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Published online: 07 Nov 2021.

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# Fintechs' Future in Kenya: Does Social Influence Matter?

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**ABSTRACT**

This paper investigates the role of social influence on continuous intention to use Fintech mobile money lending app services in Kenya. A sample of 342 respondents was selected using convenience sampling. Data was analyzed using a structural equation modeling technique with the AMOS version 24 software. The study found out that social influence has a significant direct role on perceived security, satisfaction and continuous intention to use mobile money lending services. The moderating role of social influence strengthens the positive relationship between perceived security and perceived usefulness on one hand and perceived satisfaction and continuous intention to use mobile money lending services, especially among mobile money lending apps users on the other hand. In addition, Kenyans will continue to use mobile money lending app services if they remain useful, secure, satisfactory and meet their expectations.

## 1. Background

In recent years, the world has witnessed an evolution of mobile technology from a primary communication platform to a social media one and recently as a tool for financial transactions. During the '90s until 2007, most banks in Kenya had no economic interest in the population with little savings, resulting in an acute financial exclusion of this marginalized group. Mshwari came on board to rescue this discriminated group with their first product, which encouraged savings on the phone. There were no limits to the amount of money one could save. Jack and Suri (2011) reported that the increase in the use of M-Pesa services by the unbanked population meant that they could overtake the banked population as far as savings are concerned.

Numerous registered and unregistered mobile money lending apps have flooded the Kenyan market to take advantage of the booming mobile money lending business. According to Angeline (2018), the governor of the Central Bank of Kenya, Dr Njoroge lamented that Kenya was being used as a 'guinea pig' for new technology by foreign firms. This action, he noted, exposed Kenyans to risks hence the need for the regularization of fintech firms.

In recent years, attention has been paid on the role of social influence on the intention to use mobile payment services (Koenig-Lewis, Marquet, Palmer, and Zhao (2015); Kazi and Mannan (2013); Zhou, Lu, and Wang (2010); Yu (2012); Alalwan, Dwivedi, and Rana (2017), the role of social influence on mobile payments and financial services (Koenig-Lewis et al. (2015); Park, Ahn, Thavisay, and Ren (2019); Mun, Khalid, and Nadarajah (2017); Yang, Lu, Gupta, Cao, and Zhang (2012), the role of social influence on mobile wallet (Shin (2009); Singh, Sinha, and Liébana-Cabanillas (2020); Megadewandanu (2016); Prabhakaran, Vasantha, and Sarika (2020); Amoroso and Magnier-Watanabe (2012), the role of social influence on continuance intention to use mobile banking (Susanto, Ahmed and Ali (2017), the role of social influence on fintech services (Kim, Park, Choi, and Yeon (2015); Wang, Zhengzhi Gordon, Hou, Li, and Zhou (2019); Senyo and Osabutey (2020); Tun-Pin et al. (2019). However, none of the studies reviewed investigated if social influence would significantly affect the continuous intention to use mobile money lending services.

In this paper, we discuss how social influence affects the continuous intention to use fintech mobile money lending apps. We note that it significantly influences the continuous intention to use these lending app services in Kenya. However, the variable of social influence has not been well explored in the literature reviewed despite the quick growth of fintech firms in the country. Consequently, no study in Kenya has used the EPAM model to analyze this variable. Thus, the current study, focuses on the role of social influence on the acceptance of fintech mobile money lending apps in Kenya. KCB M-Pesa and Mshwari were chosen to represent mobile money lending apps affiliated to banks while Tala and Branch represented those that were not. The current study seeks to address the following research questions:

(1) How do customers perceive fintech firms (mobile money lending apps services) in Kenya?
(2) Does social influence play any significant role in customers continuous intention to use fintech mobile money lending apps in Kenya?

This paper is divided into three sections. The first briefly gives background information on fintech mobile money lending apps in Kenya and an overview of studies that have investigated the variable of social influence. The Second provides literature on the extended post-acceptance model (EPAM) that explains post-adoption behavior on the acceptance of the technology. Hypotheses are then given on relationships based on EPAM and social influence as a moderating variable on continuous intention to use fintech mobile money apps services. The methodology used is described and the results are presented. The third discusses the findings and the practical and theoretical implications.

## 2. Literature review

The spread in the use of mobile phones and the hasty penetration of this industry in Kenya have contributed to the use of mobile money lending app services. To date, there are several mobile money lending apps have been launched in Kenya. The apps can be categorized into two groups namely: bank-affiliated mobile money lending apps

(Mshwari (NCBA,2012), Kopa Chapaa (Airtel & Faulu Kenya, 2012), Mco-op Cash (2014), KCB Mpesa (KCB, 2015), Eazzy banking app (Equity Bank,2016), Timiza (Barclays, 2018), CBA Loop loan (NCBA, 2018), Stawi (NCBA, Co-op Bank, DTB & KCB 2019), and Non-banking financial corporation mobile money lending apps (Tala (2014), Haraka (2014), Branch (2015), Saida (2015), Shika (2016), Okolea (2017), ipesa (2018), Zenka (2018), Zidisha (2015), Okash (2018), Opesa (2018), Stawika (2018), Berry (2018), mKey loan app (2018) and Utunzi (2019).

The word Fintech originates from the marriage of "finance" and "technology" (Zavolokina, Dolata, & Schwabe, 2016). Fintech is a financial industry composed of companies that use technology to make financial systems (McAuley, 2015). Kenya has been experiencing rapid growth in terms of Fintech companies providing different financial services. This is attributed to the phenomenal increase of mobile phone usage (especially smartphones) and the deep-rooted innovation hubs for the youth.

