submit applications without restrictions on time or location. Similarly, Maharjan (2019) found that social media platforms have emerged as a crucial tool for graduates searching for their first job. Chan (2018) highlighted the extensive use of social media in Malaysia for candidate recruitment, with candidates viewing social media as a credible job search source. Rahadi et al. (2022) corroborated this, asserting that social media platforms play a pivotal role in attracting candidates and promoting job opportunities, enhancing the efficacy of e-recruitment. Technology has made job searching faster and more efficient, broadening the talent pool available to recruiters.

Despite policies, such as South Africa Connect, aimed at bridging the digital divide in South Africa, significant disparities persist (Department of Communications 2013). The COVID-19 pandemic in 2020 further exacerbated these issues, revealing the profound impact of the digital divide on youth unemployment (Frans & Pather 2022). This divide prevents many young job seekers from accessing online job search applications, hindering their employment prospects (Ohei & Alao 2019). Challenges such as connectivity issues, limited digital skills and prohibitive data costs restrict access to digital opportunities (Shaw & Wheeler 2023). While there has been an increase in the adoption of Information and Communication Technology (ICT), these advancements have not equitably benefited all socio-economic groups. Low-income populations still face significant barriers to digital access (Elena-Bucea et al. 2021).

Addressing the digital divide is essential for ensuring fair access to employment opportunities, especially in the digital economy. The potential for job creation through digital platforms is substantial; however, the existing divide limits participation and perpetuates unemployment, particularly among the youth (Yu, Lin & Liao 2017). Youth unemployment is not only a critical issue impacting individuals' livelihoods but also has broader implications for societal well-being and economic stability (Jubane 2021). Providing data-free solutions and applications is essential in addressing challenges for individuals without connectivity. By offering data-free options, we can break down barriers, granting access to employment opportunities. Data-free applications can play a pivotal role in breaking down these barriers, thus fostering digital inclusion and promoting socio-economic equality. Evidence from the education sector suggests that data-free solutions can enhance access and inclusion for students (Petersen 2020).

This study focuses on identifying the factors influencing the acceptance and use of a data-free job search application. The primary research question seeks to uncover the barriers to adoption, investigate potential improvements and propose recommendations for enhancing accessibility. It is anticipated that similar strategies in the job search context will promote digital inclusion and contribute to achieving socio-economic equality in South Africa.

Problem statement

Despite the proliferation of digital tools designed to facilitate job searching, a significant portion of the population remains unable to access these resources because of connectivity and financial constraints. The digital divide in South Africa is a barrier that limits equitable access to job opportunities, disproportionately affecting the youth and low-income groups. The COVID-19 pandemic has further highlighted these disparities, as job seekers increasingly rely on online platforms to find employment. However, many are left behind because of limited digital skills, connectivity issues and the high cost of data.

The research question was thus: *Which factors influence the use and acceptance of a data-free job search application?*

The research objectives were as follows:

- To investigate the acceptance and use of a data-free job search application
- To propose recommendations to improve the acceptance and use of a data-free job search application.

Given the potential of the digital economy to create jobs and improve livelihoods, ensuring that all individuals can participate in this economy is crucial. The insights gained from this study can contribute to developing more inclusive digital tools, thereby promoting digital inclusion and socio-economic equality. This study's findings will be valuable for policymakers, developers and stakeholders committed to fostering a more inclusive and equitable digital landscape.

Literature review

The literature review covers two main areas. Firstly, it will examine the evolution of the job search process, focusing on advancements in Internet-based methods and the transformative impact of digital platforms on job seekers and recruiters. Lastly, it will discuss determinants influencing the acceptance and utilisation of the Internet in job searches, encompassing usefulness, ease of use, social influence and demographic variables on technology adoption.

Evolution of the job search process

The job search process has evolved significantly with the advent of Internet-based methods. The literature highlights the transformative impact of digital platforms on job seekers and recruiters. Searching for jobs may be challenging if job seekers are unaware of vacancies. Online job search applications provide a solution where recruiters and job seekers can meet, aiming to fulfil their requirements. These applications are the cheapest and fastest mode of communication, reaching a wide range of workers with a single click, regardless of geographical distance (Shukla et al. 2021).

Zhao (2019) emphasised the growing reliance on mobile phones for various stages of the job search journey, including searching for jobs, researching employers and

accessing interview tips. Choi (2023) also noted the increasing preference for online platforms among job seekers. This evolution underscores the necessity of understanding how digital tools are integrated into the job search process and the factors influencing their acceptance and use. Nguyen, Mai and Hien (2022) highlighted the importance of perceived usefulness among university graduates in Vietnam. Grimaldo and Uy (2019) indicated that recruitment officers utilise online tools when they effectively streamline the recruitment process. The perceived usefulness of an Internet-based job search network can influence users' behavioural intention to accept and use the technology. If job seekers believe that a job search platform can reveal job opportunities that match their skills and qualifications, they are more likely to use the platform to search for jobs.

Perceived ease of use is a crucial factor influencing job seeker and recruitment officer acceptance, adoption and use of Internet-based job search networks. Studies demonstrate the importance of perceived ease of use from job seeker and recruiter perspectives. Findings indicate that job seekers and recruitment officers are more likely to use Internet-based job search networks when they find them user-friendly, convenient and easy to navigate (Al-Amin, Nafi & Amin 2019; Grimaldo & Uy 2019; Nguyen et al. 2022). Hosain and Liu (2020) also found that the functionality and usability of the interface design significantly impact the perceived ease of use. If users perceive that the platform is easy to understand and navigate, they are more likely to adopt and continue using it in their job search or recruitment processes.

The power of social influence underscores the importance of creating a viral culture around Internet-based job search networks. Numerous studies have highlighted social influence as a critical factor in the adoption and usage of Internet-based job search networks by job seekers. Authors found that job seekers are influenced by their peers, family and friends in embracing Internet-based job search networks (Grimaldo & Uy 2019; Nguyen et al. 2022). Encouraging users to share their experiences with family and friends could increase the platform's visibility and adoption. Word-of-mouth recommendations or positive user reviews can also influence adoption by new users. Therefore, it is essential to consider the role of social influence when designing and developing Internet-based job search networks. Creating a platform with excellent user experience and functionality that will encourage users to share their positive experiences should be a priority for developers.

