South African Journal of Economic and Management Sciences
ISSN: (Online) 2222-3436, (Print) 1015-8812

Ubuntu as a contributing factor to small business e-banking adoption

Check for updates

Authors:
Gavin Moss[1]
Peta Thomas[1]

Affiliations:
[1]Department of Business Management, College of Business and Economics, University of Johannesburg, Johannesburg, South Africa

Corresponding author:
Peta Thomas,
pthomas@uj.ac.za

Dates:
Received: 10 Apr. 2026
Accepted: 09 July 2026
Published: 16 Sept. 2026

How to cite this article:
Moss, G. & Thomas, P., 2026, 'Ubuntu as a contributing factor to small business e-banking adoption', *South African Journal of Economic and Management Sciences* 29(1), a6956. https://doi.org/10.4102/sajems.v29i1.6956

Copyright:
© 2026. The Authors. Licensee: AOSIS. This work is licensed under the Creative Commons Attribution 4.0 International (CC BY 4.0) license (https://creativecommons.org/licenses/by/4.0/).

Read online:
Scan this QR code with your smart phone or mobile device to read online.

Background: There has been limited study on the role of culture when investigating factors that affect the adoption of e-banking specific to African small and medium enterprises (SMEs). Adoption continues to be problematic for banks in providing support to SMEs via e-banking.

Aim: The aim of the study was to investigate factors that affect the adoption of e-banking specific to SMEs of Bank X in the Southern African Common Monetary Area (CMA).

Setting: Two hundred and ninety three survey responses by SMEs to an international bank operating in the CMA; wanting to improve it's online services.

Method: The study employed a quantitative survey approach in the geographic region of the CMA, applying a modified unified theory of acceptance and use of technology (UTAUT) model. A limitation is that UTAUT model findings may only reflect e-banking integration needs from the four CMA countries, representing a specific geographic and cultural context of Ubuntu.

Results: Findings show that the collectivist approach by communities with Ubuntu is a contributing factor to low adoption. Social influence was found to have the most predictive power among the high-level variables. Banks should consider using social influencers in designing products that encourage and facilitate e-banking to garner the support of SMEs.

Conclusion: The research highlights useful practical implications for the CMA region because peculiarities of the geographic and cultural context have implications for SME e-banking.

Contribution: This research proposes an e-banking framework incorporating recognition of cultural values such as Ubuntu to encourage a positive impact on SMEs' profitability and sustainability.

Keywords: branch banking; Common Monetary Area; e-banking; technology adoption; SME.

Introduction

A key priority within the global financial sector is to enhance the adoption of digital solutions across all banking activities. Small and medium enterprises (SMEs) represent a substantial share of employment within the economies comprising the Common Monetary Area (CMA).

Increased uptake of e-banking services among SMEs presents significant opportunities: it can facilitate the financial growth of these businesses through improved banking solutions while simultaneously providing financial institutions with access to a broader client base. As SMEs grow or new SMEs are created, the local economy can improve because additional job opportunities may be created (Peris et al. 2013). Consequently, this research aimed to explore, through the viewpoints of staff members employed at branches of a banking institution operating throughout all four CMA nations, how SMEs have responded to the bank's implementation of e-banking services.

The present research contributes to the body of academic knowledge by examining the uptake of e-banking services among SMEs within the CMA, specifically from the vantage point of Southern Africa. The CMA is defined as a fixed-exchange-rate arrangement grouping together four countries, namely South Africa, Lesotho, Namibia and Eswatini (Nchake, Edwards & Rankin 2018).

E-banking is defined as a suite of online banking services based on information technology platforms that provides customers access to their accounts and enables them to perform banking operations on these accounts (Alsayed & Bilgrami 2017). E-banking is a subsection of e-finance and e-commerce that also includes telephone banking, mobile banking, automatic teller machines (ATMs) and banking via social media and messaging platforms, among other available e-banking options (Nsouli & Schaechter 2002). Examining the link between citizens'

digital e-banking needs and cultural values such as Ubuntu is essential for building understandable and inclusive economic banking ecosystems. The unified theory of acceptance and use of technology (UTAUT) model has limited application in understanding how incorporating a culture in its framework may help affect acceptance of technological advances. Understanding how indigenous principles influence business favours collective well-being, so research to adapt the UTAUT model to explore social values seems essential (Goto & Ramnarain 2026).

The objective of the CMA agreement is the sustained economic development of the economies of the CMA and the acquisition of equitable benefits for all members (Moss & Thomas 2022).

One main advantage for these countries is the stability of exchange rates, which helps improve opportunities for trade among these four countries (Van Zyl 2003).

The definition of an SME varies across the four CMA countries. The thresholds for each are displayed in Table 1.

To ensure consistency across the CMA, this research adopted a unified definition of small and medium-sized enterprises (SMEs), drawing on the key criteria of workforce size and annual revenue as outlined in Table 1. Accordingly, for the context of this study, an SME is classified as an enterprise employing fewer than 50 individuals and generating an annual turnover below 8 million in the respective national currency: Lesotho loti (LSL), Namibian dollar (NAD), Swazi lilangeni (SZL) or South African rand (ZAR). To be included in this investigation, participating SMEs were required to be formally registered within their respective CMA country, actively utilise the banking services provided by Bank X, and satisfy the unified SME criteria established for the purposes of this research.

According to the United Nations (UN) classification, countries with a gross national income (GNI) per capita of less than 4086 US dollars (USD) fall into the category of developing or low- and middle-income country economies; this includes Eswatini, Namibia and Lesotho but not South Africa, which has a GNI per capita of 12 520 USD (UN DESA 2018). Consequently, the implementation of e-banking presents a potential avenue for enhancing the development and expansion of SMEs within the four CMA nations.

TABLE 1: Small and medium enterprise definitions across Common Monetary Area.

CMA country	Total employees	Annual turnover	Source
Namibia	> 100	> 10 million NAD	Ministry of Industrialisation, Trade and SME Development 2016
Lesotho	> 50	Not defined	FinScope (2016)
Eswatini	0–60	<= 8 million SZL	Ministry of Commerce, Industry and Trade 2024
South Africa	> 200	> 64 million ZAR	Zulu 2019

Source: Moss, G. & Thomas, P., 2022, 'Evaluating the adoption of e-banking services by SMEs in the common monetary area', *International Journal of Research in Business and Social Science* 11(8), 204–206. https://doi.org/10.20525/ijrbs.v11i8.2003

Note: Please see the full reference list of the article, Moss, G. & Thomas, P., 2026, 'Ubuntu as a contributing factor to small business e-banking adoption', *South African Journal of Economic and Management Sciences* 29(1), a6956. https://doi.org/10.4102/sajems.v29i1.6956, for more information.

CMA, Common Monetary Area; SME, small and medium enterprise; NAD, Namibian dollar; SZL, Swazi lilangeni; ZAR, South African rand.

Methods

Purpose of the study

There has been limited study specifically investigating the factors that affect the adoption of e-banking by SMEs in developing African economies, and to date, little is known about SMEs' uptake of e-banking in the CMA. This is problematic for banks that wish to provide support to SMEs for the transition to e-banking, given the current move by banks towards embracing digital strategies. Furthermore, there is a need to understand these factors, as the diminishing number of physical bank branches has a potential impact on those SMEs that are not adopting e-banking.

