MEDIATING ROLE OF CENTRAL BANK OF NIGERIA'S REGULATIONS ON THE AGENT BANKING AND MOBILE PAYMENT SUSTAINABILITY STRATEGIES IN NIGERIA

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Abstract

The study explores the mediating role of CBN's regulations on the agent banking andmobile payment sustainability strategies in Nigeria. The arguments are that agent banking decomposed as separation of ownership and control; risk preference; information asymmetry and moral hazards would enhance the sustainability of the strategies in some cases but would enhance it better if there were regulations. To this effect, an electronic survey was carried out via WhatsApp on a total of 745 registered agent banks in Ebonyi State, Nigeria. Only 268 registered agent banks responded to the questionnaire, and the data gathered were analyzed using the Hayes' mediation model. The findings indicated that separation of ownership and control enhances the sustainability of the strategies (β = 0.169); information asymmetry enhances the sustainability of the strategies as well (β = 0.319); risk preference does not enhance the sustainability of the strategies (β = -0.114) and moral hazards do not enhance the sustainability strategies as well (β = -0.106). However, when combined with regulations, there were improvements in the effects: separation of ownership and control and sustainability through regulations (c^1= 0.305); information asymmetry and sustainability through regulations (c^3= 0.339); risk preference and sustainability through regulations (c^2= -0.197); and moral hazard and sustainability through regulations (c^4= -0.179). The paper recommends that commercial banks should to adopt policies that reduce risk preference and moral hazards, agent banks should maintain separation of ownership and control and information asymmetry, while the CBN must continue to regulate and provide favorable policies to support agent banking in Nigeria.

Keywords: Agent Banking, Mobile Payment Sustainability, Regulations, financial inclusion.

1.0   Introduction

Agent banking can be seen from different perspectives: it can be seen as a means for achieving the Central Bank of Nigeria's (CBN) strategies (Baganzi and Lau, 2017; Ogunwusi, 2020), as a competitive strategy that commercial banks adopt to outwit their contemporaries in the distribution of Digital Financial Services (DFS) to customers, particularly in rural and remote areas (Agu, Anidiobu, and Ezinwa, 2016; David-west,

Iheanachor, and Umukoro, 2019), or as sources of employment to the young men and women who act as such agents (Faustin and Harelimana, 2016; Jumah and Wagaki, 2017; Ogunwusi, 2020). Agent banking is the provision of financial services to customers by a third party (agent) on behalf of a licensed deposit-taking financial institution and/or mobile money operator (principal) (CBN, 2013). It involves the distribution of financial services outside conventional bank branches, through non-bank retail agents, while relying on technologies like card readers, Point-of-Sale (POS) terminal or mobile phones for real-time transaction processing (Ogah, Okwe, and Adeoye, 2015). A typical banking agent is a retail or postal outlet that has been contracted by a licensed commercial bank or a mobile money operator to provide a range of financial services to customers (CBN, 2013). This new form of banking system aims to enhance financial inclusion (Gbongli, Xu, and Amedjonekou, 2019). Banking agents are expected to act as channels for cost-effective delivery of banking services.

The expectations are that: with agent banking, the attainment of the CBN's Financial System Strategies goals of 80% financial inclusion by the year 2020 is possible; commercial banks would easily achieve their expansion goal, and jobs would be created for the banking agents (Akiyode-Lawanson, 2019). These expectations are however plausible only to the extent that agent banking is less problematic or cost-effective. These exceptions are hinged on the assumptions of Jensen and Meckling, 1976's Agency Theory, which suggests that owners' (principals') expectations are that managers (agents) would run their company in their best interest on one hand and that agents expectation, on the other hand, is that principals would furnish them with the necessary incentives they need to run their company in their best interests (Panda and Leepsa, 2017). Disparities in the interests between principals and agents could translate into agency conflicts and could lead to termination of their contract. Such conflicts could arise as moral hazards, information asymmetry, different risk preferences, and separation of ownership from control (Panda and Leepsa, 2017). These conflicts would predict independently the sustainability of their contract. In relation to this study, this conflict could distort the

sustainability of the mobile payment strategies by the CBN, because it makes agent banking less lucrative for the agents.

