E-Banking Technology Characteristics and Performance of Micro and Small Enterprise in Kenya: A Moderated Mediation Model of Adoption and Innovative Behavior.

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Purpose- The study investigated the indirect effect of innovative behavior on the relationship between e-banking technology characteristics and micro and small enterprises (MSE) performance through e-banking technology adoption in Kenya.

Design/methodology: The study employed an explanatory research design and a multistage sampling technique to collect cross-sectional data using a self-administered questionnaire. The sample size of 455 MSEs was drawn from a target population of 5915 in Vihiga County, Kenya.

Findings-The study findings showed a complementary mediation of e-banking technology adoption on the relationship between e-banking technology characteristics and MSE performance. Additionally, innovative behavior moderated the association between e-banking technology adoption and MSE performance but did not moderate the relationship between e-banking technology characteristics and e-banking technology adoption. Further, innovative behavior moderates the indirect relationship between e-banking technology characteristics and MSE performance via e-banking technology adoption. This effect was much more substantial, with a higher level of innovative behavior.

Practical Implications- These findings underscored the need for policy reviews for government, county, and private sector on e-banking technology adoption and MSE performance in Kenya.

Originality/value- The study's findings bring vital knowledge concerning the indirect effect of e-banking technology adoption and innovative behavior on the study variables.

Introduction

Worldwide, micro and small enterprises (MSEs) contribute to employment, regional development, and innovation. Haseeb, Lis, Haouas, and WW Mihardjo (2019) argue that MSEs are crucial to the economic stability of any country. MSEs are also considered the main economic drivers in both advanced and transitioning economies. They have a meaningful role to play in all economies in economic growth, poverty reduction, and job creation(Urbano, Aparicio, & Audretsch, 2019). In the UK, MSEs employ 67 percent of the workforce and account for more than 99 percent of businesses in most EU member states, 67 percent of jobs, and 59 percent of GDP (Haseeb et al., 2019). By 2013, the MSE sector had employed 6.4 million people, yielding up to 84% of total jobs, and contributed 18.4 percent of GDP (Liedholm & Mead, 2013)(. A national economic survey study by the Central Bank of Kenya reveals that MSEs account for 98 percent of all Kenyan businesses. Furthermore, the sector contributes 87 percent of all new jobs created and employs 77 percent of the workforce (Said & Kaplelach, 2019).

Mwaniki, Kinyanjui, and Opiyo (2017) suggest that most MSEs lag behind the rest of the world's economies when leveraging the enormous potential of e-banking strategies, thereby losing the benefits. E-banking cannot be implemented all at once but in a small series of moves and gradual progression. In keeping with their corporate strategy, organizations that implement e-banking strategies open up for new markets, networking, and customer service networks for streamlined operations and improved business results(Migdadi, Zaid, Al-Hujran, & Aloudat, 2016)

This research explored how MSE performance is affected by e-banking technology adoption decisions. The roll-out of e-banking systems is driven by bids to reduce cash management costs and increase payment system performance, thereby enabling the atmosphere for MSEs to be conducive. Singhraul and Garwal (2018) suggest that the growing use of internet banking has promoted a cashless world. According to)Nel (2017), approximately 97 percent of transactions in the western world are made without physical cash, which has significantly reduced costs, corruption, and money laundering. Elechi and Rufus (2016) add that the electronic system aims to encourage electronic means of payment and not to discourage cash holdings. For many organizations, e-banking has changed business processes in several respects and is expected to continue (Anouze & Alamro, 2019)). Among the benefits include exposure to a broader market, improved operating performance, increased partnering capacity with suppliers, enhanced customer support, reliability, and accessibility, among others (Kingshott, Sharma, & Chung, 2018)

Sepasgozar, Ramzani, Ebrahimzadeh, Sargolzae, and Sepasgozar (2020) argue that impediments to the application of e-banking include uneven infrastructure distribution, uneven distribution of technical access capabilities among different social groups, and large portions of the population being unable to access the Internet. Meanwhile, most clients who use or have the potential to use the internet lack the culture of innovation, for example, dislike of online transactions and preference for personal business contact. The research was thus needed to reveal the complementary factors bearing on the association between e-banking technology and performance of MSE, which may provide additional stimulus for investment in the area (Nashold Jr, 2020)

Theoretical and Literature Review

Theory of Constraints

Constraints Theory (TOC) is an organizational logic developed by Goldratt and Cox (1984). The theory holds that constraints limit the productivity of enterprises. The strength of any chain, process, procedure, or system depends on its weakest link. It is limitations that keep an association from achieving its goals. Consequently, Goldratt and Cox's findings supported this study since technology is known to improve MSE efficiency.