A financial inclusion report by Cook and McKay (2015) indicated that seven out of ten Kenyans were active mobile money users. Moreover, one in five adult Kenyans were active M-Shwari customers. According to Mwangi (2019), Kenya is among the top 3 African countries which are innovators in financial services. Apart from the popular M-Pesa (Fintech service), a rise in the number of small-scale businesses has motivated companies to develop electronic payment methods and financial planning tools. By the year 2020, Kenya was expected to become one of the hottest mobile money hubs globally as it had the highest rate of financially included population in Africa (Mesropyan, 2017).

Fintech services in Kenya are astounding in that they are not stand alone as they have integrated the popular M-Pesa services in their mobile money apps. Both commercial banks and non-financial organizations have embraced M-Pesa in their mobile applications. Despite the benefits associated with the fintech companies, research shows that the mobile money lending app services and other microfinance products and services are significantly promoting financial inclusion of the poor. In explaining the post-adoption process of mobile money lending apps provided by mobile money services in Kenya, the hypotheses developed were based on the extended post-acceptance model (EPAM) that was proposed by Lim, Kim, Hur, and Park (2018). Besides, the study incorporated and investigated social influence as a moderator in EPAM.

The expectancy confirmation model (ECM) was first conceptualized and tested by Bhattacherjee (2001) using online banking users. The model predicts Information system continuance intention using satisfaction, confirmation of expectations, and perceived usefulness of Information system under post-adoption expectations of user behavior. The ECM considers the distinction between the acceptance of information systems and its continuance behaviors. Bhattacherjee (2001) notes that although post-acceptance usefulness perception influences users' continuance intention, user satisfaction with prior use has a relatively stronger effect on the dependent variable. User satisfaction is determined primarily by users' confirmation of expectation from prior use and secondarily by perceived usefulness, besides confirmation having a significant influence on post-acceptance perceived usefulness. When an information system rises above conscious behavior and becomes part of everyday routine activity, it can be said to have entered a post-acceptance stage.

The ECM model has been extensively used in consumer behavior literature to study consumer satisfaction, post-purchase behavior or mobile Fintech (Alghamdi, 2014; Bhattacherjee, 2001; Rahi & Ghani, 2019; Vatanasombut, Igbaria, Stylianou, & Rodgers, 2008; Yu, 2010). Lim et al. (2018) study for instance, combines the expectation confirmation theory by Oliver (1981), and a post-acceptance model by Bhattacherjee (2001) to come up with an extended model he referred to as an extended post-acceptance model (EPAM). The current study does not discuss the ECM and the EPAM because their relationships have been discussed in other studies.

In recent years, several studies have provided insights into the role of social influence in modern finance (Akhtar, Irfan, Sarwar, & Rashid, 2019; De Leon, 2019; Raza, Shah, & Ali, 2019) & (Al-Somali, Gholami, & Clegg, 2009). Equally, several studies have investigated the moderating effect of social influence on mobile banking users (Riquelme, & Rios, 2010; Okello Candiya Bongomin, Ntayi, Munene, & Malinga, 2018; Singh et al., 2020). No study has looked at the role of social influence on ECM as a potential moderator on the continuance use of Fintech (mobile money lending apps). Therefore, the focus of this paper is on replicating EPAM model Lim et al. (2018) in the mobile lending apps in the African context and also extending the model through the inclusion of social influence as a potential moderator thereby providing in-depth insights into its role on continuance use of mobile money loan apps in Kenya. Figure 1 shows the extended conceptual model used in this study whose constructs were borrowed from Lim et al. (2018) Fintech payment service.

According to Lim et al. (2018), the EPAM proposed model explains users' post-adoption behavior after accepting technology or using a service Figure 2.
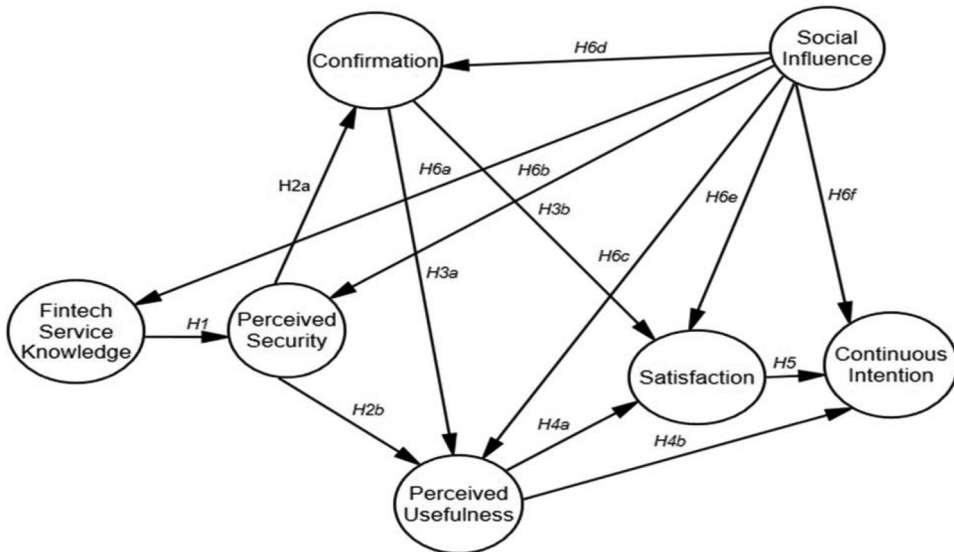


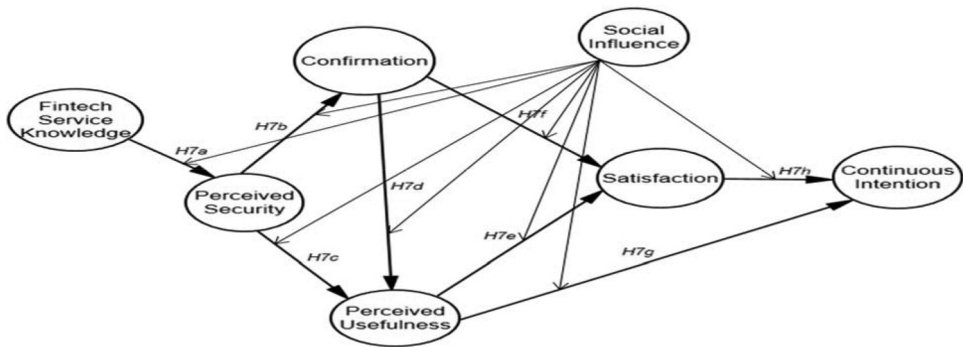Figure 1. Extended Expectation Confirmation Model.