Demographic variables, including gender, age and education, significantly influence technology adoption in job seeking (Khati & Bhusal 2022). Younger job seekers favour the Internet for job searches more than their older counterparts (Mowbray & Hall 2021). Chiwara, Chinyamurindi and Mjoli (2017) found that limited technology and Internet access pose significant barriers to Internet-based job searching, particularly for final-year students in South Africa's Eastern Cape. Job seekers in remote environments face unique obstacles requiring specific interventions to facilitate their access to Internet-based job search networks: limited access to technology and Internet connectivity disproportionately affect these individuals. As a result, policymakers should implement measures to provide reliable and affordable Internet access to all job seekers. Recognising that this process may be time-consuming, developers could create data-free job search apps to bridge this digital gap.

Integration of unified theory of acceptance and use of technology framework

The unified theory of acceptance and use of technology (UTAUT) framework, formulated by Venkatesh et al. (2003), provides a robust theoretical foundation for this study (Figure 1). By integrating the UTAUT framework, the literature review links the identified determinants to the theoretical constructs of performance expectancy, effort expectancy, social influence and facilitating conditions. This integration offers an understanding of the factors influencing the acceptance and use of data-free job search applications.

In this study, performance expectancy is critical as it relates to the extent users believe that the data-free job search application will help them to achieve their job search goals effectively. In the context of data-free job search applications, users are likely to adopt the technology if they perceive it to significantly enhance their chances of finding suitable employment opportunities without the barrier of data costs. Effort expectancy in this study examines whether users find the data-free job search application easy to use. In the South African context, a user-friendly interface and navigation are essential for ensuring that users, particularly those who may have limited digital literacy, can easily engage with the application. If users perceive that they can navigate the job search process with minimal effort, they are more likely to adopt and consistently use the application. Social influence pertains to the degree to which users perceive important individuals, such as peers, family and community members, to endorse the use of the data-free job search application. Facilitating conditions involve the users' perception of the availability of
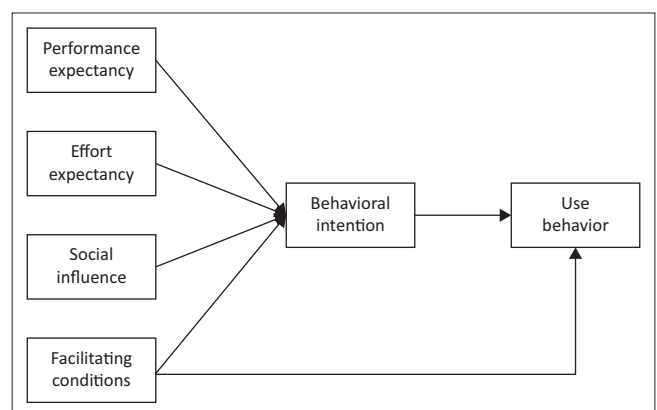
FIGURE 1: Unified theory of acceptance and use of technology model.

resources and support necessary to use the application effectively. In the context of a data-free job search application, facilitating conditions include access to smartphones, technical support and the availability of features that operate seamlessly without requiring constant data connectivity. Ensuring that users have the necessary infrastructure and support to use the application effectively will significantly influence its adoption and sustained use (Venkatesh et al. 2003).

The UTAUT framework has been applied to study technology adoption in job searches. Chiwara et al. (2017) used the UTAUT framework to investigate factors influencing the use of the Internet for job-seeking purposes among final-year students in South Africa. Similarly, Nguyen et al. (2022) used this framework to investigate technology acceptance in seeking jobs among university graduates in Vietnam. Both studies found performance expectancy, effort expectancy and facilitating conditions as crucial predictors for technology adoption in job searching.

By applying the UTAUT framework to this study, we can systematically explore how these constructs influence the acceptance and use of data-free job search applications in South Africa. This approach aligns with the theoretical foundation established by Venkatesh et al. (2003). It also provides practical insights into implementing technology solutions that cater to the needs and contexts of South African job seekers. This contextualisation is crucial for understanding the factors that drive technology adoption in environments with limited resources and connectivity, ultimately contributing to the broader discourse on digital inclusion and socio-economic development.

Research methods and design

The study adopts an interpretivist philosophy, which emphasises understanding the subjective experiences and interpretations of individuals. Interpretivism is particularly suitable for this study, as it allows for an in-depth exploration of user preferences and perceptions regarding data-free job search applications (Saunders, Lewis & Thornhill 2009). This approach is advantageous for comprehending the nuanced factors influencing the acceptance and use of such applications, as it prioritises the meanings constructed by the users themselves (Schwandt 2000).

Exploratory case study

An exploratory case study design is employed to investigate the acceptance and utilisation of data-free job search applications, focusing on the innovative platform, JobX. This case study approach is appropriate for gaining a deep understanding of the context, interactions and underlying factors influencing user behaviour (Myers 1997). JobX, developed by a third-year IT software development student, Mzamo Mbhele, has garnered significant attention with over 40 000 downloads since its launch in November 2020 (Solomons 2022). The platform provides a comprehensive suite of tools designed to empower

job seekers, particularly unemployed youth aged 18–35 years, and ensures accessibility by eliminating data costs.

Using JobX as a case study allows for an immersive examination of user experiences through qualitative data from Google Play Store reviews. This real-life context facilitates the exploration of the complexities surrounding user behaviour and attitudes towards data-free job search applications.

Data sources and sampling

All reviews, a total of 368 reviews, were extracted from JobX on the Google Play Store on 15 April 2023. The use of Application Programming Interfaces (APIs) and web scraping via Python enabled the efficient extraction of user reviews. Web scraping, a technique for extracting data from multiple websites, consolidated the reviews into a single database for analysis (El Asikri, Krit & Chaib 2020).