Therefore, TOC endeavors to set out the program performance constraints and effect the necessary adjustments to eliminate them. Subsequently, it constitutes a technique for distinguishing the most significant restricting element that prevents the attainment of desired ends and then improving that restriction systematically till it is eliminated, which was the main focus of this paper. Constraints may include people, processes, equipment, and technology, and they may be internal or external to the firm (Iqbal, Gan, & Nadeem, 2020)

According to Kingshott et al. (2018)), every framework has a limitation, no matter how well it performs, limiting its performance, which is its weakest link. Maximized income, money flow, and profits will, in turn, lead to a maximized rate of production. Constraints theory helps prioritize enhancement activities, as the most immediate issue is always present in the environment that requires urgent improvement.

Technology Acceptance Model (TAM)

According to Davis (1989), Technology Adoption Model is driven by a focus on technological issues. This model illustrates people's behavioral goals and their application of IT (Durodolu, 2016). It is suggested that an individual's genuine behavior is dictated by his social expectation to use (his behavioral intent to use), which is influenced by the user's attitude towards and perceived usefulness of that technology. Nonetheless, both philosophy and perceived usefulness depend on how easy it is to use the technology. To adopt the TAM, end-users' requirements regarding usefulness and ease of use need to be understood (Al-Rahmi et al., 2019). Usefulness and ease of use impact the attitudes of users towards any service from this model.

Also, Yang, Pang, Liu, Yen, and Tarn (2015) suggest valuing consumer criteria based on perceived utility and ease of utilizing the system rather than any objective measure. The presumption in this analysis is that Davis's outcomes infer the application of e-banking technology characteristics. TAM offers empirical support in explaining the determinants of technology's appropriation as perceived ease of use and perceived utility. Its adoption is further clarified through a broad range of end-user technologies (Cespiva, 2018). Across numerous empirical TAM studies, what was referred to as perceived utility resulted consistently as a strong determinant of the intention to use IT(Wu & Chen, 2017). Understanding the factors of perceived usefulness and perceived ease of use constructs is essential since they are fundamental drivers of user-intention and how their influence changes over time with increasing experience using the system.

Entrepreneur Innovation Theory

Schumpeter (1949) propounded the Entrepreneur Innovation Theory. As Schumpeter suggested, entrepreneurs help in an economy's cycle of improvement; they are the people who develop, build and present in a network. Schumpeter further adds that innovation occurs when an entrepreneur proposes a novel good or service, a new production method, opens a new market, discovers a fresh spring of raw materials, and brings a new company into the industry. He further stated that entrepreneurship is about combining resources differently, such as introducing new products, new production techniques, identifying new sources of foundational materials, and establishing a novel market standard that changes the economic system's balance.

 Drucker (2014) held that the key to an enterprise's survival is innovation, resources, and entrepreneurial behavior. Entrepreneurship involved increasing customer value or fulfillment, creating new deals, and consolidating existing materials and resources in a novel and productive way. MSEs are marked by intense competition, while large firms operate in more favorable competitive settings and tend to implement innovations more often with little effort.

Mediating Role of E-banking Technology Adoption

The adoption of e-banking technology describes the use of electronic networks like online banking, point of sale, cell phones, international cards, and ATMs (Arora & Kaur, 2018). Anouze and Alamro (2019) suggest that

a client's choice concerning the uptake of e-banking amenities rests fundamentally on the degree of awareness and information that the client has about it. All the details will be made accessible once consumers search and find information about a sold novel product. The customers prefer knowledge that is detailed in all respects of e-banking use. Hussein (2017) clarify that users should beware of certain things such as easy access, maximum information, time, etc., that will readily affect their e-banking decision.

Previous scholars document that a relationship exists between the adoption of e-banking technologies and the output of MSEs. Chuwa (2015) looked into aspects shaping online banking's utility by SMEs in Nyamagana District, Mwanza-Tanzania. The study revealed that demographic factors, including age, employment, education level, and occupation, were associated with internet banking uptake. Even psychological aspects, like a perceived relative advantage, perceived compatibility, perceived difficulty, perceived danger, and perceived cost were mentioned to influence e-banking adoption. However, social influences, which included peers, parents, and colleagues' views, were negligible in impacting the Tanzanian sense of internet banking.

Similarly, Masocha and Dzomonda (2018) report that the merits of mobile transactions and difficulties in conventional financial services affected the firm adoption of mobile money. Conclusively, the study demonstrated that the subsequent adoption of these services influenced SME results. Also, Chale and Mbamba (2015) identified mobile transaction services' bearing on Tanzanian SMEs' advancement. The outcomes indicated an improvement in sales volume, stock purchasing performance, decreased time for transaction purchases, purchases of goods and amenities, improved spending habits, and money transfer to business growth connected to a market niche, income, and profitability. Based on technology uptake hypotheses, Chale and Mbamba showed that SMEs' business growth was affected by mobile transactions in different ways for business activities, including sales transactions, stock purchasing performance, payment, goods, and amenities delivery, and savings, and money transfer. Nanjala and Oloko (2015) also found that, for their day-to-day transactions, most MSEs rely on e-banking technology compared to brick and mortar banking, as mobile money transactional costs are minimal, convenience and financial accessibility are simple, leading to increased enrolment in mobile money services resulting in increased sales and thus increasing MSE performance.