**Figure 2.** The Moderating Effect of Social Influence on EPAM Constructs.

## 2.1 Fintech service knowledge (FSK), perceived security (PS), and post-acceptance model

Knowledge of Fintech services indicates the level of knowledge on Fintech service process and utilization (Kim, Park, Choi, & Yeon, 2016). In Lim *et al.*'s (2018) study, users' knowledge has a significant influence on their perceived security and in turn, their perceived security has a significant effect on the formation of their confirmation about the services. Both commercial banks and non-banking organizations always make sure that Kenyans are informed about mobile money services through social media and radio and television promotions and advertisements. In Camner, Sjöblom, and Pulver's (2009) study, strong advertising campaign and word of mouth informal messaging helped in the quick adoption of M-Pesa services in Kenya in 2007.

Security is the cornerstone of mobile payments because an insecure user may feel that the mobile service providers lack the ability and benevolence to offer protection from potential problems (Mallat, 2007). According to Easterly *et al.,* (1994) security concerns among financial technology users is a major issue although customers are likely to forgo their considerations of the risks if the benefits overweigh the risks involved. Zhou (2011) posits that perceived security was found to have a significant effect on initial trust and not on perceived usefulness. In Susanto's, Chang's, and Ha's (2016) study, perceived security significantly affects trust of using smartphone banking services. It significantly influences usage of mobile money payment services. Thus, we hypothesize;

*H1: Users' knowledge about Fintech mobile money lending apps is positively related to their perceived security.*

*H2a: Users' perceived security protection is positively associated with their confirmation using mobile money lending apps.*

*H2b: Users' perceived security protection is positively associated with their perceived usefulness of mobile money lending apps.*

## 2.2 Confirmation

Confirmation is positively related to satisfaction and it is a significant predictor of perceived usefulness. In Hsu's and Lin's (2015) study, confirmation is positively related to satisfaction and is an important variable in the context of app usage. In Susanto *et al.'s* (2016) study on smartphone banking services, confirmation has a significant relationship with perceived security, perceived usefulness, trust and user satisfaction, while in Lim et al.'s (2018) study on Fintech services, confirmation has a positive effect on both perceived usefulness and satisfaction. Thus, we hypothesize;

*H3a: Users' confirmation is positively associated with their perceived usefulness of mobile money lending apps.*

*H3b: Users' confirmation is positively associated with their satisfaction with mobile money lending apps.*

## 2.3 Perceived usefulness, confirmation, satisfaction, and post-acceptance model

In the context of mobile money, Kleijnen, Wetzels, and De Ruyter (2004) describes perceived usefulness as how well consumers believe mobile services can be integrated into their daily activities. Tobbin and Kuwornu (2011) report a significant and positive relationship between perceived usefulness and consumers' intention to use mobile money transfer service in Ghana. In Cao's (2016) fintech study, perceived usefulness has a positive effect on users' intention to use Plastic Card. On the contrary, Ezeh's and Nwankwo's (2018) study note that, perceived usefulness has no significant effect on users' intention to accept mobile money or consumers intention to use mobile services respectively. In Susanto et al.'s (2016) study, perceived usefulness has a significant relationship with trust, user satisfaction and continuance intention to use smartphone banking services. Thus, we hypothesize;

*H4a: Users' perceived usefulness is positively associated with their satisfaction to use mobile money lending apps.*

*H4b: Users' perceived usefulness is positively associated with their continuous intention to use mobile money lending apps.*

## 2.4 Satisfaction

In Lim et al.'s (2018) study, satisfaction with fintech services refers to the positive feelings that users get when they use the services while continuous intention to use fintech services is users' intention to continue using the services. Zhou (2011) reports that both cumulative satisfaction and transaction-specific satisfaction have significant effects on the continuance intention to use mobile value-added services. Individual attachment to smartphones promotes the use of value-added mobile services, which in turn leads to greater satisfaction (Tojib, Tsarenko, & Sembada, 2015). Most of the Fintech mobile

money lending services found in Kenya are mobile applications which are only compatible with smartphones. This means that only persons with smartphones can access most of these services. However, there are non-banking organizations which still use GSM cards which can still be accessed by persons without smartphones. In Lim et al.'s (2018) study, users' satisfaction positively affects their continuous intention to use the fintech mobile services. Thus, we hypothesize;

*H5: Users' satisfaction is positively associated with their continuous intention to use mobile money lending apps.*

Limited research has been conducted on the direct role of social influence on the continuous intention to use mobile money lending apps. Thus, we hypothesize;

*H6a: Social influence has a significant effect on fintech service knowledge on using mobile money lending apps services;*

*H6b: Social influence has a significant effect on perceived security on using mobile money lending apps services;*

*H6c: Social influence has a significant effect on perceived usefulness on using mobile money lending apps services;*

*H6d: Social influence has a significant effect on confirmation of using mobile money lending apps services;*

*H6e: Social influence has a significant effect on satisfaction of using mobile money lending apps services; and*

*H6f: Social influence has a significant effect on continuous intention of using mobile money lending apps services.*

## 2.5 The proposed direct effect and moderating role of social influence

According to Waitara, Waititu, and Wanjoya (2015), social influence has a significant influence on behavioral intention to use mobile money transfer services because many people have supported its use. Kiconco, Rooks, Solano, and Matzat (2019) note that individuals could execute mobile money transactions through social networks, which can provide tech-support regarding awareness, information provision, and actual hands-on facilitation. Okello Candiya Bongomin et al. (2018) posit that poor mobile phone users rely on their closed networks of families, existing open networks of friends, and peers to get and share useful information and knowledge about the use of mobile money technology. It is on these bases that the current study investigated the moderating effect played by social influence on the satisfaction of using fintech mobile money lending services.

