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Examining Consumer Mobile Money Usage Behaviour in Ghana

(Work in Progress)

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ABSTRACT

This study develops a theoretical model to examine the effects of agent credibility and service quality on customer empowerment and the consequences of such empowerment in mobile money (MM) usage in Ghana. In total, 595 valid responses were collected using a pre-tested onsite-survey instrument. The research findings suggest that a higher level of MM agent credibility increases customer empowerment, which in turn positively affects the continuous usage of MM services. A significant association between MM agent service quality and customer empowerment was also noted. The study concludes with a discussion of study implications, limitations, and future research directions.

Keywords: Mobile money, agent credibility, customer empowerment, Ghana.

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INTRODUCTION AND RESEARCH AIM

Until recently, Africa was popularly known as the unbanked continent because of its crumbling infrastructure, weak internet connectivity, low levels of financial literacy, and thin branch network, all of which have made it daunting for governments, regulators, and the banking industry to increase financial inclusion, such as by providing financial services to unbanked and rural clients. But the widespread diffusion of mobile phones, among the most widely embraced technological devices in the consumer market (Revels *et al.*, 2010), has inspired digital transformation, increased financial inclusion, replaced brick-and-mortar locations, and created a profitable business proposition for the banking, telecom, fintech, and other sub-sectors of the economy in Africa and elsewhere. Mobile money is one initiative that banking and non-banking companies alike have developed and deployed to provide the under privileged consumer segment with access to formal banking and payment products and services.

Simply put, mobile money, also referred to as branchless banking, is a tool that allows customers to make financial transactions anytime and in any location using cell phone technology (Jack & Suri, 2011). Complemented by an agent network, this mobile-based payment channel has enabled and broadened access to financial and payment services to remotely located and previously unbanked segments of the population in most of the world's developing and emerging markets. Unlike traditional delivery channels, such as bank branches and ATMs, an agent in the mobile money service channel provides everyday banking and payment-related services to consumers on behalf of the banking institute or mobile network operator (MNO). Agents are designated and contracted by financial services companies or non-banking actors such as telecom and fintech firms.

Mobile money offers numerous benefits, including convenience, usability, usefulness, and low cost. In the context of this study, however, the sustained usage of these services in Ghana has not reached a sufficiently large scale following the initial adoption of such services. This situation has become a challenge both for established players and for new entrants, such as fintech start-ups. Previous studies (e.g. Osei-Assibey, 2015; Mothobi & Grzybowski, 2017) have examined the consumer adoption of mobile money services in Africa (including Ghana), but few have delved into which factors motivate the prolonged usage of mobile money technology and services within the underbanked and unbanked consumer segment and beyond. Research on the role the agent network plays is typically limited to market reports and working and policy papers developed and published by groups such as CGAP (2018) and McKinsey and Co. (2012). To the best of our knowledge, no empirical study has contributed to this domain by specifically examining the role that mobile money agents play in reaching customers and providing financial services to the unbanked nation of Ghana. The study clearly articulates that these singularities in the mobile money domain, which are critical to the study of mobile money and the identification of antecedents and consequences, therefore require examination.

To fill this gap, the underlying purpose of this study is to contribute to the empirical literature on mobile financial services and to examine consumers' actual user behaviour rather than their behavioural intention (Choi *et al.*, 2015). Recent researchers on mobile financial services (such as mobile banking) have typically explored behavioural intention, perhaps believing that behavioural intention is generally considered as the main determinant of actual behaviour (Choi *et al.*, 2015; Hansla *et al.*, 2008). Another purpose of this study is to develop a theoretical model to examine the effect of agent credibility and agent service quality on

customer empowerment as well as the consequences of such empowerment (e.g. continuous usage and customer engagement) on mobile money technology usage in a developing country.

RESEARCH QUESTIONS

This study addresses two research questions: What is the role of mobile money agents in driving customer empowerment? How does customer empowerment increase the continuous usage of mobile money technology?

THEORETICAL MODEL

The theoretical model, which includes five latent variables (as depicted in Figure 1), proposes that mobile money agent credibility and mobile money service quality have a direct effect on customer empowerment, which is hypothesized to positively affect the continuous usage of mobile money services as well as customer engagement. The model also proposes that the continuous usage of mobile money services will directly affect customer engagement with mobile money services.

METHODOLOGY

A pre-tested survey instrument – using items on an established scale from 1 (strongly disagree) to 7 (strongly agree) – was used to collect data from consumers in Ghana. The scale items were modified to suit the mobile money context. In part to achieve a certain level of generalisability of the research findings, the dataset consists of a sample of respondents from different socio-economic, age, and gender groups across Ghana who had mobile money usage experience (>4 months). In total, 595 valid responses were collected in December 2016. The SmartPLS 3.2.7 application (Ringle *et al.*, 2015) was used to test the research model. The sample's demographic characteristics are shown in Table 1.