The collected data were anonymised by removing reviewer names to protect their identities. The data were then transferred to Atlas.ti software for thematic analysis. This rigorous data collection and preparation process ensures high-quality data for subsequent analysis.

Data analysis

Thematic analysis, a qualitative research technique, was employed to systematically identify, examine and report patterns or themes within the textual data (Braun & Clarke 2006). The analysis began with open coding, involving identifying key concepts and organisation into broad themes. Atlas.ti AI coding was utilised to enhance the efficiency of analysis and sub-theme discovery by suggesting codes based on data patterns and keywords. Codes were assigned based on recurring concepts such as usability and accessibility.

The initial coding phase generated codes that were subsequently organised into preliminary themes. These themes represented broader conceptual categories capturing recurring patterns and insights into user feedback regarding the application. For example, codes related to ease of use, user interface and navigation were grouped under the theme 'Effort Expectancy'. Similarly, codes concerning the application's effectiveness in helping users find jobs were grouped under 'Performance Expectancy'. The themes were refined to enhance clarity and coherence, ensuring that they accurately captured user views on factors affecting the acceptance and use of data-free job search applications.

Trustworthiness and transferability

To ensure trustworthiness, the study adheres to established criteria for qualitative studies: credibility, transferability, dependability and confirmability (Guba & Lincoln 1994). Transferability is addressed by providing rich, detailed descriptions of the research context, allowing readers to determine the applicability of findings to other contexts. Dependability is ensured through a transparent and

TABLE 1: Thematic analysis results.

Theme	Edited user reviews	Frequency (%)
Performance expectancy	338	59
Effort expectancy	114	20
Social influence	10	2
Facilitating conditions	100	17
Perceived risk	9	2
Totals	**571**	**100**

systematic research process, while confirmability is maintained by documenting the research procedures and decisions, allowing for external audit and verification.

Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

Results

The usage of the data-free job search application is directly influenced by several factors, each of which plays a critical role in determining how users interact with and benefit from the application. The analysis of Google Play Store reviews provides insights into how these factors shape the use of a data-free application among South African job seekers.

As indicated in Table 1, a sample of 368 user reviews was examined and a total of 571 quotations in alignment with the UTAUT constructs were generated after analysis. This sample is significant as it pertains to individuals who have used a data-free job search application in the South African context.

The table indicates that performance expectancy was the most prominent factor and social influence was the least prominent factor.

Performance expectancy

Performance expectancy, which relates to users' beliefs in the effectiveness and benefits of using the application, is a significant determinant of usage. In this context, it signifies how well users anticipate that the application will assist them to find suitable job opportunities without an Internet connection. In this study, performance expectancy consisted of the following seven sub-themes:

1. *Application Features and Benefits*: This section highlights the benefits of the application, such as ease of use, efficiency, data-free functionality and convenience in creating curricula vitae (CVs) and job searching. 'I'm a G12 Life Orientation teacher always looking for curriculum vitae (CV) Builders to share with my FET Learners Thank you creating an easy-to-use CV app'. Positive attributes contribute to user perceptions of the application's capabilities in assisting them in their job search efforts. Users believe that the application will perform well in helping them find job opportunities efficiently.

2. *Application Improvement Suggestions*: This sub-theme represents user-generated feedback and recommendations aimed at enhancing the app's overall performance and user experience. These quotes – 'It needs to improve a lot'. 'You need to upgrade this app a little bit', 'still needs improvements', and 'They just need to upgrade a few things here and there' – offer specific feedback on various aspects. This organised feedback is valuable for developers and designers seeking to refine the application based on user insights and recommendations.

3. *Application Reliability*: The quotes emphasise user trust in the application's ability to provide accurate and dependable support in their job search endeavours. Phrases such as 'reliable and helpful', 'works perfectly fine' and 'reliable information' all confirm the application's ability to provide accurate and dependable support in their job search endeavours.

4. *Application Usefulness*: The quotes consistently highlight the usefulness and effectiveness of the app in the job search process. 'We love this app, it's making my life easier because it hard to find job but it easy when I'm using this app'. Users express satisfaction with how the application streamlines various aspects of job hunting such as finding relevant opportunities, applying for jobs and creating CVs, aligning with their beliefs and expectations of the application's performance. They expect the application can lead to improved outcomes in their job search efforts.

5. *User Satisfaction*: This thematic code reflects users' overall satisfaction with various aspects of the application, such as receiving alerts, overall quality and positive experiences using the application. Positive feedback, high satisfaction and quotes containing positive adjectives like 'good', 'great', 'excellent', 'awesome' and 'outstanding' to describe the app indicate a strong belief in the application's capability to deliver valuable results. 'Job X is here to bring hope and fight poverty in this country and its societies'. This high level of user satisfaction contributes to users' positive expectations of the application's performance.

6. *User Dissatisfaction*: Likewise, when users express dissatisfaction and frustration with the app, it indicates a lower level of performance expectancy. They describe the app using strong language such as 'lousy', 'nightmare', 'horrible' and 'ridiculous'. Negative feedback and expressions of disappointment suggest that users do not believe the app will effectively help them to achieve their goals in their job search and indicate a mismatch with their expectations of how the app should perform.

7. *Application Feature Performance Problems*: This code addresses issues related to specific features or tools within the application that may not be performing as expected. The comments highlight various issues such as poor performance, data wastage, preference for other applications and bad user experiences. 'It is very slow, the format used for writing a CV/Resume is no longer used'. These issues can directly influence users' belief in the app's effectiveness and usefulness. Features not performing as expected lead to lower performance expectations from the application.

Based on the findings, user expectations and perceptions of the data-free job search application are linked to various factors. The positive attributes highlighted in the 'Application Features and Benefits' section align with user beliefs in the app's capabilities, emphasising ease of use and efficiency. Furthermore, the emphasis on reliability in the 'Application Reliability' section contributes to user trust in the app's consistent and dependable support. Both 'User Satisfaction' and 'Application Usefulness' underscore positive user experiences, albeit from slightly different angles, with high satisfaction levels and belief in the app's effectiveness in streamlining job hunting. Conversely, 'User Dissatisfaction' highlights the negative impact of user dissatisfaction and frustration on their performance expectancy, indicating a mismatch with their expectations.