According to Weaver *et al.* (2007), high social influence is a signal of popularity such that what we think others think and vice versa, greatly influences our thoughts, feelings, and behavior. We argue that social influence might moderate significantly by weakening or strengthening the satisfaction associated with the use of fintech mobile money lending services. Social influence may weaken or strengthen the effects of confirmation or perceived usefulness on the satisfaction to use fintech mobile money lending services. However, because little information is available on the moderating effect of social influence on EPAM, we propose to investigate its effect on the use of mobile money lending apps services in Kenya. The moderating effect of social influence on EPAM constructs can be presented in a diagram as follows:

With regard to the moderating role of social influence on EPAM constructs therefore, we

hypothesize;

*H7a: Social influence has a significant moderating effect on fintech service knowledge and perceived security;*

*H7b: Social influence has a significant moderating effect on perceived security and confirmation;*

*H7c: Social influence has a significant moderating effect on perceived security and perceived usefulness;*

*H7d: Social influence has a significant moderating effect on confirmation and perceived usefulness;*

*H7e: Social influence has a significant moderating effect on perceived usefulness and satisfaction;*

*H7f: Social influence has a significant moderating effect on confirmation and satisfaction;*

*H7g: Social influence has a significant moderating effect on perceived usefulness and continuous intention to use mobile money lending apps services; and*

*H7h: Social influence has a significant moderating effect on satisfaction and continuous intention to use mobile money lending apps services.*

## 3. Research methodology

### 3.1 Data collection

The survey was conducted in Nairobi county, Kasarani constituency from May 1, 2019 to June 1, 2019 using selective sampling. The main target group in the study were entrepreneurs who owned shops and market stalls and the customers who were present at the shops or stalls during the interviews. It is believed that persons with businesses would

seize the opportunity to utilize the soft loans offered by the various fintech service providers to expand their businesses. A total of 351 questionnaires were collected. Nevertheless, 9 of these were excluded from the study because they had unengaged responses leaving 342 usable questionnaires. The accompanying dataset for the study is http://dx.doi.org/10.17632/cvbj452xrk.1 (Ireri & Warsame, 2019).

### 3.2 Measurement variables

A survey instrument based on the proposed post-acceptance model as outlined in the (Lim et al., 2018) was used in the study. A five-point Likert scale (1 = Strongly disagree; 5 = Strongly agree) was used. The model used had seven main constructs namely: Fintech service knowledge (FSK); perceived security (SEC); perceived usefulness (PU); satisfaction (SAT); continuous intention (CIU); confirmation (CONF); and social influence (SI). The first five of these constructs were measured using four items while the remaining two using three items. Two psychographic questions were posed based on denylisting of the debt defaulters by the Credit Reference Bureaus (CRBs).

## 4. Data analysis and results

### 4.1 Demographic characteristics

The average age for the participants was; mean = 32.50, SD = 8.94; the average number of mobile loan apps that participants had was; mean = 1.96, SD = 1.137 (See Table 1).

### 4.2 Measurement model analysis

In the present study, confirmatory factor analysis (CFA) was performed using AMOS version 24 (Arbuckle, 2014). The model's construct validity was assessed using convergent, discriminant and nomological validities as described by (Hair, Black, Babin, Anderson, & Tatham, 2014). Convergent validity was assessed using factor loadings; the average variance extracted (AVE), and construct reliability (See Table 2).

Four items (KS4; PU3; SAT4; and CIU4) that failed the minimum threshold of 0.50 on the standardized factor loadings were deleted. The standardized factor loadings for all the items were greater than 0.50 other than item SAT3, which had 0.43. Since the rule of conducting CFA/SEM stipulates that each construct should have a minimum of three items, SAT3 was deleted from the model. Note that the rule of thumb is that the AVE should be 0.5 or higher which suggests adequate convergence (Hair et al., 2014) (See Table 3).

Jöreskog's rho. construct reliability (CR) was used to test construct validity. Hair et al. (2014) state that a CR of 0.7 or higher is indicative of good reliability. They further suggest that the CR between 0.60 and 0.7 may be acceptable if other indicators of a model's construct validity are good. The construct satisfaction had a CR of 0.648. In summary, its CR was within the recommended 0.6–0.7 value. This

**Table 1.** Demographic Characteristics (N = 342).

| Demographic | Characteristic | Frequency | Percent |
|---|---|---|---|
| 1. Gender | Male | 183 | 53.5 |
| | Female | 159 | 46.5 |
| 2. Age coded | Less than 35 years | 233 | 68.1 |
| | Over 36 years | 109 | 31.9 |
| 3. Marital status | Single | 180 | 52.6 |
| | Married | 162 | 47.4 |
| 4. Purpose at the market | Customer | 185 | 54.1 |
| | Entrepreneur | 157 | 45.9 |
| 5. Level of education | Primary | 14 | 4.1 |
| | Secondary | 148 | 43.3 |
| | College | 128 | 37.4 |
| | Graduate | 52 | 15.2 |
| 6. How many mobile money app(s) do you have? (coded) | None | 19 | 5.6 |
| | Only one app | 99 | 28.9 |
| | 2 or more apps | 224 | 65.5 |
| 7. Name your most preferred mobile money loan app. | None | 16 | 4.7 |
| | Tala | 96 | 28.1 |
| | Mshwari | 88 | 25.7 |
| | Branch | 54 | 15.8 |
| | KCB M-Pesa | 80 | 23.4 |
| | Others | 8 | 2.3 |
| 8. Do you save money on your mobile money loan app? | Yes | 128 | 37.4 |
| | No | 214 | 62.6 |
| 9. Have you ever been blacklisted at CRB for a nonpayment of mobile money loan? | Yes | 72 | 21.1 |
| | No | 270 | 78.9 |
| 10. Are you currently blacklisted at CRB? | Yes | 48 | 14.0 |
| | No | 294 | 86.0 |

means that the measurement model in the current study had passed the construct validity indicating that all the seven constructs under investigation shared a high proportion of variance.