Table 1: Demographic Characteristics (n=595).

Demographic characteristics	Frequency	Percent
<i>Gender</i>		
Males	316	53.1
Females	279	46.9
<i>Age (years)</i>		
18 – 25	356	59.8
26 – 35	173	29.1
36 – 45	48	8.1
46 – 55	18	3.0
<i>Highest level of education</i>		
Junior High School	9	1.6
Senior High School	137	23
O' Level / A' Level	11	1.8
Polytechnic	17	2.9
Teacher training	4	0.7
Bachelor /Master	414	69.5
Ph.D.	3	0.5
<i>Current employment status</i>		
Student	346	58.2
Employee/professional	229	38.5
Unemployed	7	1.2
Entrepreneur	13	2.2
<i>Usage frequency of cell phones</i>		
< 1 year	117	19.7
1 - 3 years	159	26.7
4 - 6 years	150	25.2
7 - 9 years	74	12.4
10 - 12 years	32	5.4
13 - 15 years	17	2.9
> 15 years	46	7.7
<i>MM Usage experience</i>		
< 1 month	85	14.3
1 - 4 months	92	15.5
5 - 8 months	82	13.8

9 – 12 months	118	19.8
13 - 16 months	69	11.6
17 - 20 months	37	6.2
> 20 months	112	18.8

RESULTS, DISCUSSION, AND THEORETICAL/MANAGERIAL IMPLICATIONS

The research findings suggest that higher levels of bank agent credibility increased customer empowerment ($\beta=0.37, t=7.51, p<0.001$), which in turn positively affected the continuous usage of mobile money services ($\beta=0.27, t=6.19, p<0.001$). Figure 1 shows the results of the structural model.

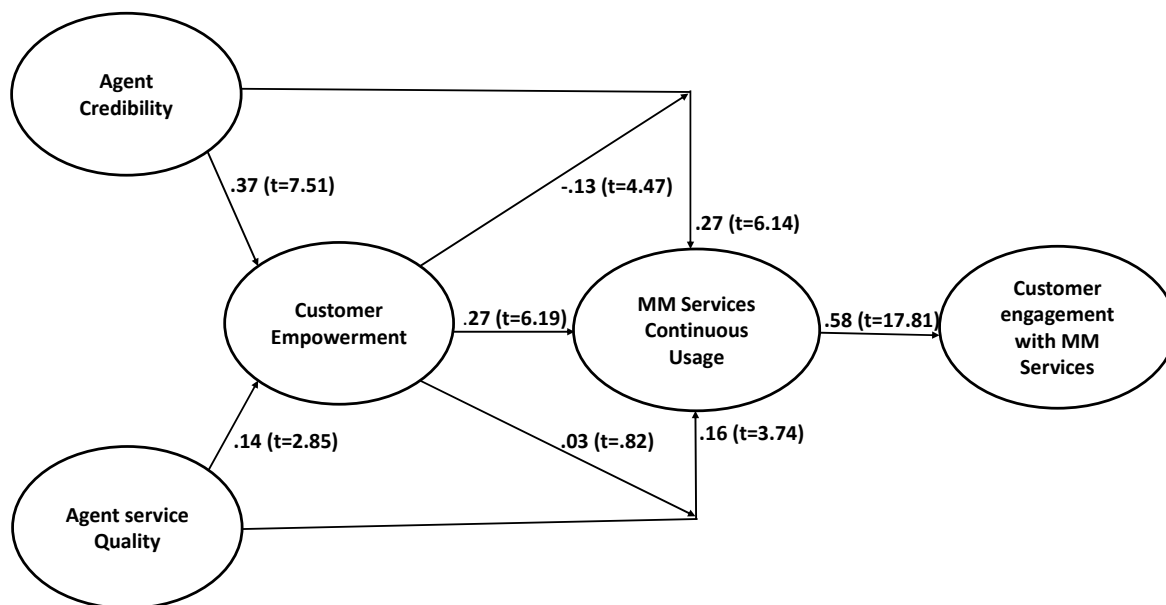


Figure 1: Structural Model Results

We found a significant association between agent service quality and customer empowerment ($\beta=0.14, t=2.85, p<0.01$). In addition, we found that the interaction between agent credibility and customer empowerment to be significant ($\beta=-0.13, t=4.47, p<0.001$), while the interaction between agent service quality and customer empowerment to be insignificant ($\beta=-0.03, t=0.82, p>0.05$). Thus, for less empowered customers, agent credibility is an important factor that enhance continuous usage of mobile money services. See Figure 2.