'Application Feature Performance Problems' sheds light on specific issues directly influencing users' belief in the app's effectiveness and usefulness. Finally, 'Application Improvement Suggestions' highlights proactivity from users who are invested in the app's success and are willing to contribute their insights for its improvement, ultimately contributing to higher performance expectations from the application. These findings collectively provide a comprehensive understanding of how users perceive and anticipate the performance of the data-free job search application. While they share the common idea of evaluating the application's effectiveness, they differ in the aspects emphasised: positive attributes, reliability, user satisfaction, dissatisfaction or feature-related issues. This comprehensive analysis offers valuable insight into the interplay of user expectations and the actual performance of the application.

Effort expectancy

Effort expectancy refers to how easy or difficult it is to use the application. It includes the ease of navigation, accessing information and performing tasks within the application, especially when data limitations are a concern.

The two sub-themes, 'Easy to Use' and 'Positive User Experience', shed light on effort expectancy:

1. *Easy to Use*: Users consistently express that the job search application is easy, straightforward and efficient. They find tasks such as searching for jobs or creating a CV clear, requiring little effort. Phrases like the 'easiest way to apply and seek a job' and 'makes things easy' suggest that the application streamlines various processes, reducing the effort required to perform tasks related to job searching and applying. In addition, some users mention that the app can be used 'without data', confirming that it is designed to function efficiently even with limited or no Internet connectivity.
2. *Positive User Experience*: This thematic code encompasses feedback highlighting the positive aspects of user interaction with the app. Users consistently mention attributes such as user-friendliness, efficiency, convenience and ease of use, all of which contribute to a positive overall experience. Comments such as 'user-friendly', 'efficiency'

and 'ease of use' suggest that users perceive the app as easy and hassle-free, meeting their expectations of effort expectancy. Recognising these positive user experiences can lead to increased user satisfaction and retention.

In the context of a data-free job search application, the sub-themes 'Easy to Use' and 'Positive User Experience' are integral in shaping user perceptions of effort expectancy. The application's user-friendly interface and efficient navigation mean that users can perform tasks with minimal cognitive strain. This aligns with effort expectancy that centres on user expectations of how easy it is to interact with the technology. The streamlined design ensures that users can quickly become proficient with the application. This, in turn, supports their perception of minimal effort required.

'Positive User Experience', characterised by efficiency and convenience, further solidifies user belief in the application's ease of use. These elements collectively contribute to a positive effort expectancy, a pivotal factor for users with limited skills and data access. In essence, the relationship between the two sub-themes is complementary: 'Easy to Use' provides insight into the functional aspects of ease and efficiency. 'Positive User Experience' offers a more holistic view, emphasising the convenience and overall satisfaction that users derive from the application. Together, they paint a comprehensive picture of a job search application that minimises user effort and delivers a highly positive and user-friendly experience.

Social influence

App Endorsement is used in understanding social influence within the context of a data-free job search application.

Application endorsement

The code 'Application Endorsement', a categorisation tool for understanding user sentiments towards the job search application, effectively classifies feedback based on the level of endorsement or recommendation, providing a clear overview of user opinions. For instance, quotes such as 'I highly recommend it', 'definitely recommend it to all job seekers', 'definitely recommend it to all job seekers' and 'I suggest people should try this app' are positive endorsements, indicating a strong inclination to recommend the app. Conversely, a statement such as 'I don't rate this app nor do I recommend it to anyone' conveys a negative sentiment and a lack of endorsement. This classification allows for an analysis of user feedback, revealing trends in application acceptance or rejection.

The given findings collectively underscore the pivotal role of App Endorsement in shaping user perceptions and decisions regarding job search applications. Statements with strong recommendations or endorsements highlight user willingness to advocate for the application, indicating a high level of satisfaction and trust. Conversely, negative sentiments convey a lack of endorsement, signalling areas where improvements may be needed. The influence of peer recommendations

emerges as a common thread. However, while the findings largely converge on the importance of social influence, there may be subtle differences in the degree to which users rely on peer recommendations, potentially influenced by individual preferences and trust in specific sources. Overall, the findings highlight the role of Application Endorsement and Social Influence in the acceptance and use of the data-free job search application.

Facilitating conditions

Given that the application operates in a data-free environment, facilitating conditions are particularly significant, involving elements such as offline capability, clear troubleshooting guidance and dependable technical support for a smooth user experience in application navigation and job search access. These conditions ensure that users can effectively use the application despite experiencing technical challenges. Users depend on these facilitating conditions of the application to access job listings, build their CVs and perform other essential tasks.

The following sub-themes outlined each contribute to facilitating conditions expectancy in the context of a data-free job search application:

1. *Accessibility*: This code highlights the importance of the application as easily reachable, user-friendly, affordable (data-free) and relevant to users' geographical areas. It also reflects the efficient utilisation of resources such as data and space, contributing to the overall accessibility of the service. Quotes such as 'easy-to-use and access job vacancies' and 'accessible for everyone' emphasise ease of use and accessibility for users in accessing job vacancies through the application, highlighting its user-friendliness.
2. *Technology Issues – Accessibility*: This code addresses problems of accessibility because of technological issues, including difficulties in accessing partner sites, incorrect notifications about Internet connectivity, poor connection despite having Wi-Fi and instances of the application indicating no Internet connection. Comments such as 'It kicks you out every time', 'Keeps crashing', 'App does not even open', 'This app doesn't want to get open', 'It's not opening' and 'App does not work' show user reports of frequent crashes and difficulties in simply opening the application. These are significant accessibility problems with the application.
3. *Technical Issues – Functionality*: This code encompasses a wide range of user complaints related to the performance of the mobile application, including issues such as slowness, unresponsiveness, glitches, navigation difficulties and challenges in specific functionalities like building a CV and downloading content. Users express frustration with the application's slow speed ('It is very slow', 'This app is slow'), frequent crashes ('Lousy app keeps crashing when I've only just downloaded it', 'Since I've updated the app, it doesn't work', 'It glitches') and malfunctioning behaviour. Users expressed frustration with the application's overall responsiveness and functionality, indicating areas that need improvement.
4. *Technical Issues – Usability*: This code addresses various problems and difficulties users face while interacting with the job search application, including issues like pop-up ads ('It gives me ads only', 'Too many adverts', 'The only thing that disturbs is many adverts', and 'pop-up ads, they are a bit annoying'); difficulty in searching for jobs; challenges in saving and accessing CVs ('I can't save my CV', 'It doesn't open up the CV guide', 'I'm trying to make a CV but it keeps on kicking me out', 'Can't seem to pass the 2nd stage when creating a CV'); slow performance; problems with application functionality; and frustrations with the user interface. Improving usability is vital for enhancing user experience and facilitating conditions as these issues affect the overall usability and functionality of the application, reducing the satisfaction of user experience (Hoehle & Venkatesh 2015).