Moderating Role of Innovative Behavior

The innovative trait is the manufacturing process variation aimed at reducing costs, wasting and scheduling jobs, or rising output capacity. Research has underlined that creative behavior works to boost enterprise output and improve business performance irrespective of size. Innovative behavior reflects the voluntary implementation of new approaches to undertakings within a function, group, or organization (Alegre & Pasamar, 2018). Creative action has also been proposed as an efficient method for dealing with organizational demands, such as a heavy workload (Eid & Agag, 2020)(. Omri (2015) looked at the association between innovative behavior and firm productivity to empirically determine whether managers' creative behavior directly or indirectly affects company performance through creative output. The study looked at a multi-industry group of Tunisian SMEs. Using the software package Smart PLS, version 2.0 in data analysis, it implemented the partial least squares (PLS) technique. The findings indicated that innovative behavior acts on output from innovation, thus affirming and meaningful enterprise output. Moreover, the direct influence on company productivity was positive but weakly significant. Such supportive partnerships appear to weaken in extremely competitive business conditions.

Olughor (2015) has found innovation to influence the performance of companies. Because of its competitiveness towards organizations, innovative behavior is essential (Mafabi, Munene, & Ahiauzu, 2015)). Mugo (2016) also studied innovation practices and their sway on MSE performance. The outcomes of which study showed that innovation strategy is a crucial driver of success among MSEs and should be applied strategically and structurally.

Additionally, Salim and Sulaiman (2011) Sarooghi, Libaers, and Burkemper (2015)observed that firm-wide growth contributes to innovation capacity, and, in turn, creativity is undoubtedly connected with company performance. Similarly, Karimi (2016) found that all three independent variables, namely cost, security, and regulatory environment, have a significant impact on SME productivity, with operating expenses having an adverse sway on SME performance, while business operations and marketing and sales efficiency have a helpful sway on it. As such, research has stressed the valuable place of innovative behavior in achieving meaningful change-oriented results, such as engagement in the transition process, preparation for change, and support for transition (Bani-Melhem, Zeffane, & Albaity, 2018)). Marvel, Wolfe, and Kuratko (2020) revealed the presence in a knowledge-based product innovation model of the moderating function of innovativeness behavior after examining human capital's connection with product innovation formed by firms.

Study Objectives and Hypotheses

The core objectives of this work were: to examine whether e-banking technology adoption would mediate the relationship between e-banking technology characteristics and MSE performance; to look into the moderating impact of innovative behavior on the association between e-banking technology characteristics, e-banking technology adoption and MSE performance, and to examine the moderated mediation model of innovative behavior on the indirect relationship between e-banking technology characteristics and MSE performance through e-banking technology adoption. From the preceding, it was hypothesized that:

H_1: E-banking technology adoption mediates the association between e-banking technology characteristics and MSE performance.

H_2: Innovative behavior moderates the association between e-banking technology characteristics and MSE performance.

H_3: Innovative behavior moderates the association between e-banking technology adoption and MSE performance.

H_4: Innovative behavior moderates the indirect relationship between e-banking technology characteristics and MSE performance via e-banking technology adoption.
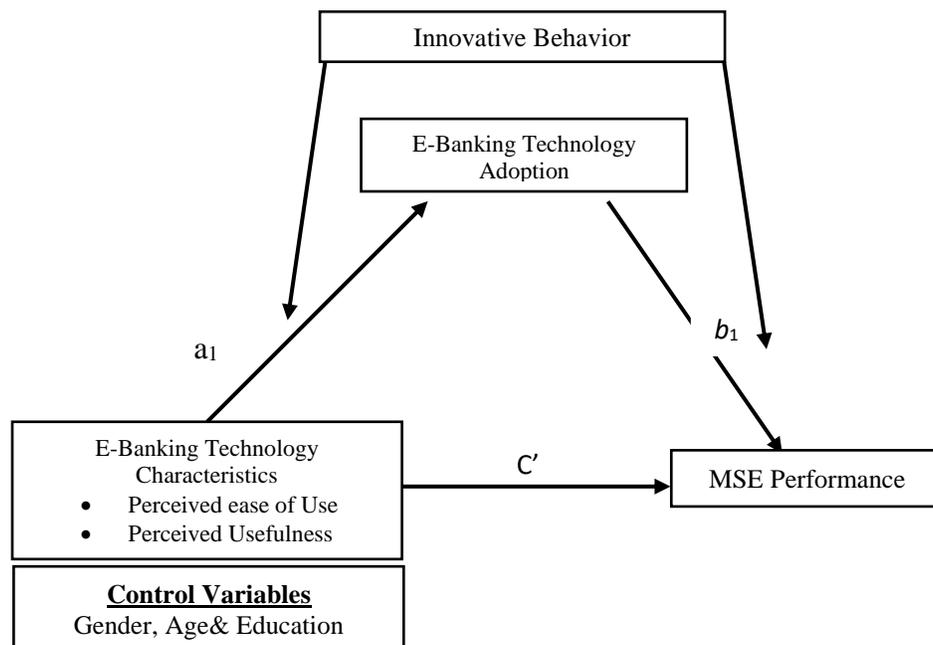