This study's primary objective was to evaluate the adoption of e-banking services by SMEs in the CMA. This research set out to assess the extent to which Bank X, as a key financial partner to a diverse range of SMEs within the CMA, demonstrates both awareness and technical readiness in facilitating its SME customers' engagement with e-banking technologies. Notably, Bank X implements a uniform e-banking platform across all CMA member states. The institution views the adoption of e-banking by SMEs as a critical component, reflecting broader trends towards digitalisation within the global banking sector.

Design methodology and approach

Before embarking on this study, it was important first to find out what had already been explored in the intended field of study. Babbie and Mouton (2001) stated that the researcher should start with a review of the existing body of knowledge to ascertain the way in which other scholars have investigated the research problem of interest, including how they theorised and conceptualised the issues, what was found was empirical, and the effect of the instruments used. Secondary data to underpin the study was sourced from existing academic empirical studies conducted by other researchers in the domain of e-banking in developing countries. The researcher gained ethical permission to proceed with this study from the University of Johannesburg, College of Business and Economics ethics committee numbered 20SOM20. Potential respondents were given a document explaining the study (informed consent approved by the ethics committee) and opted in to the study voluntarily. Their responses are reported anonymously.

The quantitative survey of SMEs of Bank X was undertaken within each of the four CMA countries. To achieve the purposes of this study, a UTAUT model was modified by exploring the influences of trust and technology disruption on the behavioural intention to adopt technology by integrating them into the model, as shown in Figure 1.

According to the UTAUT, the method of adopting a new technology can be separated into four factors: performance

expectancy, effort expectancy, social influence and facilitating conditions. Performance expectancy is the belief that using the technology will improve a current personal process. Effort expectancy focuses on the simplicity or complexity of applying the technology. Social influence focuses on the influence of other people on a choice to use the technology. Facilitating conditions are the external factors that allow the use of a technology.

This model intends to describe user intentions to adopt technology and was proposed during the Web 1.0 era (Venkatesh et al. 2003; Venkatesh, Thong & Xu 2012, Venkatesh, Thong& Xu 2016).

By adapting the hypotheses proposed by the UTAUT model of Venkatesh et al. (2003), the following hypotheses were proposed for this study:

- H1: Performance expectancy positively influences a user's intention to adopt e-banking.
- H2: Effort expectancy positively influences a user's intention to adopt e-banking.
- H3: Social influence positively influences a user's intention to adopt e-banking.
- H4: The facilitating conditions positively affect users' behavioural intention to use e-banking.
- H5: Trust in technology positively affects the behavioural intention to use e-banking.
- H6: Technology disruption positively affects the behavioural intention to use e-banking.

For the quantitative survey data collection, self-completion questionnaires were utilised.

According to Saunders, Thornhill and Lewis (2019), the choice of survey utilised is determined by a variety of aspects such as the features of the respondents, the desire to reach a particular type of person, the responses not being corrupted, sample size considering the response rate, types and number of questions. The questions were adapted from the research of Kabra et al. (2017), as these items have been previously tested to understand behavioural intention to use information technology.

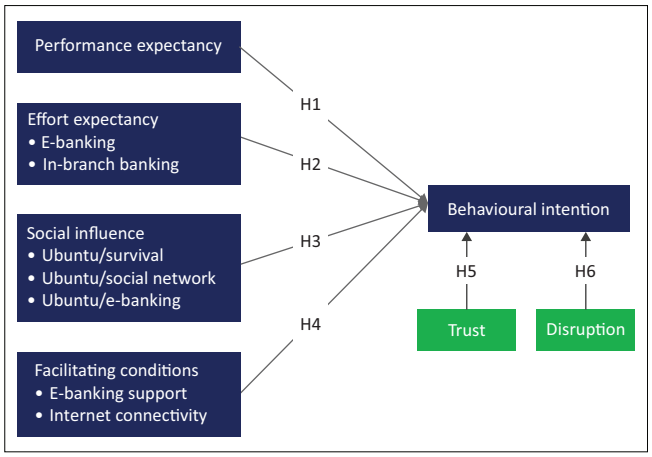

FIGURE 1: Modified unified theory of acceptance and use of technology for e-banking user behaviour in the Common Monetary Area.

A pilot study was conducted among 25 respondents. These individuals were not included in the final respondent sample. The participants were asked to provide feedback to the researcher on the ease of use of the questionnaire and their understanding of the questions. The feedback from the pilot study indicated that none of the respondents had problems answering the questionnaire and considered its items appropriate to the research objectives.

Reliability analysis was completed to determine the reliability of the survey pilot. The internal consistency of the items was measured by using Cronbach's alpha reliability coefficient.

Cronbach's alpha ranges from 0 to 1. Pallant (2020) provides the following rule of thumb for interpreting alpha values: greater than 0.9 are excellent, greater than 0.8 are good, greater than 0.7 are acceptable; anything lower is questionable (>0.6), poor (>0.5), or unacceptable (<0.5). The Cronbach's alphas for the constructs in the pilot study are listed in Table 2.

Once the pilot survey was completed, it was identified that 11 of the survey questions had a Cronbach's alpha value of less than 0.7; therefore, these questions needed to be updated accordingly. Once these questions were updated, the final survey was reviewed by the statistics department of the University of Johannesburg, which confirmed that the changes to the 11 survey questions were relevant. In addition, the statistics department recommended that a minimum of five questions per construct be applied to improve the reliability and validity of the results; therefore, additional questions were added to the full survey prior to its being released to respondents. Table 3 provides a view of the modifications to the questionnaire between the pilot and full survey being run.

A minimum of 255 responses were required across each of the four CMA countries and various industries in which technology plays a significant role to obtain a valid spread of data. Analysis was conducted in IBM SPSS Statistics (Version 29) (IBM Corp. 2022) to calculate descriptive and inferential statistics (Blunch 2013). Phase 2 comprised an analysis that included descriptive statistics (that summarise the data as a representation of the entire

TABLE 2: Cronbach's alphas of constructs (pilot study).

Construct	Sub-construct	Cronbach's alpha	Number of items
Performance expectancy	-	0.701	5
Effort expectancy	E-banking	0.697	4
	In-branch banking	0.683	4
Social influence	Survival	0.695	2
	Social networks	0.729	5
	Understanding e-banking	0.513	4
Facilitating conditions	E-banking support	0.702	5
	Internet connectivity	0.474	3
Trust	-	0.711	4
Disruption	-	0.714	2
Behavioural intention	-	0.597	3

population of CMA SMEs, such as measures of central tendency and measures of variability). An inferential statistical analysis was undertaken to infer properties from the sample to the CMA SME population. By applying exploratory factor analysis (EFA), the underlying factor or latent variable structures were identified. An EFA and multiple regression analysis were used to analyse the structural relationship between measured variables and latent constructs (Blunch 2013; Kaplan 2009; Osborne 2014).

Ethical considerations

Ethical clearance to conduct this study was obtained from the College of Business and Economics Research Ethics Committee, University of Johannesburg (No. 20SOM20).

Results

The study sought to evaluate the adoption of e-banking channels by SMEs in the CMA. In this study, a total of 293 questionnaires were distributed electronically. All were returned, giving a total response rate of 100%. However, of the 293 questionnaires returned, four were incomplete and were therefore discarded. That left 289 valid questionnaires, giving a valid response rate of 98.63%. Therefore, the survey results were considered for further analysis. This is consistent with the recommendations of Creswell (2013), who opined that a response rate above 80% is a true representation of the target population.

As shown in Table 4, four of the high-level latent variables had a Cronbach's alpha value of between 0.7 and 0.8, while the remainder of the variables had alpha values of between 0.8 and 0.9.