The findings reveal that facilitating conditions influence the use of a data-free job search application. Accessibility emerges as a critical theme, emphasising the pivotal need for user-friendly, cost-effective and location-relevant access to job listings, underlining the universal demand for easy navigation and availability. However, technological hurdles pose a significant challenge, with recurrent crashes and connectivity issues necessitating urgent technical attention. Furthermore, functionality concerns, including speed, responsiveness and glitches, significantly impact the overall user experience. Usability challenges further compound matters, with intrusive ads and difficulties in tasks such as CV creation, highlighting the imperative for a seamless user journey. Addressing these concerns is paramount in augmenting user satisfaction and streamlining the job-seeking process.

While most of these sub-themes converge in highlighting the pivotal roles of user experience and dissatisfaction, they diverge in their specific focus, encompassing technical accessibility, usability and security issues. These findings collectively provide a comprehensive framework for understanding facilitating conditions in the context of a data-free job search application, emphasising the multifaceted nature of this critical aspect.

Perceived risk

Based on Khedmatgozar and Shahnazi (2018), perceived risk is the fear of potential negative outcomes when using a data-free job search application. They might also worry about the legitimacy and currency of job listings, which could lead to wasted time and effort. Users highlighted fake job postings, the privacy of personal information and potential scams or phishing attempts. 'Most jobs are scams and fraudulent!' Users may fear their personal information could be misused or exposed because of weak data protection regulations. 'Just ensure that personal data security is your no. 1 priority and fortified against hackers'. These quotes collectively reflect user apprehension about data protection, job legitimacy and privacy concerns related to the platform displaying users' lack of trust and confidence in the application.

In summary, the study revealed several significant insights into the acceptance and use of a data-free job search application in South Africa. Performance expectancy emerged as a critical factor, with users appreciating the application's ease of use, efficiency, data-free functionality and convenience in creating CVs and searching for jobs. Users provided valuable feedback for enhancing the applications's performance, indicating trust in its ability to deliver accurate and dependable support. High user satisfaction contributed positively to performance expectancy, while dissatisfaction highlighted areas needing improvement. Specific issues with application features directly impacted users' belief in the application's effectiveness.

Effort expectancy was shaped by users' perceptions of the application's ease of use and positive user experiences. Users consistently found the application straightforward, efficient and capable of functioning without data, reducing the effort required for job searching. The application's user-friendliness, efficiency and convenience were highlighted, contributing to overall positive user experiences.

Social influence was also a significant factor, with user recommendations playing a crucial role in influencing others to use the application. Positive endorsements indicated high satisfaction, while negative feedback signalled areas for improvement. The role of social influence, although significant, was based on a limited number of endorsements.

Facilitating conditions, including accessibility, technical issues, usability, and safety and security concerns, were pivotal in shaping user perceptions and experiences. The application was appreciated for its user-friendly, affordable (data-free) and geographically relevant features. However, users reported significant technical issues, such as frequent crashes, slow performance and difficulties in accessing partner sites. Usability challenges, including intrusive ads and difficulties in functionalities like CV creation and job searching, were drawbacks.

Discussion

This section discusses each construct in the study based on the theoretical framework, UTAUT.

Performance expectancy

Performance expectancy focuses on how well users expected the application to perform and whether it met those expectations. The overall impact of performance expectancy on a data-free job search application is substantial, accounting for 59% of response quotes. When users have confidence that the application will efficiently connect them with job opportunities despite data limitations, they are more likely to embrace it as an essential tool in their job search journey. Therefore, positive performance expectancy has a positive impact on users' behavioural intentions to use the application (Venkatesh et al. 2003). This is supported by a study identifying factors that influence Internet utilisation for job-seeking purposes among final-year students (Chiwara et al.

2017). According to Venkatesh et al. (2003), behavioural intention directly influences use behaviour. Users who intend to use the JobX application are more likely to engage with it. This is supported by another study investigating the effects of the adoption of e-recruitment sites for job-seeking that use UTAUT2. The study found that performance expectancy of job search sites positively influences the behavioural intentions of professional students to adopt them (Pradeeksha, Krishnan & Ahmed 2021).

Overall, performance expectancy is a key driver of the application's effectiveness and user adoption. The application should focus on improving its features and benefits to enhance performance expectancy. This includes allowing users to tailor the job search experience to their needs and preferences and implementing advanced job-matching algorithms for more accurate and relevant job recommendations. Ensuring the application can perform essential functions offline, such as viewing saved job listings and drafting applications, aligns with user expectations of data-free functionality and enhances accessibility. Regular updates and maintenance to address bugs and incorporate user feedback will ensure that the application remains reliable and up-to-date. Partnering with more companies and job portals to provide a wide range of job opportunities will further increase the application's usefulness and reliability as a comprehensive job search tool. Providing robust user support, including tutorials and guides, will help users navigate the application and utilise its features effectively, enhancing user satisfaction and performance expectancy.