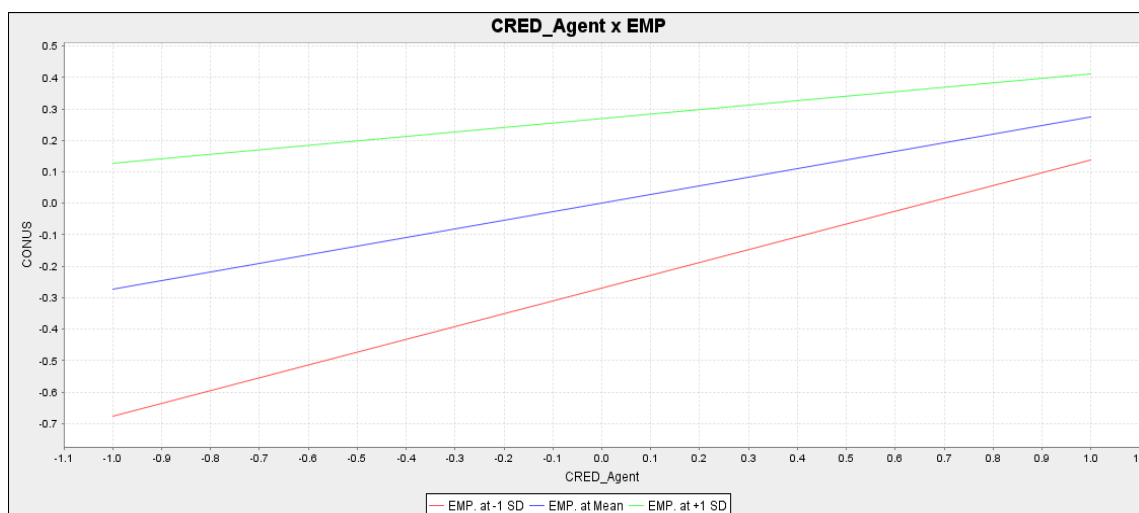


Figure 2: The Contingent Effect of Customer Empowerment

Regarding managerial implications, the findings highlighted the need for banking and non-banking companies in Africa to develop and implement strategies to increase the credibility of agents in order to ensure the reliability and confidentiality of financial transactions and the protection of individual privacy. Another relevant but interesting finding suggests that at low levels of customer empowerment, bank agent credibility increases the continuous usage of mobile money services. This finding suggests that agent credibility is one key to the sustained or prolonged use of mobile money services. This is largely because in branchless banking services, agent occupies a key position and, therefore, the branchless banking sometime refers to as the 'agent banking.'

Banking and non-banking institutions, in addition to providing a credible agent network, should also educate and train agents to provide better service quality to mobile money users. Improved services will empower customers as well as increase Africa's financial literacy, which currently falls under the sole jurisdiction of different governments and regulators. A carefully selected, contracted, trained, socially savvy, and credible agent network will thus help banking companies, MNOs, and fintech companies drive new business, increase the customer base (previously thought of as non-bankable), build brand awareness, and improve the customer experience.

This study contributes to the service marketing literature on how the service elements of quality and credibility relate to customer empowerment and outcome variables, continuous usage, and customer engagement in a validated nomological structural relationship. The paper highlights the importance of service agent characteristics in promoting customer empowerment.

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(*Full reference list is available upon request from the corresponding author.)

APPENDIX A: Survey Items

Items
Customer Engagement
<i>Activation</i>
I usually use MM services regularly.
I use MM services very often.
<i>Affection</i>
I feel very positive when I am using MM service.
Using MM service makes me happy.
I feel good when I am using MM service.
I am proud to use MM service.
<i>Cognitive</i>
Using MM gets me to think about the service.
I think about MM a lot when I'm using this service.
Using MM stimulates my interest to learn more about this service.
Continuous Usage
I intend to continue using MM rather than discontinue its use
My intentions are to continue using MM rather than use any alternative means

I would like to continue my use of MM.
Agent Credibility
Using MM agent service would not divulge my personal information
I would find the MM agent service secure in conducting my MM transactions
The MM agent is like a friend to me because of his truthfulness
The MM agent can always be relied on when doing cash transactions.
Agent Service Quality
MM agent provides on-time services
MM agent provides prompt responses
MM agent provides professional services
MM agent provides personalized services.
Customer Empowerment
Allow me to have control over my personal financial management (such as the fund transfer and the payment of utility bills).
Allow me to independently manage my personal finances (such as the fund transfer and the payment of utility bills).
Let me exercise my judgment in managing my personal finances (such as the fund transfer and the payment of utility bills).
Encourage my own initiative in managing my personal finances (such as the fund transfer and the payment of utility bills).
Provide enough information to let me manage personal finances (such as the fund transfer and the payment of utility bills) on my own.