Discriminant validity was tested by comparing the AVE of any pair of constructs with the square correlation estimate between them. The values with asterisks on Table 3 indicate the significant correlation estimates; the diagonal bold values indicate the square root of the respective AVE, while the value without the asterisks, indicates the squared correlation estimates. Thus, our model passed the discriminant validity test.

## 4.3 Structural model analysis on the EPAM model

Two non-significant relationships previously from the literature by Lim et al. (2018), perceived security – > satisfaction; and perceived security – > continuous intention were deleted from the post-acceptance model to improve fit. The model fit measures on the EPAM model are shown in Table 4, indicating that the overall model was ideal in supporting the standardized results shown in Table 5. All the model fit measures in this study were performed using the Gaskin and Lim (2016) AMOS plugin.

**Table 2.** Internal Consistency Reliability and Convergent Validity of the Measurement Model.

| Construct | Measurement variables | Factor loading >.70 | Cronbach's Alpha >.70 | CR >.70 | AVE >.50 |
|---|---|---|---|---|---|
| Fintech Service Knowledge | I have enough knowledge to use the mobile money lending app service. | 0.76 | 0.870 | 0.814 | 0.593 |
| | I have enough knowledge to handle any problems that arise during the use of the mobile money lending app service. | 0.76 | | | |
| | I have enough knowledge to process a mobile money lending app service transaction. | 0.79 | | | |
| Perceived security | I feel secure when using my mobile money lending app service pin authentication method. | 0.76 | 0.820 | 0.812 | 0.520 |
| | I feel secure when my mobile money lending app service transaction is done via Mpesa. | 0.76 | | | |
| | When I use the mobile money lending services, the app is safe. | 0.68 | | | |
| | My mobile money lending app service provider can verify my identity to ensure my account security. | 0.68 | | | |
| Perceived Usefulness | I use my mobile money lending app to secure an emergency loan quickly than going to the bank/Sacco. | 0.79 | 0.787 | 0.752 | 0.505 |
| | I think my mobile money lending app service make my life easier because I do not need to queue in a bank/ Sacco. | 0.72 | | | |
| | My mobile money lending app service is not limited by time and location restrictions, which is helpful for me. | 0.61 | | | |
| Perceived satisfaction | I enjoy using my mobile money lending app service when applying for quick loans. | 0.83 | 0.640 | 0.648 | 0.490 |
| | I usually have no complaints about my mobile money lending app service. | 0.54 | | | |
| Continuous Intention to use | My intention is to maintain my usage level of mobile money lending app services in the future. | 0.79 | 0.802 | 0.806 | 0.584 |
| | I intend to continue using the mobile money lending app services, rather than discontinue their use, in future. | 0.84 | | | |
| | I will keep using mobile money lending app services as regularly as I do now. | 0.65 | | | |
| Perceived confirmation | My experience with the mobile money lending app was better than what I expected. | 0.83 | 0.836 | 0.840 | 0.637 |
| | The service level or function provided by the mobile money lending app was better than what I expected. | 0.83 | | | |
| Overall, most of my | expectations about my mobile money lending app were confirmed. | 0.73 | | | |

**Table 3.** Correlation Analysis; the Average Variance Extracted; and Construct Reliability.

| Construct | CR | AVE | FSK | SEC | PU | SAT | CIU | CONF |
|---|---|---|---|---|---|---|---|---|
| FSK | 0.814 | 0.593 | **0.770** | | | | | |
| SEC | 0.812 | 0.520 | .662** | **0.721** | | | | |
| PU | 0.752 | 0.505 | .677** | .697** | **0.712** | | | |
| SAT | 0.648 | 0.490 | .412** | .465** | .443** | **0.700** | | |
| CIU | 0.806 | 0.584 | .312** | .407** | .302** | .403** | **0.764** | |
| CONF | 0.840 | 0.637 | .523** | .600** | .577** | .469** | .460** | **0.798** |

** Correlation is significant at the 0.01 level (2-tailed). CR = Construct Reliability; and AVE = Average Variance Extracted. FSK = Fintech Service Knowledge; SEC = Perceived security; PU = Perceived Usefulness; SAT = Satisfaction; CONF = Confirmation; and CIU = Continuous Intention to use.

**Table 4.** The EPAM Model.

| Measure | Estimate | Threshold | Interpretation |
| --- | --- | --- | --- |
| CMIN | 282.397 | – | – |
| DF | 126 | – | – |
| CMIN/DF | 2.241 | Between 1 and 3 | Excellent |
| CFI | 0.953 | >0.95 | Excellent |
| SRMR | 0.046 | <0.08 | Excellent |
| RMSEA | 0.06 | <0.06 | Acceptable |
| PClose | 0.036 | >0.05 | Acceptable |

CMIN/DF = Chi statistic; DF = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Standard Error Approximation; and SRMR = Standardized Root Mean Residual.