Figure 1: Conceptual model

Source: Hayes (2017, Model 58)

Materials and Methods

The research was conducted in Vihiga County in western Kenya. It was quantitative in methodology, and it followed the concept of quantitative analysis. The study's target population consisted of MSEs based in Vihiga County, Kenya. As of December 2018, the list of registered MSEs in the county obtained from the County Administration under the Department of Licensing was indicated as 5,915, which constituted the target group for the study. The study population consisted of registered MSEs from sub-counties in Vihiga County, and all of the MSEs were the unit of analysis in Vihiga County. Table 1 shows the distribution of MSEs from Vihiga County per Sub-County.

Table 1: Target Population

Sub-County	Population
Emuhaya	579
Hamisi	1561
Luanda	1176
Sabatia	1234
Vihiga	1365
Total	**5915**

Source: County Government of Vihiga (2018)

A sample size of 455 owners/managers was selected from the target population of 5915 MSEs. This was deemed sufficient for an explanatory research design, as indicated by Zikmund, Babin, Carr, and Griffin (2012) that a sample of between 400 and 500 is perfect for the qunatitave method. The research used a multistage sampling technique involving clustering of the sub-counties. Therefore, the researcher used a proportionate stratified sampling technique to pick MSEs for research participation.

The study listed the owners or managers as the prominent participants in each of the analyzed units. The primary reason to choose the owners or managers was that IT-related decisions are always the preserve of the two. The researchers started by selecting MSEs to participate in Emuhaya Sub-County, where only 44 were chosen out of the 579 MSEs in total. Of the 53 MSEs in the manufacturing sector, four were selected to participate in the study proportionally to each industry. For the other three sectors, the procedure was repeated; Emuhaya service, traders, and agribusiness. To arrive at the sample size, the researchers used Yamane (1967) formula. The measure was founded on a 5 percent margin of error/precision level and a 95 percent confidentiality level.

For collecting quantitative data from MSE managers/owners, the researcher used standardized questionnaires. The researcher administered the questionnaire with the help of 2 qualified research assistants. The analysis involved one dependent variable, two independent variables, one mediator, one moderator, and control variables. The independent variables were perceived ease of use and perceived usefulness; the mediator was e-banking technology adoption; the moderator was innovative behaviour; while MSE performance was the dependent variable. All four variables were measured using a Likert scale of 5 points.

Measures

MSE Performance

MSE performance was a measurement of the extent of the organizational goal achievement. Profitability was utilized to measure MSE performance. The profitability component was measured using 7 items adopted and modified from Hughes and Morgan (2007) in the instrument. Indicators included "Income from e-banking has high margin hence contributing positively to annual enterprise profitability," "e-banking has low maintenance costs leading to increased profitability over their economic lifetime."

E-banking Technology Characteristics

The dimensions of e-banking technology characteristics included perceived ease of use (PEoU) and perceived usefulness (PU). PEoU was measured using 11 items adopted from Wang and Zhang (2009), with modifications to suit the study, while PU was measured using 11 items in the questionnaire. Indicators for PEoU included "Using electronic banking requires little mental effort" and "Learning to operate electronic banking is easy for me." In contrast, indicators for PU had "Using e-banking improve my efficiency in a bank transaction."

E-banking Technology Adoption

The e-banking system removes the utilization of cash to exchange goods and services by making electronic transfer payments possible. The study measured adoption using nine items adopted from (Chong 2013; Rawashdeh, 2015). Its constructs included the following: usage and regularity of use. It was measured using indicators such as "I use e-banking to pay my utility bills," "I use e-banking to transfer money."

Innovative Behavior

Data on innovative behavior was generated using a series of 13 items. Creative action in MSEs involved developing new ideas (Martín-de Castro, Delgado-Verde, Navas-López, & Cruz-González, 2013). Its constructs included uniqueness and new ways of transactions adopted from Lumpkin and Dess (1996) and modified to fit the study. The measurement was conducted using indicators such as "I pioneer value and growth markets by innovation in products, services or business models" and "I always explore new technologies in the market."

Covariates

The study controlled for gender, age, and education level of the MSE owners/managers to eliminate their adverse influence on e-banking technology characteristics, e-banking technology adoption, innovative behavior, and MSE performance. Age was measured as 'below 25 years', '26-30 years', '31-35 years', '36-40 years', and 'over 40 years'. Gender was measured using 'male' and 'female' and education level was measured at 'post-graduate,' 'bachelors,' 'diploma,' 'certificate,' 'secondary,' 'primary' and 'none.'