This confirmed that the reliability of the scales was of an acceptable level, according to Pallant (2020). This shows good internal consistency of the items representing the constructs. The total Cronbach's alpha value of the items used in the measurement model is 0.981, which indicates a high level of internal consistency.

Five separate EFAs were performed in this study to assess the factor validity of the following factors: (1) performance and effort expectancy; (2) social influence; (3) facilitating conditions; (4) trust and disruption; and (5) behavioural intention. The Kaiser–Meyer–Olkin (KMO) and Bartlett's test results are presented in Table 5.

TABLE 4: Cronbach's alphas of constructs (full study).

Construct	Sub-construct	Cronbach's alpha	Number of items
Performance expectancy	-	0.875	5
Effort expectancy	E-banking	0.873	5
	In-branch banking	0.712	5
Social influence	Survival	0.763	5
	Social networks	0.883	5
	Understanding e-banking	0.860	5
Facilitating conditions	E-banking support	0.855	5
	Internet connectivity	0.794	5
Trust	-	0.705	5
Disruption	-	0.828	5
Behavioural intention	-	0.866	5
Total of all items used in the measurement model		**0.981**	**55**

TABLE 3: Questionnaire modifications.

Code	Original question	Updated or added question
PE-5	-	It is more cost effective to use e-banking technology than in-branch banking.
EB-3	I require technical expertise to use e-banking technology.	E-banking is easy to use.
EB-5	-	It is more convenient to transact via e-banking channels than at the branch.
IB-1	It is easier to use e-banking channels than going to a branch.	I prefer to bank online.
IB-3	I prefer human interaction to complete banking transactions.	I prefer to bank in a branch.
IB-5	-	I prefer to travel to a branch that use e-banking channels.
SU-1	I believe that everyone should be willing to share how to use e-banking technology with me.	I believe that everyone including my bank should be willing to share how to use e-banking technology with me.
SU-2	I believe that my bank should be willing to share how to use e-banking technology with me.	It is common practice for my bank to sacrifice their time for the good of my business when it comes to using e-banking.
SU-3	It is common practice for my bank to sacrifice their time for the good of my SME when it comes to using e-banking.	I feel that sharing my SME e-banking difficulties with the bank makes me stronger.
SU-4	I feel that sharing my SME e-banking difficulties with the bank makes me stronger.	I would prefer to move banks rather than move from branch banking to e-banking.
SU-5	-	I am comfortable in a cashless society not to use cash for business transactions.
SN-5	-	I trust help from my banker when having difficulties using e-banking technology.
UE-2	I show others how to use e-banking technology.	I am comfortable to teach others how to use e-banking technology.
UE-5	-	Online guides would help me to use e-banking technology.
ES-5	-	A version of an e-banking channel that allows me to practice without initiating real transactions would help me to learn how to use e-banking channels more effectively.
IN-1	Internet penetration in my country of residence is prohibitive in using e-banking channels country wide.	Internet connectivity in my area allows me to access e-banking channels.
IN-5	-	Bank point-of-sale devices are priced reasonably for my business.
TR-3	I have friends or colleagues who trust e-banking systems.	My friends trust e-banking technology.
TR-5	Bank system downtime reduces my trust in online banking channels.	E-banking channels should be available all the time.
DR-5	-	Other lending providers make it easier to obtain a loan compared to my bank.
BI-5	-	I only use e-banking for simple transactions like paying a supplier or checking my account balances.

PE, performance expectancy; EB, e-banking; IB, in-branch banking; SU, survival; SN, social networks; UE, understanding e-banking; ES, e-banking support; IN, internet connectivity; TR, trust; DR, disruption; BI, behavioural intention; SME, small and medium enterprise.

Table 5 shows the KMO measure of sampling adequacy scores ranging from 0.844 to 0.974. All of these are above the threshold value of 0.5, meaning that all the results are suitable for EFA.

In addition, Bartlett's test significance values were all less than 0.001, which are all below the threshold of 0.05; therefore, the results are statistically significant. According to Shrestha (2021), these results meet the criteria for further analysis as they are considered excellent.

The study's independent variables include performance expectancy, effort expectancy, social influence, facilitating conditions, trust and disruption. Of the four hypotheses tested in the theoretical model, all four were supported and found significant. The effect of the independent variables was investigated through linear regression and, based on these results, multiple variables were grouped together to form new variables.

Performance expectancy and effort expectancy were grouped together into a new variable, named convenience expectancy. According to the UTAUT model, performance expectancy is the belief that using the technology will improve a current personal process, while effort expectancy focuses on the simplicity or complexity of applying a technology. The term 'convenience' is used in the context of being able to proceed with something without difficulty, which encompasses both performance and effort, and is measurable in a similar context, being the belief that using technology will or will not improve personal convenience.

Trust and disruption were grouped together to form a new variable, named uncertainty assurance. Trust has been extensively acknowledged in the adoption of technology, while technology disruption of traditional approaches makes provision for the adoption of new technology. The term uncertainty assurance is used in the context of being comfortable with change, which encompasses both disruption and trust and is measurable in a similar context, being the level of trust of new technology, which has a positive or negative impact on e-banking adoption.

TABLE 5: Kaiser–Meyer–Olkin and Bartlett's test results.

Variable construct	KMO test	Bartlett's test	
		df	Sig.
Performance and effort expectancy	0.971	78	< 0.001
Social influence	0.974	91	< 0.001
Facilitating conditions	0.946	45	< 0.001
Trust and disruption	0.931	45	< 0.001
Behavioural intention	0.844	10	< 0.001

Note: KMO measures sampling adequacy for each variable in the model.
KMO, Kaiser–Meyer–Olkin; sig., significance.

A *p*-value is defined as the probability under the assumption of no effect or no difference (null hypothesis), of obtaining a result equal to or more extreme than what was observed. This value measures how likely it is that any observed difference between groups is because of chance. If the *p*-value is less than 0.05, it is judged as significant, and if it is greater than 0.05, it is judged as not significant. The study found that the effect of the variables was statistically significant, although their effect varied, as shown in Table 6.

Based on the new variables described above, the original Hypotheses 1 and 2 were combined into a new hypothesis:

- Convenience expectancy positively influences a user's intention to adopt e-banking.

For similar reasons, the original Hypotheses 5 and 6 were combined into a new hypothesis:

- Uncertainty assurance positively influences a user's intention to adopt e-banking.

Factors affecting the adoption of e-banking

The adoption of technology can be affected by convenience expectancy, social influence, facilitating conditions and uncertainty assurance. These factors drive a user's behavioural intention to adopt technology or not. Each of these is discussed, in turn, in the subsections that follow.

Convenience expectancy

According to the UTAUT model, performance expectancy is the belief that using the technology will improve a current personal process, while effort expectancy focuses on the simplicity or complexity of applying a technology. The term convenience is used in the context of being able to proceed with something without difficulty, which encompasses both performance and effort and is measurable in a similar context, being the belief that using technology will improve personal convenience or not.

Social influence

These findings concur with social cognitive theory (SCT), which proposes that individuals actively construct their own reality through their interactions with the environment, and that they can change their behaviour through learning and self-reflection (Bandura 1986, 1989).

TABLE 6: Results of hypothesis testing.