**Table 5.** Standardized Regression Weights on the EPAM Model.

| Path Name | Estimate | S.E. | C.R. | p |
| --- | --- | --- | --- | --- |
| H1: Fintech Service Knowledge → Perceived security | 0.881 | 0.061 | 11.521 | < 0.001 |
| H2b: Perceived security → Perceived usefulness | 0.998 | 0.083 | 13.036 | < 0.001 |
| H2a: Perceived security → Confirmation | 0.734 | 0.076 | 10.8 | < 0.001 |
| H4a: Perceived usefulness → Perceived satisfaction | 0.523 | 0.09 | 5.806 | < 0.001 |
| H3b: Confirmation → Perceived satisfaction | 0.391 | 0.086 | 4.419 | < 0.001 |
| H5: Perceived satisfaction →Continuous Intention to use | 0.593 | 0.073 | 8.358 | < 0.001 |

**Table 6.** Fit Measures on the Direct Role of Social Influence Model.

| Measure | Estimate | Threshold | Interpretation |
| --- | --- | --- | --- |
| CMIN | 300.829 | – | – |
| DF | 138 | – | – |
| CMIN/DF | 2.18 | Between 1 and 3 | Excellent |
| CFI | 0.951 | >0.95 | Excellent |
| SRMR | 0.046 | <0.08 | Excellent |
| RMSEA | 0.059 | <0.06 | Excellent |
| PClose | 0.054 | >0.05 | Excellent |

CMIN/DF = Chi statistic; DF = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Standard Error Approximation; and SRMR = Standardized Root Mean Residual.

**Table 7.** Standardized Regression Weights on the Direct Role of Social Influence.

| Path Name | Estimate | S.E. | C.R. | p |
| --- | --- | --- | --- | --- |
| H6a: Social Influence → Fintech Service Knowledge | 0.011 | 0.174 | 0.178 | 0.859 |
| H6b: Social Influence → Perceived security | 0.111 | 0.104 | 2.439 | 0.015 |
| H6c: Social Influence → Perceived usefulness | −0.047 | 0.116 | −0.996 | 0.319 |
| H6d: Social Influence → Confirmation | −0.013 | 0.125 | −0.268 | 0.789 |
| H6e: Social Influence → Perceived satisfaction | 0.187 | 0.124 | 3.631 | < 0.001 |
| H6f: Social Influence → Continuous Intention to use | 0.204 | 0.141 | 3.626 | < 0.001 |

The findings in Table 5 show that confirmation has no significant effect on perceived usefulness, thus rejecting hypothesis *H3a*. On the same note, perceived usefulness has no significant effect on continuous intention to use mobile money lending apps, thus rejecting *H4b*.

## 4.4 Direct effect of social influence

The model fit measurement on the overall direct effect model was excellent as captured in Table 6.

The significant hypothesized paths on the direct role indicated that social influence had the strongest significant positive effect on continuous intention to use ($\beta = 0.204$, $p < 0.001$) followed by satisfaction ($\beta = 0.187$, $p < 0.001$) and then perceived security ($\beta = 0.111$, $p = 0.015$) as shown in Table 7.

**Table 8.** Fit Measures on Multigroup Analysis Using Social Influence.

| Measure | Estimate | Threshold | Interpretation |
|---|---|---|---|
| CMIN | 501.698 | – | – |
| DF | 252 | – | – |
| CMIN/DF | 1.991 | Between 1 and 3 | Excellent |
| CFI | 0.925 | >0.95 | Acceptable |
| SRMR | 0.091 | <0.08 | Acceptable |
| RMSEA | 0.054 | <0.06 | Excellent |
| PClose | 0.167 | >0.05 | Excellent |

CMIN/DF = Chi statistic; DF = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Standard Error Approximation; and SRMR = Standardized Root Mean Residual.

**Table 9.** Multigroup Analysis Using Social Influence.

| Path Name | Low influence Beta | High influence Beta | Difference in Betas | P-Value for Difference | Interpretation |
|---|---|---|---|---|---|
| *H7a*: FSK → SEC | 0.743*** | 0.916*** | −0.174 | 0.545 | There is no difference. |
| *H7c*: SEC → PU | 0.892*** | 1.006*** | −0.113 | 0.059 | The positive relationship between PU and SEC is stronger for High influence. |
| *H7b*: SEC → CONF | 0.757*** | 0.719*** | 0.038 | 0.504 | There is no difference. |
| *H7e*: PU → SAT | 0.341† | 0.563*** | −0.221 | 0.825 | There is no difference. |
| *H7f*: CONF → SAT | 0.605*** | 0.374*** | 0.231 | 0.107 | There is no difference. |
| *H7h*: SAT → CIU | 0.346* | 0.668*** | −0.322 | 0.029 | The positive relationship between CIU and SAT is stronger for High influence. |

*** $p$-value < 0.01; ** $p$-value < 0.010; * $p$-value < 0.05 & † $p$ < 0.100. FSK = Fintech Service Knowledge; SEC = Perceived security; PU = Perceived Usefulness; SAT = Satisfaction; CONF = Confirmation; and CIU = Continuous Intention to use.

**Table 10.** Fit Measures on Multigroup Analysis between Customers and Entrepreneurs.

| Measure | Estimate | Threshold | Interpretation |
|---|---|---|---|
| CMIN | 570.405 | – | – |
| DF | 276 | – | – |
| CMIN/DF | 2.067 | Between 1 and 3 | Excellent |
| CFI | 0.916 | >0.95 | Acceptable |
| SRMR | 0.053 | <0.08 | Excellent |
| RMSEA | 0.056 | <0.06 | Excellent |
| PClose | 0.064 | >0.05 | Excellent |

CMIN/DF = Chi statistic; DF = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Standard Error Approximation; and SRMR = Standardized Root Mean Residual.