Statistical Analysis

Data analysis involved identifying analytical tools, using different tests per study goal of each research. Each element was coded in the instrument and inserted into the SPSS program. Checking and cleaning data involved checking for inconsistencies and missing responses to guarantee that the instrument is accurate and complete. Descriptive statistics were utilized to analyses data for the classification and description of numerical results, which reinforced the necessity for more data analysis to continue (Somekh & Lewin, 2011). This justified the utilization of correlation and regression analysis for inferential statistics. It entailed analyzing data using frequencies, dispersing dependent and independent variants, major trend and variability measurements, and gaining meaning (M. Saunders, Lewis, & Thornhill, 2012; M. N. Saunders & Lewis, 2012). The coefficients' values for correlation range from a value of +1.00 to a value of -1.00, reflecting perfect relations.

MacKinnon (2012) four-step technique was implemented to analyze the mediation effect. Moreover, the analysis attempted to establish the moderating impact of innovative behavior on the link between the characteristics of e-banking technology and MSE performance, the e-banking technology adoption, and MSE performance. The study evaluated the moderated mediation model using Hayes (2017) process macro v3.2 (Model 58). The study used a bootstrapping approach to check the meaningfulness of the effects (Hayes, 2017) to achieve reliable standard errors for estimating parameters at 95 percent confidence intervals of 5000 data resamples non-zero $\alpha = 0.05$ imply significant effects.

Results

The study aimed to ascertain whether e-banking technology adoption would mediate the link between e-banking technology characteristics and MSE performance, to determine the moderating influence of innovative behavior on the connection between e-banking technology characteristics MSE performance, e-banking technology adoption, and MSE performance. Finally, the study purposed to know if the indirect relationship between e-banking technology characteristics and MSE performance through e-banking technology adoption was moderated by innovative behavior.

Descriptive Statistics

Table 2 displays the means, standard deviations, dependability, and the impact of correlations for all research variables. The results show that e-banking technology characteristics and e-banking technology adoption had the highest mean of 4.21 with a standard deviation of .893 and .873. In contrast, MSE performance had the lowest mean of 3.65 and a standard deviation of 1.182. Additionally, reliability had a Cronbach's Alpha above .7 for all variables in the accepted range. Results of correlation shows that all variables were positively linked with MSE performance with e-banking technology having the highest relationship with $r = .905$, $p < .01$, followed by e-banking technology adoption with $r = .799$, $p < .01$, while innovative behavior had the lowest but positive association with $r = .679$ $p < .01$.

Table 2: E-banking Technology Characteristics, E-banking Technology Adoption, Innovative Behavior and Performance of MSEs

Variables n=402	M	SD	Reliability(α)	Correlation1	2	3
MSE Performance (PF)	3.65	1.182	.903			
E-banking technology characteristics (EBT)	4.21	.893	.890	905**		
E-banking technology adoption (ETA)	4.21	.873	.888	.789**	799**	
Innovative behavior (IB)	4.17	.862	.888	.692**	.719**	679**
**. Correlation is significant at the 0.01 level (2-tailed).						

Testing for Mediation

The study hypothesized that e-banking technology adoption had a mediating effect on the link between e-banking technology characteristics and MSE performance. MacKinnon (2012) four-steps were followed to analyze the mediation effect.

The first step was to find out if e-banking technology characteristics have an association with e-banking technology adoption. Results in Table 3 reveal that gender and education were insignificant as they had $p > .05$ while age was significant as it had $p < .05$. Additionally, e-banking technology characteristics indicate a $\beta = .798$, $p < .05$, showing an affirmative and meaningful effect on e-banking technology adoption. Furthermore, the study findings demonstrate that all the variants account for 64.5% of the variance on e-banking technology adoption as shown by $R^2 = .645$ with a significant $F = 180.489$, $p < .05$. These findings fulfilled the first procedure's requirement, as proposed by MacKinnon (2012) (indicated that X must associate with M).

The second step of model 2 shows the outcomes of the 'b1 and c' side, which was meant to ascertain the impact of e-banking technology adoption on MSE performance and the direct effect of e-banking technology characteristics MSE performance. The results revealed that all the control variables were insignificant in this model, as indicated by $p > .05$. The findings also showed that e-banking technology adoption significantly affects MSE performance with $\beta = .233$, $p < .05$, hence supporting equation $Y = b0 + C + b1M + \varepsilon$. Furthermore, this model was utilized to test the direct effect of e-banking technology characteristics on MSE performance. The findings showed that e-banking technology characteristics had $\beta = .359$, $p < .05$, implying a beneficial impact on MSE

performance. All the variants in this model explained 32.2% of the variance on MSE performance as shown by $R2=.322$ with $F=37.566$, $p<.05$

Since a1 and b1 were significant, the mediation process was possible by calculating the product of a1×b1. Results in Table 3 indicate that (a × b =.798×.233=.186) with confidence interval, CI= .079, .288. Since confidence intervals from the bootstrap analysis are both positive and non-zero, therefore the hypothesis was supported. The product of a× b× c for H05c (.768×.233 ×.545 =.171) was positive and hence signaled a complimentary mediation (Zhao, Lynch Jr, & Chen, 2010). Findings further in model 3 showed the results of total effect (β=.545, p<.05), which was equal to direct effect (β=.359, p<.05) + indirect effect (β=.186, p<.05), which indicated that e-banking technology characteristics had a significant relationship with MSE performance. However, when the mediator was introduced, then there was an increase in the association between variables.