Variable	Hypothesis relationship	*p*-value	Remark
Convenience expectancy	Composed of performance expectancy and effort expectancy, convenience expectancy has a statistically significant effect on a user's intention to adopt e-banking in the CMA.	< 0.001	Supported
Social influence	Social influence has a statistically significant effect on the adoption of e-banking by SMEs in the CMA.	< 0.001	Supported
Facilitating conditions	Facilitating conditions have a statistically significant effect on the adoption of e-banking by SMEs in the CMA.	< 0.001	Supported
Uncertainty assurance	Composed of trust and disruption, uncertainty assurance has a statistically significant effect on a user's intention to adopt e-banking in the CMA.	< 0.001	Supported

CMA, Common Monetary Area; SME, small and medium enterprise.

Furthermore, qualitative findings support these findings as they revealed that social influence should be centred on direct personal engagement and person-to-person learning. Uleanya (2020) and Nansubuga and Munene (2020) posit that technology, which often is built to improve society globally, may end up aiding the weakening of social ties and roots across Africa, where Ubuntu is culturally central to societal norms. Jembere, Zungu and Onwubu (2026) highlight this as an information technological responsibility to acknowledge cultural aspects, ensuring African identity in business. They state that information technology design should favour local relevance by integrating regional languages, cultural cues and demographic authenticity.

Facilitating conditions

The facilitating conditions for e-banking include SMEs' adopting technology, technology acceptance, technology ease of use and reduced requirement for physical presence. The more favourable the e-banking-facilitating conditions are perceived to be, the more likely bank customers are to increase their use of e-banking. Vijaya and Irwansyah (2019) discovered that the uptake of e-banking is negatively affected by the same factors affecting acceptance, such as low technological proficiency.

Stald et al. (2014) and Venkatesh et al. (2012) concur that facilitating conditions are positively correlated with an individual's intention to use a new technology. However, the weak positive correlation signifies the need to investigate other factors, such as country-related differences.

Stald et al. (2014) argued that, in order to perform e-banking, users must have certain skills, such as operating a computer or mobile device and connecting to the internet. Surprisingly, Bhati, Sharma and Gola (2023) revealed that in India facilitating conditions had no substantial impact on consumers' behavioural intention to adopt e-banking, while Daka and Phiri (2019) revealed that facilitating conditions had an impact on e-banking adoption in Zambia. Therefore, this study's findings could be attributed to the sample, which was limited to one bank, not a range of banks within the CMA region. The limitation of one bank across the four countries in sampling is justified in that the interpretation of the findings would be beneficial to a specific e-banking operationalisation as a competitive advantage undertaken by that bank.

Uncertainty assurance

Trust in banking services can be created via improved client education, technology acceptance and e-banking trust. Trust in technology plays a vital role that affects behavioural intention to adopt technology (Pavlou 2014:110).

The findings reveal a weak positive association of 0.131, which can be an indicator of other factors that need to be investigated. Lin (2011) argued that trust can play an essential role in reducing this uncertainty about the risk associated with the use of technology. Ataya and Ali (2019) discovered that concerns regarding trust and confidentiality have a large influence on user behaviour and attitudes towards e-banking acceptance. For instance, technology security concerns may reduce trust, which, in turn, reduces e-banking usage. Therefore, banks should find ways of improving users' trust by implementing and publishing the various e-banking security technologies in use. This encourages bank customers to be more trusting of e-banking.

Theoretical contribution

In the CMA, the collectivist approach of Ubuntu is a contributing factor to e-banking adoption. This research contributes to the body of work on banking by submitting a different perspective on what drives adoption of e-banking. Financial technology firms and other financial providers are disrupting the current banking model. This study aids banking stakeholders in creating value and could enable the review of the relevant regulatory frameworks to support innovation in the banking sector.

The original conceptual model (see Figure 1) has been modified based on the results of the EFA. The new model (presented in Figure 2) includes the two new variable constructs that led to two new supported hypotheses.

The e-banking adoption model was designed to measure the behavioural intention of SMEs in the CMA to adopt e-banking. This comes at a time when banks in the CMA have adopted digital strategies and are investigating ways to improve the adoption rates of e-banking not just among SMEs but for all of their clients.

Practical contribution

The new model could be used by other banks within the CMA or in other collectivist societies outside of the CMA to support their approach to the adoption of e-banking by SMEs. This model may not be adequate in other CMAs, such as the European Union or other economic communities that do not share a pegged currency (e.g. the Economic Community of West African States, ECOWAS), as the context is different from the CMA.

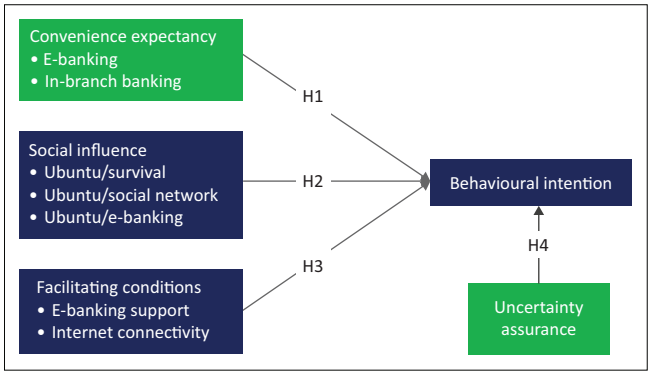

FIGURE 2: E-banking adoption model.

Recommendations

The results reveal that a variety of aspects effect SMEs (in the CMA) in their adoption of e-banking platforms. Social influence was found to have the most predictive power among the high-level variables. Small and medium enterprises' intentions to adopt e-banking are also predicted by aspects such as performance and effort expectancy, facilitating conditions and trust and disruption. The implications for banks in the CMA region are as follows.

Social influence to support the adoption of e-banking technology

Among the overarching variables, social influence was found to be the greatest predictor of e-banking adoption among SMEs. This variable was broken down into three sub-variables, namely, survival, social networking and e-banking. The implication is that, while the other variables positively influence a user's behavioural intention to use e-banking services, social influence is the most important factor. Banks may produce some of the best technological services available, but this will not be enough to improve the adoption levels unless the social impact is understood and harnessed effectively.

There is an opportunity for banks to approach various social influencers in communities and spend time helping these influencers to become expert users of e-banking services. The benefit of this approach is that the influencers then become the 'change champions' in their communities. They may support community members in learning how to use e-banking services, which, in turn, can improve adoption levels among the members of a particular community.

Banking products enabling e-banking adoption

Banks offer a variety of products, some of which are available in branches only, others available online only, and some in combination. Many SMEs in the CMA region prefer the 'instant money' product to other banking products offered. Instant money was preferred, as this is the main product that allows the population of banked customers to transact with the unbanked population, effectively enabling the two groups to interact financially and transfer wealth. Nidugondi and Bhargava (2019) observed a significant trend taking shape with the introduction of mobile wallets and payments such as M-PESA and EcoCash in the CMA, which require only a mobile phone to initiate transactions.

This study revealed insights into the fact that some products are still not available online, such as cash withdrawals, which can be performed only in a branch or at an ATM. However, instant money is a solution that e-banking provides so that clients do not have to go into a branch.

Digital solutions such as this will continue to drive the adoption of e-banking channels by SMEs.

There are, however, services that SMEs still utilise, which are available only in branches, such as using cheques for payment. Many of these traditional services, however, already have a digital equivalent available via e-banking channels. E-banking adoption may be improved through the use of digital branches – physical branches at which clients use e-banking channels to perform transactions, with the assistance of a consultant, if required.