**Table 11.** Multigroup Analysis between Customers and Entrepreneurs.

| Path Name | Customers Beta | Entrepreneurs Beta | Difference in Betas | P-Value for Difference | Interpretation |
|---|---|---|---|---|---|
| FSK → SEC. | 0.875*** | 0.874*** | 0.001 | 0.825 | There is no difference. |
| SEC → PU. | 1.044*** | 0.924*** | 0.12 | 0.752 | There is no difference. |
| SEC → CONF. | 0.713*** | 0.758*** | −0.044 | 0.094 | The positive relationship between CONF and SEC is stronger for Entrepreneurs. |
| PU → SAT. | 0.584*** | 0.430*** | 0.154 | 0.413 | There is no difference. |
| CONF → SAT. | 0.400*** | 0.416*** | −0.017 | 0.751 | There is no difference. |
| SAT → CIU. | 0.577*** | 0.541*** | 0.036 | 0.924 | There is no difference. |

*** p-value < 0.01; ** p-value < 0.010; * p-value < 0.05 & † p < 0.100. FSK = Fintech Service Knowledge; SEC = Perceived security; PU = Perceived Usefulness; SAT = Satisfaction; CONF = Confirmation; and CIU = Continuous Intention to use.

## 4.5 Multigroup testing

Social influence was measured by three items adapted from Ajzen (1991) which were designed using a 5-point Likert scale. To interpret moderation effects, a composite score

**Table 12.** Fit Measures on the Multigroup Analysis on Saving Using Mobile Money Apps.

| Measure | Estimate | Threshold | Interpretation |
|---|---|---|---|
| CMIN | 480.246 | – | – |
| DF | 252 | – | – |
| CMIN/DF | 1.906 | Between 1 and 3 | Excellent |
| CFI | 0.932 | >0.95 | Acceptable |
| SRMR | 0.068 | <0.08 | Excellent |
| RMSEA | 0.052 | <0.06 | Excellent |
| PClose | 0.344 | >0.05 | Excellent |

CMIN/DF = Chi statistic; DF = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Standard Error Approximation; and SRMR = Standardized Root Mean Residual.

was created which was in turn converted into a standardized z score. A dummy binary

**Table 13.** Multigroup Analysis on Saving Using Mobile Money Apps.

| Path Name | Savings no Beta | Savings yes Beta | Difference in Betas | P-Value for Difference | Interpretation |
|---|---|---|---|---|---|
| FSK → SEC. | 1.049*** | 0.841*** | 0.208 | < 0.001 | The positive relationship between SEC and FSK is stronger for Savings no. |
| SEC → PU. | 0.842*** | 1.035*** | −0.193 | < 0.001 | The positive relationship between PU and SEC is stronger for Savings yes. |
| SEC → CONF. | 0.588*** | 0.772*** | −0.184 | 0.074 | The positive relationship between CONF and SEC is stronger for Savings yes. |
| PU → SAT. | 0.645*** | 0.447*** | 0.198 | 0.159 | There is no difference. |
| CONF → SAT. | 0.284* | 0.494*** | −0.21 | 0.102 | There is no difference. |
| SAT → CIU. | 0.538*** | 0.589*** | −0.051 | 0.732 | There is no difference. |

*** $p$-value < 0.01; ** $p$-value < 0.010; * $p$-value < 0.05 & † $p$ < 0.100. FSK = Fintech Service Knowledge; SEC = Perceived security; PU = Perceived Usefulness; SAT = Satisfaction; CONF = Confirmation; and CIU = Continuous Intention to use.

variable was then created with values less than or equal to 2.5 indicating a low level of social influence (coded 1) and values greater than 2.5 indicating a high level of social influence (coded 2). This approach is in tandem with Mende and Van Doorn (2015) and Gao, Melero-Polo, and Sese (2020) studies. Multigroup testing was investigated using the Gaskin and Lim (2018) AMOS plugin. The model fit measures for the social influence model was excellent as shown in Table 8.

The $p$-value of the chi-square difference test between the unconstrained and the constrained social influence model was significant (CI: 99%; $p = 0.082$); thus, the findings in Table 9 indicates the model differs across groups. Significant positive relationship was found between perceived security and perceived usefulness (H7c) and was stronger for respondents with high social influence. Equally, significant positive relationship was found between perceived satisfaction and continuous intention to use (H7h) and was stronger for respondents with high social influence (Table 9).

Multigroup analysis using the customers and entrepreneurs was tested. In Table 10, the model fit was excellent however, the $p$-value of the chi-square difference test between the unconstrained and the constrained model was not significant ($p = 0.269$).

Thus, its findings were to be interpreted with caution. This led to the cancellation of the results and focus on the multigroup analysis using mobile money lending apps, as shown on Table 11.

The overall model fit measures for the saving model which was found to be excellent is shown in Table 12.

The $p$-value of the chi-square difference test between the unconstrained and the constrained savings model was significant (CI: 99%; $p < 0.001$); thus, the findings in Table 13 indicate the model differs across groups.

## 5. Discussion

Financial constraints experienced by small firms in Kenya have been sorted by the roles played by fintech firms that have been lending mobile money soft loans to individuals. This has increased the level of financial inclusion for different households. Nevertheless, due to the numerous number of such firms, individuals are at a higher risk of over-

borrowing using different applications. This increases their chances of not fully repaying their loans on time consequently leading to the risk of being denylisted by the credit reference bureaus for nonpayment. When this happens, the defaulters become 'financially excluded', their creditworthiness is dented, and no firm lends them money anymore.

Users' knowledge of the mobile money lending services had a significant positive effect on perceived security (*H1*) among the participants. This finding agrees with Lim et al. (2018) and Gichuki and Mulu-Mutuku (2018) studies, both of which have advocated for the importance of increasing awareness about financial platforms to increase their adoption via mobile money services. The more users become knowledgeable about their preferred mobile money loan services, the more they will feel secure in acquiring mobile money soft loans via their mobile apps, indirectly increasing their continuous intention to use the services. In Kenya the mobile money loan apps that get much attention and clients, are the ones that advertise their services on popular radio stations and give out loan repayment discounts to new clients. This is evident from the demographic characteristic obtained in the current study.