Table 3: Mediating Effect of E-Banking Technology Adoption

	ETA (a₁) =M1		PF(b₁) =M2		Total effect=M3	
	β	pv	β	pv	B	pv
Gender	-.065	.288	-.069	.413	-.084	.324
Age	-.049	.025	.020	.518	-.031	.309
Education	-.037	.083	.007	.803	-.016	.593
E-banking tech. charact.	.798	.000	.359	.000	.545	.000
E-banking tech. adopt			.233	.000		
R²	.645		.322		.303	
F	180.489***		37.566***		43.050***	
Mediation= a1 × b1= .798 × .233 = 186; CI=.079, .288						
Note: ***p < .001, Dependent variable: MSE performance						

Source: Researcher (2020)

Testing for Moderation

The research also hypothesized that innovative behavior moderates e-banking technology characteristics, e-banking technology adoption, and MSE performance. The control variables were entered, including gender, age, and education levels of MSE owners or managers. Age as a control variable significantly affected e-banking technology adoption, while gender and education were insignificant. However, innovative behavior did not moderate the association between e-banking technology characteristics and e-banking technology adoption. It is evident from Table 4 that the regression coefficient of the interaction term of e-banking technology characteristics and innovative behavior was β=-.026, p=.499. The beta weight indicates that the interaction of e-banking technology characteristics and creative behavior did not affect e-banking technology adoption.

Consequently, the influence was not significant. Because of the high p-value linked with the t-value, the hypothesis was not supported. Therefore, innovative behavior does not moderate the association between e-banking technology characteristics and e-banking technology adoption.

The research also hypothesized that innovative behavior moderates the link between e-banking technology adoption and MSE performance. Table 4 shows that the regression coefficient of the interaction term of creative behavior on the connection between e-banking technology adoption and MSE performance was β=.172, p<.05. The regression coefficient suggests that innovative behavior's interaction exerts a positive and meaningful moderating impact on the link between e-banking technology adoption and MSE performance. Because of the low p-value linked with the t-value, the hypothesis was supported. Consequently, there is a

significant moderating impact of innovative behavior on the link between e-banking technology adoption and MSE performance. Table 4 below presents results on the moderating effect of creative action.

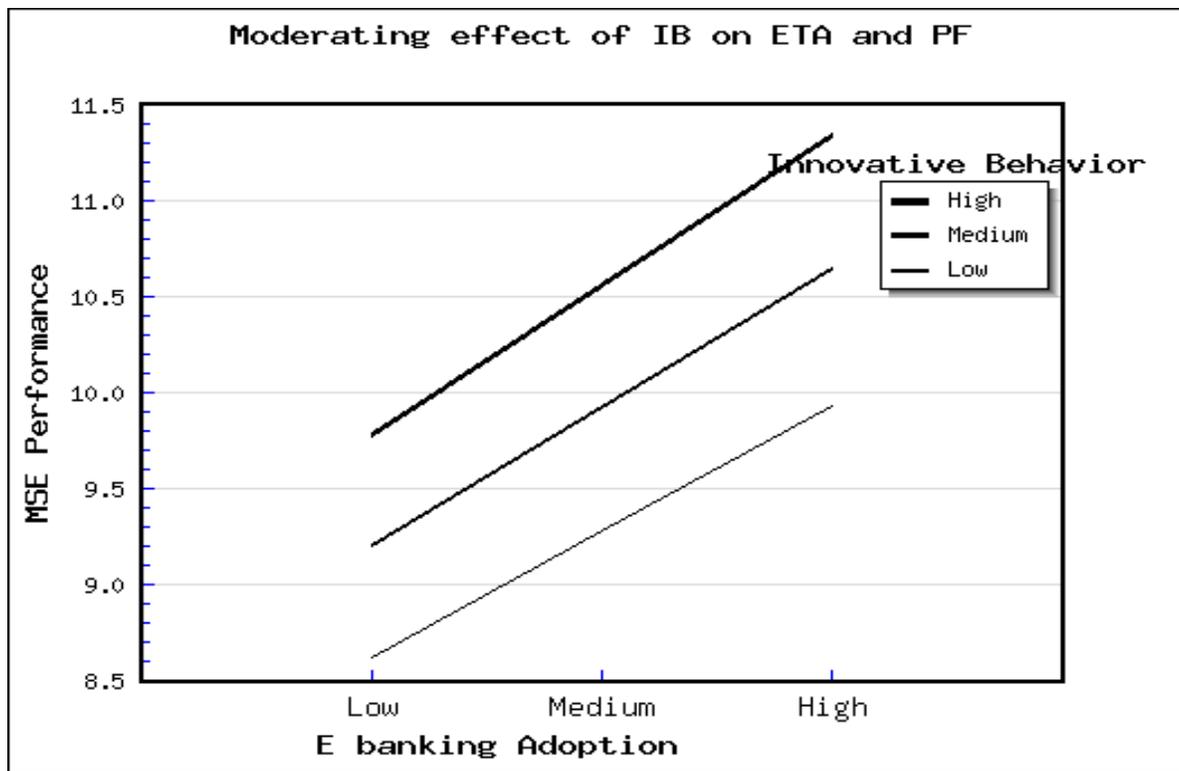*Table 4: Moderating Effect of Innovative Behavior*