Ataya and Ali (2019) discovered that concerns regarding trust and confidentiality have a large influence on user behaviour towards e-banking acceptance. For instance, any security concerns reduce trust, which, in turn, reduces e-banking utilisation. Concerns about security are one of the leading factors of the slower uptake of e-banking technology in Africa. Therefore, banks should find ways of improving users' trust by advertising the latest e-banking security technologies in use to protect users against unauthorised access to their accounts. This study encourages banks to ensure the availability of reliable and secure e-banking platforms and services that can meet the specific needs and expectations of SMEs. Also, banks should strive to enhance customer service and satisfaction by offering online access, faster processing and personalised products and services.

Disruption in the financial sector is facilitating several changes to the conventional banking model. Coupled with the surge in availability of online devices supported by the ever-increasing levels of internet availability and penetration, this is facilitating the adoption of e-banking technology. Digital-only banks have no branch presence but offer most banking products via various e-banking channels. This business model shows that, in fact, branches are not required to fulfil the mandate of providing banking services.

Facilitating conditions

The proliferation of internet penetration and internet-enabled devices continues to facilitate the right conditions for SMEs to adopt e-banking. By using educational programmes and marketing material that feature the benefits of the services, Bank X should promote e-banking technologies. Furthermore, the bank should use local languages in both the marketing of e-banking technology and on the platforms themselves. The evidence gathered in this research indicates that limited customer trust in e-banking systems remains a considerable obstacle to their broad acceptance and utilisation within the CMA. To address this challenge, it is recommended that financial institutions prioritise the development of robust and technically reliable e-banking platforms, incorporating advanced security protocols to mitigate the risk of unauthorised account access. Furthermore, banks should employ both targeted marketing strategies and in-person engagement opportunities that encourage prospective users to connect with current e-banking customers. By leveraging the power of social influence, as previously discussed, banks can foster greater confidence and facilitate increased uptake of e-banking services throughout the CMA region.

The results demonstrate that both internet banking and mobile banking help to promote e-banking adoption

across the CMA. However, mobile banking is the preferred access method, as mobile devices are becoming the most prevalent points of access to the internet. Therefore, financial institutions should streamline the functionality of their mobile applications by making mobile e-banking simpler and more intuitive to use.

Support from stakeholders

Support and encouragement are required from external stakeholders, such as regulators, suppliers, customers and partners, who can facilitate or mandate the use of e-banking for SMEs. The stakeholders in the financial sector should create educational awareness programmes aimed at SMEs to advise them on the advantages of e-banking over the conventional methods of banking.

Managerial implications

Alternative lenders will continue to disrupt the banking industry while the financial regulations applied to banks differ from the regulations applied to alternative lenders (Brown & Lee 2019; Connolly & Bank 2018; Kraemer-Eis et al. 2019). As these lenders continue to prosper and, in turn, the number of customers applying for loans from traditional banks decreases, banks operating in more than one country would need to reduce cross-border lending, as a bank's financial performance can weaken because of an underperforming economy in which the bank is domiciled. This can be a significant issue in the CMA, given that traditional South African banks have a general presence across the region and can influence all of the economies in the region (Anand et al. 2018; Daly et al. 2019).

Disruption in the financial sector

Disruption in the financial sector, through the presence of new, innovative lenders other than the traditional banks, has driven banks to focus more on digital transformation to drive new revenue streams (Drasch, Schweizer & Urbach 2018; Loonam et al. 2018). Traditional banks are encountering stiff competition for their SME customers from new, innovative lenders seeking to engage SME clients. Other players, such as accounting software providers or enterprise resource-planning providers, are seeking to disintermediate banks by migrating upstream and taking control of SME banking functionality by embedding it into their offerings.

Innovation in banking products

Disruption in the financial sector has driven banks to focus more on digital transformation to drive new revenue streams (Drasch et al. 2018; Loonam et al. 2018). Digital banks often offer lower banking fees and more competitive lending rates because of their lower operational expenditure. However, when it comes to offering a full range of financial services all in one place, traditional banks tend to win out. Digital banks provide an innovative banking business model with branchless banking as its core; this would have been impossible without technology (Dzombo, Kilika & Maingi 2017; Mohan & Viswanathan 2018).

As digital transactions increase, customers will require better financial solutions through interactive tools, for example, a digital interface in the customer's first language, to make the experience as simple and friendly as possible. This is in line with SCT, which posits that social influence should be centred on direct personal engagement and person-to-person learning.

Security concerns

As previously mentioned, e-banking security is important in influencing the adoption of e-banking in Africa. With e-banking continuing to gain momentum, the threat of fraud in financial transactions will also continue to grow. Banks will need to continue to spread awareness about the nature of threats that customers could face, as well as continue to secure their digital infrastructure as cyber security threats increase. Banks currently operate using various forms of layered security checks, allowing the transaction to be stopped at any time if there is a potential security issue. However, as cybercriminals become better at circumventing these controls, banks will need to stay ahead of these criminals to secure both the client's and the bank's own information. Multifactor authentication methods have demonstrated success in online fraud reduction in the banking sector (Althobaiti & Mayhew 2015; Carbone, Ranise & Sciarretta 2019; Sinigaglia et al. 2020).

Impact of e-banking adoption among small and medium enterprises

The SME sector is the backbone of economic activity and employment in both developed and developing economies, with over 90% of all private companies globally classed as SMEs (Muriithi 2017; World Trade Organization 2020). The past 5–10 years have provided difficult business conditions that have challenged SMEs to continue to operate profitably.

Despite the demand from SMEs for lines of credit over this period, banks have struggled to service this market adequately, as there is not a singular approach banks can apply to SMEs, given their variety of needs. Small and medium enterprises' banking requirements are not the same as traditional retail customers, and they often do not require the complex products that large corporate customers require either. SMEs often sit somewhere between retail and corporate banking in their requirements; therefore, SMEs are not going to benefit from retail offerings unless the management of the SMEs apply for funding in their personal capacity (Premoli 2017). Small and medium enterprises often rely on branches for credit and cash, and the reduction in banks' branch networks and the reduction in SME lending can be detrimental to community employment, productivity and growth for the affected SMEs (Greenham & Travers-Smith 2019; Gustafsson, Manduchi & Stephan 2019).

A new look at small and medium enterprise banking following COVID-19

The benefits and popularity of e-banking became more visible during the COVID-19 pandemic when physical branches could not be approached owing to social-distancing requirements. The pandemic forced banks to speed up their digital transition to make banking more accessible online, which has, in turn, increased customer appetite for better technology (Sonea, Guo & Jarvis 2019). The increased adoption of e-banking by SMEs within the CMA will allow banks to improve their support of SMEs by offering additional products via e-banking channels that will enable SMEs to grow their business. The timing is opportune for banks because many of the challenges in providing a relevant service to SMEs can now be overcome through e-banking.

This is the result of not only systems and internet connectivity having improved, but also many SME leaders are more comfortable using technology. The introduction of new digital innovators in this industry may ensure that e-banking development will continue to improve (Balakrishnan 2017; Yanagawa 2018).

Growing expectations of small and medium enterprise banking

Small and medium enterprises will continue to look for innovative online products and services that can support their business needs. Legacy banking technologies need to be revamped by a younger, agile workforce. Traditionally, banks have fulfilled these needs with a physical relationship-managed service proposition. Advances in banking systems, data analytics and customer-relationship management capabilities mean that a digitally led service proposition can be significantly more personal and engaging than a physical approach. Traditional banks can remain a step ahead of digital-only entrants into the market by ensuring a customer experience that is unique across all channels, including physical branches (Coetzee 2018; Degl'Innocenti, Mishra & Wolfe 2017; Ortakoy 2017). Importantly, while there are still business decision-makers who do not keep pace with the latest consumer trends, even digital laggards are now seeing the benefits of new ways of working. Generational shifts mean that the younger, digitally native generation is taking the lead.