Effort expectancy

Job seekers, especially those with limited access to data or high data costs, require an application that is easy to use and navigate. Users who used the application found it 'easy', 'simple' and 'straightforward' and expressed that they could access job-related information and services without the effort and cost associated with data usage. The strong emphasis on ease of use in the quotes suggests that the application excels in effort expectancy. 'It's user-friendly, its perfect tool to have on your phone, i haven't came across such are unique app; in a long time. So its the best, the best, the best'. This acceptance is essential for the long-term success of the application. Dhiman and Arora (2018) also found that effort expectancy plays a significant role in influencing behavioural intention to the adoption of e-recruitment mobile applications in a study based on the UTAUT2 framework. The application's ease of use ensures that users can effectively utilise its features without hindrances to complex interfaces or complicated processes. Another study investigating how performance expectancy and effort expectancy affect the intention to adopt mobile commerce among Pakistani consumers confirmed that ease of use (effort expectancy) plays a significant role in influencing the behavioural intention to embrace mobile commerce (Sair & Danish 2018).

Recommendations to improve effort expectancy include having an intuitive, user-friendly design that simplifies navigation.

Clear menus, search functions and streamlined processes that reduce the effort required by users. Simplifying the job application process by minimising the data users need to input manually will make the process more efficient. Implementing features that enhance user convenience, such as job alerts, one-click applications and easy CV uploads, can significantly reduce the effort required to use the application. Ensuring the application runs smoothly without lag or crashes will contribute to a positive user experience and higher effort expectancy.

Social influence

Social influence is also a factor in driving user acceptance of the data-free job search application, albeit with a lower proportion in the analysis (2%). These findings emphasise the importance of social influence in shaping user perceptions and decisions regarding job search applications. Users who receive strong recommendations or endorsements are more likely to advocate for the application, indicating user satisfaction. 'It very great app to use, I'll recommend people to try it'. This positive social influence creates a feedback loop, where users influenced by others' positive experiences are more inclined to accept and utilise the application, fostering a larger user community, improving the application's credibility and trustworthiness, and ultimately contributing to the success of the data-free job search application in connecting individuals to employment opportunities. These findings align with previous research emphasising the impact of social factors, such as peer pressure and recommendations, on individuals' technology adoption decisions (Bhukya & Paul 2023).

Encouraging application endorsement can leverage social influence to enhance acceptance. Implementing referral programmes that reward users for recommending the application to others can increase the application's user base. Enabling easy sharing of job listings and application statuses on social media platforms may allow positive experiences shared online to influence others to use the application. Sharing testimonials and success stories from users who have successfully found jobs using the application can build trust and encourage new users to try the application based on positive social influence. Creating forums or discussion groups where users can share experiences, tips and support each other in their job search efforts will foster a sense of community among users.

Facilitating conditions

For a data-free job search application, accessibility without a data connection is a crucial facilitating condition. This eliminates a major barrier to entry for potential users, especially in regions or among demographics where data access is limited or costly (Chinembiri 2020). The findings of the study show that facilitating conditions can have a profound impact on use. While Fadzil (2018) suggested that facilitating condition influence on behavioural intention to use mobile applications is not significant, users who feel supported in navigating the application, troubleshooting technical issues and accessing job listings without data connectivity are more likely to continue using the application.

Improving facilitating conditions involves enhancing the application's offline capabilities to ensure users can access critical features without an Internet connection. Providing robust technical support, including a dedicated helpdesk, FAQs and troubleshooting guides, can help users resolve issues quickly and maintain a positive user experience. Regular performance testing to identify and fix technical issues such as crashes, slow load times and glitches will ensure that the application is technically sound and improve user satisfaction. Addressing usability challenges by simplifying complex processes, reducing intrusive ads and ensuring all functionalities (e.g. CV creation, job search) work seamlessly will enhance the overall user experience.

Perceived risk

Users expressed concerns about job legitimacy, data privacy and potential scams, affecting their trust in the application. Implementing strong data protection measures to ensure user privacy and security will build user trust (Khedmatgozar & Shahnazi 2018). Establishing a verification process for job postings to ensure their legitimacy and protect users from scams may enhance user safety.

Conclusion

In exploring the acceptance of data-free job search applications in the South African context, this study has highlighted critical factors shaping user behaviour, leveraging Google Play Store user reviews as valuable data. The study sought to answer the question: *Which factors influence the acceptance and use of a data-free job search application?* Users' perceptions regarding performance, effort, facilitating conditions and social influence associated with this application were analysed to answer this question.

The study revealed key findings using the UTAUT framework constructs. Performance expectancy, which encompasses users' confidence in the application's effectiveness, emerged as a critical driver of adoption. Effort expectancy, centred on ease of use and positive user experience, played a significant role in reducing perceived effort for job seekers. Facilitating conditions, particularly accessibility without constant data connectivity, proved instrumental in overcoming a barrier to entry. Social influence demonstrated its impact on user perceptions and decisions regarding the application.

However, this study has limitations. The reliance on Google Play Store reviews may not capture the full range of user experiences and perspectives. Future studies could incorporate surveys or interviews to gain a more comprehensive understanding of user acceptance. In addition, the identified technical issues and usability challenges highlight the need for prompt resolution to

improve overall user satisfaction and engagement. Safety and security concerns point to the necessity for stronger measures and trust-building efforts. The impact of social influence was based on a limited number of endorsements and expanding the study to include more user interactions and recommendations could provide a more robust analysis. The lack of quantitative analysis is another shortcoming, as integrating quantitative data could strengthen the findings and offer a more balanced perspective on user acceptance and usage. Lastly, the findings were specific to the South African context; conducting additional studies in other regions would help determine the broader applicability of the results.

To address these limitations, we recommend several future research directions. Incorporating mixed-method approaches, including both qualitative and quantitative data, could provide a deeper and more balanced understanding of user acceptance. Expanding the sample to include more diverse user feedback and conducting longitudinal studies could offer insights into how user perceptions evolve. Additionally, comparative studies across different geographical contexts could highlight regional variations and provide a more comprehensive understanding of the factors influencing the acceptance of data-free job search applications.