Variables	Model 1	(ETA)	Model 2	(PF)
	Coeff	*pv*	**Coeff**	*pv*
Gender	-.043	.472	-.022	.796
Age	-.044	.040*	-.027	.363
Education	-.030	.144	-.002	.935
E banking technology characteristics	.269***	.000	.431***	.000
E banking technology adoption	-	-	.751**	.000
Innovative Behavior	.246***	.000	.352***	.001
E-banking technology characteristics ×Innovative behavior	-.026	.499	-	-
E banking technology adoption × Innovative behavior	-	-	.127*	.024
R^2	.666		.276	
ΔR^2			.042	
F	131.486***	.000	37.780***	.000
ΔF			24.182	

Note: *p< .05, **p< .01, ***p< .001

Source: Research data (2019)

The moderated results were presented on a moderation graph to comprehend better the interaction between e-banking technology adoption, innovative behavior, and MSE performance. This was in accord with the suggestion by Cohen, Cohen, West, and Aiken (2003) that it is insufficient to conclude that there is interaction without probing the nature of that interaction at different levels of the moderator. Process macro analysis was conducted using model 58, where e-banking technology adoption and innovative behavior accounted for a significant amount of variance in MSE performance (R2 = .666, F [131.486] = p < .001).

The interaction term between e-banking technology adoption, innovative behavior and control variables were added to the regression model, which accounted for a significant proportion of the variance in MSE performance, ΔR2 = .042, ΔF (24.182) = 24.18, p = .001, b = .127, p < .01. An examination of the graph showed an enhancing effect that as e-banking technology adoption and innovative behavior increased, MSE performance increased. The analysis revealed that e-banking technology adoption has stronger significance on MSE performance at higher levels of innovative behavior than at the lower levels of the same. Thus, the figure's slopes indicate that, at high levels of innovative behavior, e-banking technology adoption was associated with stronger and significant innovative behavior compared to when it was with medium and low innovative behavior. These results were as depicted in Figure 2 below.

Legend: IB = innovative behavior, ETA=e banking technology adoption, PF=MSE performance
Figure 2: Innovative behavior has a moderating effect on the relationship between e-banking technology adoption and MSE performance

Moderated Mediation of Innovative Behavior on the Relationship between E-Banking Technology Characteristics and MSE Performance via E-Banking Technology Adoption

Hypothesis four presumed that innovative behavior moderates the relationship between e-banking technology characteristics and MSE performance via e-banking technology adoption. Table 5 reveals that the moderated mediation took place at both the mean level of the moderator (CI=.046, .218) and the upper level (CI=.075, .276) but was insignificant at the lower level of the moderator (CI=-.005, .177). However, the moderated mediation was much stronger at the moderator's higher level than at the mean level. Based on the results, the hypothesis was supported.

Table 5: Moderated mediation Results of Innovative Behavior on the Relationship between E-banking Technology Characteristics and MSE Performance via E-banking Technology Adoption

Mean Levels of IB	Effect	SE	LLCI	ULCI
-1 SD	.087	.046	-.005	.177
0 Mean	.131	.044	.046	.218
+1SD	.174	.051	.075	.276

Discussion

This study's findings showed that e-banking technology adoption positively affects the relationship between e-banking technology characteristics and MSE performance. Therefore, e-banking technology adoption affects e-banking technology characteristics, including perceived ease of use and perceived usefulness, which influences MSE performance. The literature on e-banking technology adoption indicates a direct relationship (Masocha & Dzomonda, 2018) between mobile money services and the implementation of Small and Medium Enterprises

(SMEs) in Zimbabwe. Small businesses adopt e-banking to communicate with their clients, customers, and initiate business transactions. Mobile devices, Internet, POS machine, ATM, and other e-gadgets serve as a medium through which enterprise carry out their dealings with customers and hence influence the performance of MSEs. The role of e-banking services helps in the profitability of small and medium enterprises.