The role of culture in SME banking

One of the key tenets of Ubuntu, a concept of collectivism in African culture, is that the group is more important than the individual; therefore, the success of the group is of greater value than the success of the individual (Molose, Goldman & Thomas 2018). The cultural dimension of collectivism in the African context can assist with e-banking adoption: social influencers who have already adopted e-banking may well influence others in their community to adopt e-banking.

Customer self-service using artificial intelligence

Customer self-service is one of the fastest-growing banking customer-experience trends because the number of face-to-face relationships with customers will continue to decrease (Tarrant 2019). Customers who have adopted e-banking can now access their bank's resources online, which allows them to perform many functions that historically the bank would need to perform for them, for example, banking-profile password-lockout resets. Web 3.0 uses artificial intelligence (AI) tools such as Apple's Siri (Aghaei 2012; Allen 2013; Fuchs et al. 2010; Hendler 2009), which allows innovative solutions for improving the customer experience in banking, for example, the option to consult AI-enabled chatbots when facing an issue. Should a particular request exceed the chatbot's capabilities, it is automatically escalated to a live service representative who can help the customer work towards a resolution. Banks and their customers both stand to gain from AI innovation: customers no longer have to waste valuable time waiting to talk to a representative, while banks stand to save substantial resources that would be otherwise funnelled to their call centres.

Data analytics

Most banking customers want to process banking transactions seamlessly and grow their asset value, but they are not always sure where to begin. SMEs in the CMA that have adopted e-banking will require more digital tools to run their business and advanced data analytics applied to their financial accounts (Coetzee 2018; Degl'Innocenti et al. 2017; Ortakoy 2017).

This presents an opportunity for banks to provide advice and products to enable this behaviour by using customer data to provide tailored guidance to each customer's needs. This level of insight is incredibly valuable because it enables banks to offer personalised advice to customers at every stage of their financial journey, build stronger customer relationships and ensure customer loyalty. Data-analytics platforms and machine-learning algorithms can help banks extract valuable information from this customer data, which can be used to develop new products, optimise existing processes, better empower customers and improve the overall customer experience.

Physical branches

The number of clients using physical branches continues to decline annually as the number of digital transactions surpasses cash transactions (De Almeida, Fazendeiro & Inácio 2018; Rofiat 2017). Physical customer service has historically been the key avenue through which banks gain new clients and retain their existing client base. With technology being the first face in digital banking, online support is gradually replacing the personalised service that customers are used to. Customers might not visit physical branches as frequently as they once did, but that does not

mean that banks can afford to decommission all physical branches. The opportunity to engage with a person face-to-face will remain a requirement for many clients, not least SMEs, who often have very individualised problems that require assistance from their banking partners. Digital branches are increasingly a viable option to bring e-banking channels to rural areas, by allowing customers to utilise e-banking channels to perform transactions in the branch, with a consultant available to assist if required.

Conclusion

The aim of the study was to investigate factors that affect the adoption of e-banking specific to SMEs of Bank X in the CMA. The study was underpinned by the UTAUT model by Venkatesh et al. (2003). The model consists of four core constructs, which are the independent variables that influence the dependent variables (behaviours and utilisation of technology). For this study, a modified UTAUT model was adopted that incorporated the influences of trust and disruption towards the behavioural intention of SMEs across the CMA to adopt e-banking.

The conclusions of this research have led to a model to support e-banking adoption. The CMA banking regulations provide a unique, shared economic environment to banks operating in all four countries. A limitation of this study is that the findings about SME e-banking needs may be of value only to banks that cater for SME clients operating in all four CMA countries. The research highlights useful practical implications for this region because peculiarities of the geographic and cultural context with regard to SME e-banking have not been widely researched, particularly in Africa. If these needs of the CMA SME client are not fully understood, the bank cannot respond by improving its e-banking services.

Acknowledgements

This article includes content that overlaps with research originally conducted as part of Gavin Moss' doctoral thesis titled 'Adoption of E-Banking Services by SMEs in the Common Monetary Area', submitted to the Department of Business Management, University of Johannesburg in 2024. The thesis was supervised by Peta Thomas. Portions of the data, analysis and discussion have been revised, updated and adapted for publication as a journal article. The original thesis is publicly available at: https://www.proquest.com/docview/3224565015. The authors affirm that this article complies with ethical standards for secondary publication, and appropriate acknowledgement has been made of the original work.

This article is based on data from a larger study. A related article focusing on evaluating the adoption of e-banking services by SMEs in the common monetary area has been published in *International Journal of Research In Business and Social Science*, 11(8), 2003 (https://www.ssbfnet.com/ojs/index.php/ijrbs/article/view/2003/1526). This article addresses a distinct research question, focusing on Ubuntu as a contributing factor to small business e-banking adoption.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

CRediT authorship contribution

Gavin Moss: Conceptualisation, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft. Peta Thomas: Conceptualisation, Methodology, Supervision, Writing – review & editing. Both authors reviewed the article, contributed to the discussion of results, approved the final version for submission and publication, and take responsibility for the integrity of its findings.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability

The data that support the findings of this study are available on request from the corresponding author, Peta Thomas.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. They do not necessarily reflect the official policy or position of any affiliated institution, funder, agency, or that of the publisher. The authors are responsible for this article's results, findings, and content.

References

Aghaei, S., 2012, 'Evolution of the world wide web: From web 1.0 to web 4.0', *International Journal of Web and Semantic Technology* 3(1), 1–10. https://doi.org/10.5121/ijwest.2012.3101

Allen, M., 2013, 'What was web 2.0? Versions as the dominant mode of internet history', *New Media and Society* 15(2), 260–275. https://doi.org/10.1177/1461444812451567

Alsayed, A. & Bilgrami, A., 2017, 'E-banking security: Internet hacking, phishing attacks, analysis and prevention of fraudulent activities', *International Journal of Emerging Technology and Advanced Engineering* 7(1), 109–115.

Althobaiti, M.M. & Mayhew, P., 2015, 'Assessing usable security of multifactor authentication', *Journal of Internet Technology and Secured Transaction* 4(4), 421–426.

Anand, K., Van Lelyveld, I., Banai, Á., Friedrich, S., Garratt, R., Hałaj, G. et al., 2018, 'The missing links: A global study on uncovering financial network structures from partial data', *Journal of Financial Stability* 35, 107–119. https://doi.org/10.1016/j.jfs.2017.05.012

Ataya, M.A.M. & Ali, M.A., 2019, 'Acceptance of website security on e-banking. A review', in *2019 IEEE 10th Control and System Graduate Research Colloquium*, IEEE, pp. 201–206, viewed 03 August 2026, from https://api.semanticscholar.org/CorpusID:202687418.

Babbie, E. & Mouton, J., 2001, *The practice of social research: South African edition*, Oxford University Press, Southern Africa, Cape Town.

Balakrishnan, M., 2017, 'The importance of digitising payments and the role of acceptance infrastructure – Part 2', *Journal of Digital Banking* 1(4), 358–377. https://doi.org/10.69554/FOSD5224

Bandura, A., 1986, *Social foundations of thought and action*, Prentice Hall, Englewood Cliffs, NJ.