In terms of implications, the findings of this study highlight the importance of designing data-free job search applications with a focus on ease of use and facilitating conditions while leveraging social influence. By addressing these factors, developers can enhance user satisfaction, engagement and retention, ultimately improving access to employment opportunities. This study contributes to the field of mobile application acceptance and use, offering specific insights into the South African market. Given South Africa's youth unemployment challenge, geographical relevance and localisation are paramount. Young job seekers require localised content and services that cater to their specific needs. This approach bridges the gap between available opportunities and South African youth's skills and aspirations, contributing to the battle against youth unemployment.

The provision of data-free solutions and applications promotes digital inclusion and socio-economic equality in South Africa. This journey calls for persistent efforts to bridge the digital divide, enhance digital literacy and address data costs. Through these endeavours, a more equitable job market fostering socio-economic development within South Africa can be created.

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Authors' contributions

F.P. conceptualised the research and found the data. T.M. defined the methodology, completed the analysis and wrote the original draft. F.P. validated the results and supervised the project.

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Data availability

The data that support the findings of this study are available from the corresponding author, F.P. upon reasonable request.

Disclaimer

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References

Al-Amin, M., Nafi, S. & Amin, A., 2019, 'Use of social media for job search and application: A perspective from the job seekers in Bangladesh', *Discovery* 55(281), 158–166, viewed 14 March 2023, from https://www.researchgate.net/publication/334736310_Use_of_social_media_for_job_search_and_application_a_perspective_from_the_job_seekers_in_Bangladesh%0Awww.discoveryjournals.org.

Awad, A., 2019, 'Economic globalisation and youth unemployment–evidence from African countries', *International Economic Journal* 33(2), 252–269. https://doi.org/10.1080/10168737.2019.1604787

Bhukya, R. & Paul, J., 2023, 'Social influence research in consumer behavior: What we learned and what we need to learn? – A hybrid systematic literature review', *Journal of Business Research* 162(113870), 1–21. https://doi.org/10.1016/j.jbusres.2023.113870

Braun, V. & Clarke, V., 2006, 'Using thematic analysis in psychology', *Qualitative Research in Psychology* 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Chan, S.M., 2018, *Factors influencing behaviour intention of job seekers towards social media recruitment in Malaysia*, UTAR, Malaysia, viewed 24 April 2023, from http://eprints.utar.edu.my/5119/.

Chinembiri, T., 2020, *Despite reduction in mobile data tariffs, data still expensive in South Africa*, Research ICT Africa, Policy Brief [2], viewed 23 May 2023, from https://africaportal.org/publication/despite-reduction-mobile-data-tariffs-data-still-expensive-south-africa/.

Chiwara, J.R., Chinyamurindi, W.T. & Mjoli, T.Q., 2017, 'Factors that influence the use of the Internet for job-seeking purposes amongst a sample of final-year students in the Eastern Cape province of South Africa', *SA Journal of Human Resource Management* 15, 9. https://doi.org/10.4102/sajhrm.v15i0.790

Choi, E.J., 2023, 'Does the internet help the unemployed find jobs?', *Information Economics and Policy* 62(101017), 1–18. https://doi.org/10.1016/j.infoecopol.2023.101017

Department of Communications, 2013, *South Africa connect: Creating opportunities, ensuring inclusion*, Electronic Communications Act No. 36 of 2005, Government (37119), 3–64, viewed 12 March 2023, from https://www.gpwonline.co.za.

Dhiman, N. & Arora, N., 2018, 'Adoption of e-recruitment mobile apps: A study based on UTAUT2 framework', *Journal of Organisation and Human Behaviour* 7(2), 55–63, viewed 16 March 2023, from http://www.publishingindia.com/johb/48/adoption-of-e-recruitment-mobile-apps-a-study-based-on-utaut2-framework/741/5154/.

El Asikri, M., Krit, S. & Chaib, H., 2020, 'Using web scraping in a knowledge environment to build ontologies using python and scrapy article in', *European Journal of Translational and Clinical Medicine* 7(3), 433–442, viewed 18 April 2023, from https://www.researchgate.net/publication/346215371_Using_Web_Scraping_In_A_Knowledge_Environment_To_Build_Ontologies_Using_Python_And_Scrapy.

Elena-Bucea, A., Cruz-Jesus, F., Oliveira, T. & Coelho, P.S., 2021, 'Assessing the role of age, education, gender and income on the digital divide: Evidence for the European Union', *Information Systems Frontiers* 23(4), 1007–1021. https://doi.org/10.1007/S10796-020-10012-9/FIGURES/4

Fadzil, F., 2018, 'A study on factors affecting the behavioral intention to use mobile apps in Malaysia [Elsevier BV]', *SSRN Electronic Journal*, 1–19. https://doi.org/10.2139/ssrn.3090753

Frans, C. & Pather, S., 2022, 'Determinants of ICT adoption and uptake at a rural public-access ICT centre: A South African case study', *African Journal of Science, Technology, Innovation and Development* 14(6), 1575–1590. https://doi.org/10.1080/20421338.2021.1975354

Graham, L., Williams, L. & Chisoro, C., 2019, 'Barriers to the labour market for unemployed graduates in South Africa', *Journal of Education and Work* 32(4), 360–376. https://doi.org/10.1080/13639080.2019.1620924

Grimaldo, J.R. & Uy, C., 2019, 'Factors affecting recruitment officers' intention to use online tools', *Review of Integrative Business and Economics Research* 9(1), 194–208, viewed 24 August 2023, from https://www.researchgate.net/publication/336551570_Factors_Affecting_Recruitment_Officers'_Intention_to_Use_Online_Tools.

Guba, E.G. & Lincoln, Y., 1994, 'Competing paradigms in qualitative research', *Handbook of Qualitative Research* 2(105), 163–194.

Hoehle, H. & Venkatesh, V., 2015, 'Mobile application usability', *MIS Quarterly* 39(2), 435–472. https://doi.org/10.25300/MISQ/2015/39.2.08

Hosain, S. & Liu, P., 2020, 'The impact of social media recruitment on job candidates' perceptions: Evidence from Bangladeshi fresh graduates', *Postmodern Openings* 11(1), 20–41. https://doi.org/10.18662/po/106

International Labour Organization, 2022, *Decent work in the platform economy* (Issue October), viewed 11 June 2023, from https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_855048.pdf.