Users' perceived security protection was found to be positively associated with their confirmation (*H2a*); and the usefulness (*H2b*), on the use of mobile money lending services. When the level of perceived security by the users in terms of the mobile money lending service app is high, then confirmation of the service and its usefulness are significantly high and vice versa. This statement agrees with the findings by Lim et al. (2018) on fintech services and Johnson, Kiser, Washington, and Torres (2018) on mobile money services. Equally, when the level of perceived security is high, the perceived usefulness of the mobile money lending services by the users' increases and vice versa.

The study found out that users' confirmation was not significantly associated with the perceived usefulness (*H3a*) of mobile money lending services. This finding disagrees with Bhattacherjee (2001); Susanto et al. (2016); and Lim et al. (2018) studies that had reported confirmation as having significant influence on perceived usefulness. However, confirmation significantly influences users' satisfaction (*H3b*) with the mobile money lending services offered by fintechs. This finding agrees with Bhattacherjee (2001); Hsu and Lin (2015); Susanto et al. (2016); and Lim et al. (2018) all of which have reported confirmation as having a significant influence on users' satisfaction.

Users' perceived usefulness of mobile money lending services was found to be positively associated with their satisfaction (*H4a*) a finding which agrees with Tobbin and Kuwornu (2011); Gao et al. (2020); Susanto et al. (2016) and Lim et al. (2018). This probably means that most Nairobians will consider mobile money lending apps useful only if they are satisfied with the services offered by the fintech company.

User satisfaction was positively associated with Nairobians' continuous intention to use (*H5*) mobile money lending apps services offered by fintechs. This finding agrees with Zhao, Lu, Zhang, and Chau (2012) and Lim et al. (2018) studies. The satisfaction under this context was in terms of accessing mobile money lending services quickly without any collateral as well as the minimal costs incurred using the mobile money lending app service.

The current study found that social influence has a significant direct role on perceived security, satisfaction, and continuous intention to use mobile money lending services. This finding is in tandem with Warsame and Ireri (2018) study which found that social influence has a strong significant effect on adopting mshwari mobile money lending

services in Kenya. A study by Lu, Yao, and Yu (2005) which showed that social influence significantly influences perceived usefulness, contradicts the current study. Another finding is that, the moderating role of social influence strengthens the positive relationship between perceived security and perceived usefulness; perceived satisfaction and continuous intention to use mobile money lending services, especially among mobile money lending apps users with strong social influence. We argue that when a fintech mobile money lending service is very useful, the role played by social influence toward its continuous intention to use increases and vice versa.

A few mobile money lending services offer saving options for its customers. A stronger positive relationship was observed between fintech services knowledge and perceived security for customers not using mobile money lending apps as their savings tools. It means that other factors such as trust, which were not investigated in the current study, can influence the continuous intention to use mobile money lending apps as saving tools. Equally, stronger positive relationships between perceived security and perceived usefulness; and perceived security and confirmation were observed among users with mobile money lending apps as savings tools. This mean that if a mobile money lending app is perceived as risky, then its usefulness is compromised. When the perceived security of using a mobile money lending app is high, user expectations goes up. Hence, its continuous intention to use increases and vice versa.

## 6. Practical and theoretical implications

We offer novel insights to fintech firms on the role of social influence on the continuance intention to use mobile mobile money lending apps. First, this article tackles the question of how fintech mobile money lending apps are perceived by customers in Nairobi, Kenya. Both customers and entrepreneurs (shop owners) have access to mobile money lending services. No application has been purely designed to cater for the two groups separately. In the structural model, the following variances were explained on the dependent constructs; perceived security 77.1%; confirmation 52.2%; perceived usefulness 99.5%; satisfaction 71.4%; and continuous intention to use 34.2%. This means that among the Nairobians, when it comes to continuous intention to use mobile money lending services, its perceived usefulness takes precedence, followed by perceived security, then satisfaction and lastly confirmation. These findings agree with studies by Bhattacherjee (2001); Premkumar and Bhattacherjee (2008) that reported perceived usefulness as having the greatest effect on continuous intention to use compared with satisfaction.

The practical implication of this study with regard to the proposed extended EPAM model is that social influence has the greatest impact on the continual use of mobile money lending services. It leads by influencing continuous intention to use at 20.4%; followed by perceived satisfaction at 18.8% and perceived security comes last at 11.1%. The theoretical implication of the study on the basis of the proposed extended EPAM model is that social influence plays a significant moderation role. It notably moderates the positive relationship of perceived satisfaction on continuous intention, and perceived security on perceived usefulness of mobile money lending services in Kenya. This study thus contributes to the literature on mobile money lending services using fintech apps.

While the current study has significant similarities with Lim et al. (2018), the latter did not investigate the role of social influence in their study. This study therefore addresses this gap by investigating the role of social influence on the expectation post-acceptance model when studying fintech brand services. Understanding the social influence and culture of a society can help curb the losses that may be incurred in terms of discontinuation of the service or lead to sustained profits due to continuous use of the services. M-Pesa is an example of a fintech service that has attributed its success to strong cultural and social influence.

## 7. Conclusion

Social influence has a significant direct role in perceived security, satisfaction, and continuous intention to use mobile money lending services. The moderating role of social influence strengthens the positive relationship between perceived security and perceived usefulness; and perceived satisfaction and continuous intention to use mobile money lending services. The study concluded that social influence greatly affects the continuous intention to use fintech mobile money services in the Kenyan context specifically and the African one generally.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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