Bandura, A., 1989, 'Human agency in social cognitive theory', *The American Psychologist* 44(9), 1175–1184. https://doi.org/10.1037/0003-066X.44.9.1175

Bhati, J., Sharma, S. & Gola, K.R., 2023, 'Exploring factors behind e-banking adoption in India: A UTAUT model study', in *2023 9th International Conference on Advanced Computing and Communication Systems*, Coimbatore, India, March 17–18, 2023, pp. 2450–2454. https://doi.org/10.1109/ICACCS57279.2023.10113040

Blunch, N.J., 2013, *Introduction to structural equation modeling using IBM SPSS statistics and AMOS*, 2nd edn., Sage, Los Angeles, CA.

Brown, R. & Lee, N., 2019, 'Strapped for cash? Funding for UK high growth SMEs since the global financial crisis', *Journal of Business Research* 99, 37–45. https://doi.org/10.1016/j.jbusres.2019.02.001

Carbone, R., Ranise, S. & Sciarretta, G., 2018, 'Design and security assessment of usable multi-factor authentication and single sign-on solutions for mobile applications: A workshop experience report', in *IFIP International Summer School on Privacy and Identity Management*, pp. 51–66, Springer International Publishing, Cham.

Coetzee, J., 2018, 'Strategic implications of Fintech on South African retail banks', *South African Journal of Economic and Management Sciences* 21(1), 1–11. https://doi.org/10.4102/sajems.v21i1.2455

Connolly, E. & Bank, J., 2018, *Access to small business finance*, Reserve Bank of Australia, viewed 03 August 2026, from https://www.rba.gov.au/publications/bulletin/2018/sep/pdf/access-to-small-business-finance.pdf.

Creswell, J.W., 2013, *Steps in conducting a scholarly mixed methods study*, Sage, Los Angeles, CA.

Daka, G.C. & Phiri, J., 2019, 'Factors driving the adoption of e-Banking services based on the UTAUT model', *International Journal of Business and Management* 14(6), 43–52. https://doi.org/10.5539/ijbm.v14n6p43

Daly, K., Batten, J.A., Mishra, A.V. & Choudhury, T., 2019, 'Contagion risk in global banking sector', *Journal of International Financial Markets, Institutions and Money* 63, 101136. https://doi.org/10.1016/j.intfin.2019.101136

De Almeida, P., Fazendeiro, P. & Inácio, P.R.M., 2018, 'Societal risks of the end of physical cash', *Futures: The Journal of Policy, Planning and Futures Studies* 104, 47–60. [https://doi.org/10.1016/j.futures.2018.07.004].

Degl'Innocenti, M., Mishra, T. & Wolfe, S., 2017, 'Branching, lending and competition in Italian banking', *The European Journal of Finance* 24(3), 208–230. https://doi.org/10.1080/1351847X.2017.1303526

Drasch, B.J., Schweizer, A. & Urbach, N., 2018, 'Integrating the 'troublemakers': A taxonomy for cooperation between banks and fintechs', *Journal of Economics and Business* 100, 26–42. https://doi.org/10.1016/j.jeconbus.2018.04.002

Dzombo, G.K., Kilika, J.M. & Maingi, J., 2017, 'The effect of branchless banking strategy on the financial performance of commercial banks in Kenya', *International Journal of Financial Research* 8(4), 167–183. https://doi.org/10.5430/ijfr.v8n4p167

FinScope, 2016, *Micro, Small, and Medium Enterprises (MSME) survey in Lesotho 2016*, FinMark Trust, *Johannesburg*, viewed 16 August 2026, from https://finmark.org.za/system/documents/files/000/000/283/original/finscope-lesotho-pocket-guide_en.pdf?1609752854.

Fuchs, C., Hofkirchner, W., Schafranek, M., Raffl, C., Sandoval, M. & Bichler, R., 2010, 'Theoretical foundations of the web: Cognition, communication, and co-operation towards an understanding of web 1.0, 2.0, 3.0', *Future Internet* 2(1), 41–59. https://doi.org/10.3390/fi2010041

Goto, J. & Ramnarain, U., 2026, 'Does culture matter in AI adoption? A predictive analysis of cultural dimensions, social influence, and personal innovativeness in the modified UTAUT model', *International Journal of Educational Technology in Higher Education* 23(1), 13. https://doi.org/10.1186/s41239-026-00588-8

Greenham, T. & Travers-Smith, F., 2019, *Cashing out: The hidden costs and consequences of moving to a cashless society*, Royal Society for the Encouragement of Arts, Manufacturers and Commerce, London, viewed 03 August 2026, from https://www.thersa.org/globalassets/pdfs/reports/rsa-cashing-out.pdf.

Gustafsson, A., Manduchi, A. & Stephan, A., 2019, *Do local bank branches reduce SME credit constraints? Evidence from public-private bank interaction*, Research Institute of Industrial Economics, Stockholm, viewed 03 August 2026, from https://www.econstor.eu/bitstream/10419/210946/1/1685469469.pdf.

Hendler, J., 2009, 'Web 3.0 emerging', *Computer* 42(1), 111–113. https://doi.org/10.1109/MC.2009.30

IBM Corp., 2022, *IBM SPSS Statistics for Windows, Version 29.0*, IBM Corp., Armonk, NY.

Jembere, S.T., Zungu, N.P. & Onwubu, S.C., 2026, 'Consumer trust, effort expectancy dimensions, and AI service robot adoption: Refining the AIDUA model in an emerging market', *Journal of International Consumer Marketing* 38(4), 1–18. https://doi.org/10.1080/08961530.2026.2656603

Kabra, G., Ramesh, A., Akhtar, P. & Dash, M.K., 2017, 'Understanding behavioural intention to use information technology: Insights from humanitarian practitioners', *Telematics and Informatics* 34(7), 1250–1261. https://doi.org/10.1016/j.tele.2017.05.010

Kaplan, D., 2009, *Structural equation modelling*, Sage, Los Angeles, CA.

Kraemer-Eis, H., Botsari, A., Gvetadze, S., Lang, F. & Torfs, W., 2019, *European small business finance outlook: December 2019*, European Investment Fund, Luxembourg, viewed 03 August 2026, from https://www.econstor.eu/bitstream/10419/209676/1/1686081774.pdf.

Lin, H.D., 2011, 'An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust', *International Journal of Information Management* 31(3), 252–260. https://doi.org/10.1016/j.ijinfomgt.2010.07.006

Loonam, J., Eaves, S., Kumar, V. & Parry, G., 2018, 'Towards digital transformation: Lessons learned from traditional organizations', *Strategic Change* 27(2), 101–109. https://doi.org/10.1002/jsc.2185

Ministry of Commerce, Industry and Trade, 2024, *Eswatini National Policy for Micro, Small and Medium Enterprises*, The Ministry of Commerce Industry and Trade, Mbabane, viewed 03 August 2026, from https://www.undp.org/sites/g/files/zskgke326/files/2025-02/eswatini_msme_national_policy_2024-2029.pdf.

Ministry of Industrialisation, Trade and SME Development, 2016, *National policy on micro, small and medium enterprises in Namibia 2016-2021*, Ministry of Industrialisation, Trade and SME Development, Windhoek.

Mohan, G.S. & Viswanathan, P.K., 2018, 'Branchless banking – A narrative review', *International Journal of Pure and Applied Mathematics* 118(18E), 4781–4784, viewed 03 August 2026, from https://acadpubl.eu/jsi/2018-118-18/articles/18e/71.pdf.