Jubane, M., 2021, 'Strategies for reducing youth unemployment in South Africa', *Proceedings of the World Conference on Children and Youth* 2(1), 1–11. https://doi.org/10.17501/26731037.2020.2101

Khati, P. & Bhusal, B., 2022, 'E-recruitment sites: Management graduates' perception of an online application system', *The Lumbini Journal of Business and Economics* 10(1–2), 133–152. https://doi.org/10.3126/LJBE.V10I1-2.54211

Khedmatgozar, H.R. & Shahnazi, A., 2018, 'The role of dimensions of perceived risk in adoption of corporate internet banking by customers in Iran', *Electronic Commerce Research* 18(2), 389–412. https://doi.org/10.1007/S10660-017-9253-Z

Maharjan, S., 2019, 'Graduates perception on job search: A critical review', *Quest Journal of Management and Social Sciences* 1(2), 308–317. https://doi.org/10.3126/qjmss.v1i2.27448

Malki, Z. & Atlam, E., 2021, 'Graduate students and companies web based e-recruitment system', *Journal of Computer and Communications* 9, 71–84. https://doi.org/10.4236/jcc.2021.99005

Mowbray, J.A. & Hall, H., 2021, 'Using social media during job search: The case of 16–24 year olds in Scotland', *Journal of Information Science* 47(5), 535–550. https://doi.org/10.1177/0165551520927657

Myers, M.D., 1997, 'Qualitative research in information systems', *MIS Quarterly* 21(2), 241. https://doi.org/10.2307/249422

Nguyen, Q.N., Mai, V.N. & Hien, L.T.D., 2022, 'Technology acceptance in seeking jobs among university graduates in Vietnam', *International Journal of Emerging Technologies in Learning (IJET)* 17(20), 49–61. https://doi.org/10.3991/IJET.V17I20.33229

Ohei, K.N. & Alao, A., 2019, 'Information and communication technology (ICTs) graduates and challenges of employability: A conceptual framework for enhancing employment opportunities in South Africa. Social contact differences between IS and non-IS students', *Gender & Behaviour* 17, 13500–13521, viewed 22 May 2023, from https://www.researchgate.net/publication/344192736_Information_and_Communication_Technology_ICTs_graduates_and_challenges_of_employability_a_conceptual_framework_for_enhancing_employment_opportunities_in_South_Africa.

Petersen, F., 2020, 'Towards student inclusivity during COVID-19: Testing the #datafree Moya Messenger', *Alternation – Interdisciplinary Journal for the Study of the Arts and Humanities in Southern Africa* SP32(1), 294–331. https://doi.org/10.29086/2519-5476/2020/sp32a12

Pradeeksha, N., Krishnan, P. & Ahmed, A., 2021, 'Effects and impact of the adoption of e-recruitment sites for job-seeking', *Journal of Emerging Technologies and Innovative Research* 8(9), 510–524, viewed 01 April 2023, from https://www.jetir.orge510.

Rahadi, R., Farid, M., Muslih, M. & Iskak, J., 2022, 'The role of social media implementation as human resource e-recrutment tool', *International Journal of Business, Economics and Law* 26, 233–240.

Sair, S.A. & Danish, R.Q., 2018, 'Effect of performance expectancy and effort expectancy on the mobile commerce adoption intention through personal innovativeness among Pakistani consumers', *Pakistan Journal of Commerce and Social Science* 12(2), 501–520, viewed 25 March 2023, from https://www.econstor.eu/handle/10419/188355.

Saunders, M., Lewis, P. & Thornhill, A., 2009, 'Understanding research philosophies and approaches', in *Research methods for business students*, pp. 106–136, Pearson Education, Harlow.

Schwandt, T.A., 2000, 'Three epistemological stances for qualitative inquiry: Interpretivism, hermeneutics, and social construction', in N.K. Denzin & Y.S. Lincoln (eds.), *Handbook of qualitative research*, 2nd edn., SAGE Publications, Thousand Oaks, CA.

Shaw, P. & Wheeler, L., 2023, 'Digital networking and the case of youth unemployment in South Africa', In T. Madon, A.J. Gadgil, R. Anderson, L. Casaburi, K. Lee & A. Rezaee (Eds.), *Introduction to development engineering*, pp. 293–321, Springer, Cham. https://doi.org/10.1007/978-3-030-86065-3_12

Shukla, S., Khan, S.A., Singh, H.K. & Sharma, M., 2021, 'Online job search application', *International Journal of Scientific Research in Computer Science, Engineering and Information Technology* 7(2), 520–525, viewed 12 June 2023, from https://www.academia.edu/48863918/Online_Job_Search_Application.

Solomons, L., 2022, 'FEEL GOOD | KZN student develops data-free app to help young job seekers find work | News24', *News24*, viewed 14 March 2023, from https://www.news24.com/news24/southafrica/news/feel-good-kzn-student-develops-data-free-app-to-help-young-job-seekers-find-work-20221231.

Sumberg, J., Fox, L., Flynn, J., Mader, P. & Oosterom, M., 2021, 'Africa's "youth employment" crisis is actually a "missing jobs" crisis', *Development Policy Review* 39(4), 621–643. https://doi.org/10.1111/dpr.12528

Trading Economics, 2023, *South Africa youth unemployment rate*, viewed 19 April 2023, from https://tradingeconomics.com/south-africa/youth-unemployment-rate.

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. https://doi.org/10.2307/30036540

Yu, T.K., Lin, M.L. & Liao, Y.K., 2017, 'Understanding factors influencing information communication technology adoption behavior: The moderators of information literacy and digital skills', *Computers in Human Behavior* 71, 196–208. https://doi.org/10.1016/j.chb.2017.02.005

Zhao, D., 2019, *The rise of mobile devices in job search: Challenges and opportunities for employers*, viewed 17 June 2023, from https://www.glassdoor.com/research/app/uploads/sites/2/2019/06/Mobile-Job-Search-1.pdf.