MSEs use e-banking services for business purposes such as sales transactions, efficiency in purchasing stock, receiving payment, payment of goods and services, savings, and money transfer. The enterprises' performance is enhanced as there is an increase in sales necessitated by enterprises adopting e-banking services. This view is supported by InterMedia (2013) in an investigation of the uptake, use, and market potential of mobile money services in Tanzania. Besides personal use, most mobile money users use it to purchase inventory and receive payments for goods and services. Safety and security concerns in an environment characterized by relatively high criminal activities encourage e-banking system adoption (Igudia, 2017). Ease of use, convenience, monitoring, and speed of doing business, are found to be the reason for e-payment systems. Adopting e-transaction services is influenced by the e-banking system's benefits and the challenges in traditional financial services. The subsequent adoption of mobile money services affects the MSE performance. E-banking has reduced costs, such as customers being able to transact even if they lack physical cash, traveling to banking institutions to transact, need for security while carrying vast amounts of money for business transactions.

In contrast, they have maintained competitiveness in the market. From the literature reviewed, e-banking technology adoption has been used as an outcome in most studies. Little is known about its mediating role between e-banking technology characteristics and MSE performance. Our findings, therefore, provide new insights into the literature.

The study further sought to determine the moderating effect of innovative behavior on the relationship between e-banking technology characteristics and e-banking technology adoption. Similarly, the researchers hypothesized that creative action moderates e-banking technology characteristics and e-banking technology adoption. The findings revealed that innovative behavior does not significantly moderate the relationship between e-banking technology characteristics and e-banking technology adoption. The explanation could be that many factors necessitate the adoption process for any technology to be adopted, as has been posited by Rogers (1995). Adoption is a decision of full use of an innovation as the best course of action available. On the other hand, rejection is a decision not to adopt an invention, which, in this case, might be that e-banking technology characteristics might not necessitate e-banking technology adoption. Therefore, this hypothesis was supported.

The study further sought to determine the moderating effect of innovative behavior on the relationship between e-banking technology adoption and MSE performance. The findings showed that the interaction was positive and statistically highly significant. This implied that creative action significantly moderated the relationship between e-banking technology adoption and MSE performance. This being an enhancing moderation meant that as innovative behavior is high, there is an increase in MSE performance. Therefore, the objective was attained, and the hypothesis was accepted.

Finally, the study findings confirmed that innovative behavior moderates the indirect link between e-banking technology characteristics and MSE performance via e-banking technology adoption. This moderation is insignificant at low levels of innovative behavior (coefficient =.087, CI = -.005, .177, 1 standard deviation below the mean), significantly weaker at the mean levels of innovative behavior (coefficient = .131, CI = .046, .218), and much stronger with high levels of innovative behavior (coefficient = 174, CI = .075 .276, one standard devastation above the mean). These findings shed light on how MSEs can adopt e-banking technology in their enterprises by utilizing innovative ideas to enhance their performance. The findings also provide new knowledge to existing literature.

Conclusion

From the results, the study confirms that e-banking technology adoption mediates the relationship between e-banking technology characteristics and MSE performance. The moderating effect of innovative behavior on the relationship between e-banking technology characteristics and e-banking technology adoption is insignificant. Since the association is negative, an increase in innovative behavior leads to a decrease in e-banking technology characteristics and e-banking technology adoption. Therefore, innovative behavior manifests no moderation concerning e-banking technology characteristics and e-banking technology adoption. However, there is a moderating effect of innovative behavior on the relationship between e-banking technology adoption and MSE performance. This means that an increase in innovative behavior leads to a rise in e-banking technology adoption and MSE performance. Furthermore, innovative behavior's moderating role brings some new insights into the literature as it enhances the relationship between e-banking technology adoption and MSE performance. Lastly, innovative behavior moderates the indirect relationship between e-banking technology characteristics and MSE performance via e-banking technology adoption.

Theoretical and Managerial Implications

Theoretically, this study confirms the theory and contributes to the existing literature. The study first confirms what has already been established by other scholars that e-banking technology characteristics, e-banking technology adoption, and innovative behavior significantly affect MSE performance. Additionally, the study adds some new knowledge that e-banking technology adoption mediates the relationship between e-banking technology characteristics and MSE performance. Secondly, the study reveals that innovative behavior is an influential moderating variable in enhancing e-banking technology adoption and MSE performance.

The finding of this study has managerial implications for MSEs globally. First, studies have indicated that e-banking technology's adoption gives a competitive advantage to an enterprise over competitors. Therefore, policymakers should build strong policies that support e-banking technology adoption after evaluating the benefits associated with this technology. Additionally, Policies should be put in place to ensure that both the service providers and regulators create a conducive environment for MSEs as they create a healthy attitude towards adopting e-banking technology.

Recommendations

The above conclusions show that the government and policymakers should formulate regulatory requirements to make entrepreneurs switch from cash to e-banking technology. This will change the entrepreneurs' mindset to see technology adoption as a positive move towards enterprise performance. The study also recommends that service providers of e-banking technology should put measures to ensure that they safeguard, enhance, and introduce online financial support systems that are appropriate in the market to support MSE performance.

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