Molose, T., Goldman, G. & Thomas, P., 2018, 'Towards a collective-values framework of Ubuntu: Implications for workplace commitment', *Entrepreneurial Business and Economics Review* 6(3), 193–206. https://doi.org/10.15678/EBER.2018.060312

Moss, G. & Thomas, P., 2022, 'Evaluating the adoption of e-banking services by SMEs in the common monetary area', *International Journal of Research in Business and Social Science* 11(8), 204–206. https://doi.org/10.20525/ijrbs.v11i8.2003

Muriithi, S., 2017, 'African small and medium enterprises (SMEs) contributions, challenges and solutions', *European Journal of Research and Reflection in Management Science* 5(1), 36–48, viewed 03 August 2026, from https://www.idpublications.org/wp-content/uploads/2017/01/Full-Paper-THE-SATISFACTION-OF-STUDENTS-BY-USING-BLACKBERRY-MESSENGER-IN-SYIAH-KUALA-UNIVERSITY-ACEH.pdf.

Nansubuga, F. & Munene, J.C., 2020, 'Awakening the Ubuntu episteme to embrace knowledge management in Africa', *Journal of Knowledge Management* 24(1), 105–119. https://doi.org/10.1108/JKM-09-2018-0603

Nchake, M.A., Edwards, L. & Rankin, N., 2018, 'Closer monetary union and product market integration in emerging economies: Evidence from the Common Monetary Area in Southern Africa', *International Review of Economics & Finance* 54, 154–164. https://doi.org/10.1016/j.iref.2017.08.004

Nidugondi, S. & Bhargava, M., 2019, 'Mobile money: Creating a cash-light Africa to solve the financial inclusion problem', in A. Chishti, T. Craddock, R. Courtneidge & M. Zachariadis (eds.), *The PAYTECH book*, pp. 217–221, John Wiley & Sons, Chichester.

Nsouli, S.M. & Schaechter, A., 2002, ‚Challenges of the "e-banking revolution"', *Finance & Development* 39(3), 48, viewed 03 August 2026, from https://www.imf.org/external/pubs/ft/fandd/2002/09/nsouli.htm.

Ortakoy, S., 2017, 'Technological branch investments in physical branching strategies of small and medium scale banks', *Pressacademia* 4(1), 199–212. https://doi.org/10.17261/Pressacademia.2017.535

Osborne, J.W., 2014, *Best practices in exploratory factor analysis*, CreateSpace, Charleston, SC.

Pallant, J., 2020, *SPSS survival manual*, 7th edn., McGraw Hill, Open University Press, London.

Pavlou, P.A., 2014, 'Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model', *International Journal of Electronic Commerce* 7(3), 101–134. https://doi.org/10.1080/10864415.2003.11044275

Peris, M., Blinn, N., Nüttgens, M., Lindermann, N. & Von Kortzfleisch, H., 2013, 'Acceptance of professional web 2.0 platforms in regional SME networks: An evaluation based on the unified theory of acceptance and use of technology', in *2013 46th Hawaii International Conference on system sciences*, Wailea, HI, USA. https://doi.org/10.1109/HICSS.2013.70

Premoli, F., 2017, 'The impact of digital innovations on the current banks' offering towards SMEs', Master's thesis, University of Milan, Milan, viewed 03 August 2026, from https://www.politesi.polimi.it/handle/10589/136364.

Rofiat, A., 2017, 'The effect of cashless banking on the financial performance of small and medium scale enterprises', *International Journal of Advanced Research in Public Policy, Social Development and Enterprise Studies* 2(2), 133–142, viewed 03 August 2026, from https://api.semanticscholar.org/CorpusID:201823322.

Saunders, M.N.K., Thornhill, A. & Lewis, P., 2019, *Research methods for business students*, 8th edn., Pearson Education Limited, Harlow.

Shrestha, N., 2021, 'Factor analysis as a tool for survey analysis', *American Journal of Applied Mathematics and Statistics* 9(1), 4–11. https://doi.org/10.12691/ajams-9-1-2

Sinigaglia, F., Carbone, R., Costa, G. & Zannone, N., 2020, 'A survey on multi-factor authentication for online banking in the wild', *Computers and Security* 95, 101745. https://doi.org/10.1016/j.cose.2020.101745

Sonea, A., Guo, W. & Jarvis, S., 2019, 'A tale of two cities: Multiplexed banking access in Birmingham and London', in *2019 IEEE International Smart Cities Conference (ISC2)*, pp. 551–554, IEEE. https://doi.org/10.1109/ISC246665.2019.9071787

Stald, G., Mulgan, G., Martins, F., Leite, C., De Freitas, J., Cardoso, S. et al., 2014, 'Unified theory of acceptance and use of technology (UTAUT): A decade of validation and development', *Revista Brasileira de Informatica Na Educação* 27(1), 80–88.

Tarrant, H., 2019, 'South Africa's big four banks have shut down almost 700 branches this decade', *The Citizen*, viewed 03 August 2026, from https://citizen.co.za/business/2140329/sas-big-four-banks-have-shut-down-almost-700-branches-this-decade/.

Uleanya, C., 2020, 'Ubuntu in the Fourth Industrial Revolution (4IR) and the African society', *African Renaissance* 17(3), 33–45. https://doi.org/10.31920/2516-5305/2020/17n3a2

United Nations Department of Economic and Social Affairs (UN DESA), 2018, *World economic situation and prospects 2018*, United Nations Fund for Population Activities, Havertown, PA, viewed 03 August 2026, from https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/WESP2018_Full_Web-1.pdf.

Van Zyl, L., 2003, 'South Africa's experience of regional currency areas and the use of foreign currencies', in *Regional currency areas and the use of foreign currencies*, pp. 134–139, BIS Papers No. 17, Bank for International Settlements, Basel, viewed 03 August 2026, from https://www.bis.org/publ/bppdf/bispap17.pdf.

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

Venkatesh, V., Thong, J.Y.L. & Xu, X., 2012, 'Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology', *MIS Quarterly* 36(1), 157–178. https://doi.org/10.2307/41410412

Venkatesh, V., Thong, J.Y. & Xu, X., 2016, 'Unified theory of acceptance and use of technology: A synthesis and the road ahead', *Journal of the association for Information Systems* 17(5), 328–376, viewed n.d., from https://ssrn.com/abstract=2800121.

Vijaya, D.P. & Irwansyah, M.R., 2019, 'Perceptions of accessibility and knowledge in small and medium enterprises based on interest using e-banking', in *International Conference on Tourism, Economics, Accounting, Management, and Social Science (TEAMS 19)*, Denpasar, Indonesia October 10–11, 2019. Atlantis Press. https://doi.org/10.2991/teams-19.2019.63

World Trade Organization, 2020, *WTO annual report 2020*, World Trade Organization, Geneva, viewed 03 August 2026, from https://www.wto.org/english/res_e/booksp_e/wtr20_e/wtr20_e.pdf.

Yanagawa, E., 2018, 'Digital transformation in Japan's banking industry', *Journal of Payments Strategy and Systems* 12(4), 351–364. https://doi.org/10.69554/NHNO1734

Zulu, L.D., 2019, *Revised schedule 1 of the national definition of small enterprise in South Africa*, Department of Small Business Development, viewed 03 August 2026, from https://www.gov.za/sites/default/files/gcis_document/201903/423041gon399.pdf.