The total estimated number of agent banks that is required to effectively serve the nation is 180,000, but as at December 2017, only about 30,000 agent banks are in operation. Thus, indicating the level of growth stagnation that the agent banking suffers in Nigeria(Faustin and Harelimana, 2016; Jumah and Wagaki, 2017; Akiyode-Lawanson, 2019). The cause of this stagnation may not be far from the various problems that bedevil the principle-agent relationship. Although very few empirical studies have been conducted to confirm this so far (Waihenya, 2012; Agu, Anidiobu and Ezinwa, 2016; Panda and Leepsa, 2017; Son and Kim, 2018). However,this conflict which exists between the principal and agent could be mediated upon by some regulations by the higher authority to improve this relationship. These are tired upon the assumptions of the government bailout theory of Garcia and Panetti, (2017) that the expectation of a future liquidity injection would cause less conflicts. Accordingly, research (e.g. Garcia and Panetti, 2017) has shown that bailouts serve as motivation that fosters relationships between parties. For instance, the fact that the government provides bailouts once in a while for some sectors motivates their managers to improve on their performance. Bailouts in this study represent the various regulations provided by the CBN to sustain the mobile payment strategies. These include the various regulatory guidelines that establish and protect parties involved in the agency contracts, which the apex bank has provided to ensure that more of these agent banks are established and that existing ones are sustained as well. Such bailouts include permissible activities, prohibited activities, operational and transactional limits.

Sustainability can be defined as the ability to maintain a process, a business, or activity to the extent that it can attain its original purpose for which it was established and it can preserved for a longer period (Oudah, Jabeen and Dixon, 2018). Concerning this study, it represents the extent to which the CBN's financial inclusionstrategies could be met and sustained over a long period. Sustainability appears to be an issue in Nigeria (Zahan, 2017), most laudable projects, strategies, and policies and business ideas do not last

through their life span because of maintenance and sustainability issues. Apart from corruption that is easily labeled the culprit for such failures, other causes are inadequate planning and the adoptions of wrong models that were never designed with Nigerian context in mind. Especially business models, the Nigerian business environment is bedeviled with a lot of unfavorable conditions ranging from insecurities, lack of basic infrastructures, unhealthy competition with foreign firms, and multiple taxes. Such scenarios can easily render banking agents ineffective, and the attendant result would be their inability to maintain and sustain their outlets due to increased operational costs. Thus leading to the non-attainment of the CBN's financial inclusion goals.The concern of this paper therefore is whether the current state of agent banking in Nigeria would guaranty the sustainability of the CBN's mobile payment strategies.The paper is also concerned about the CBN's bailout strategies in the forms of regulations which wouldreduce the effects of agent banking problems on the sustainability of the mobile payment strategies. The purpose of this study, therefore, is to determine the effect of agent banking on the sustainability of mobile payment and the extent to which bailouts (regulations) mediate that effect.

The remaining part of the paper is divided into five (5) sections. The next section, which is section two deals with the literature review, where the theoretical framework upon which the hypotheses of the study were formulated, were reviewed and discussed. Section three deals with the methodology of the study, where the processes and steps of the investigations were explained. Section four deals with the presentation, analysis and interpretation of the data generated for the study. While section five, which is the last section, presented and discussed the findings of the study, draw conclusions and proffer recommendations.

2.0 Literature Review

Agent banking according to (CBN, 2013), is the provision of financial services to customers by a third party (agent) on behalf of a licensed deposit-taking financial institution and/or mobile money operator (principal). Ogah, Okwe and Adeoye, (2015),

described agent banking as financial services delivery through non-bank agents, outside of conventional bank branches that rely on technology like card readers, POS terminals or mobile phones for real-time transaction processing. There appears to be a consensus amongst the limited number of studies so far conducted that agency conflicts consist of separation of ownership from control which increases the agency costs; differences in risk preferences, i.e. self-interested individuals rather than a unified, profit-maximizing entity; information asymmetry and moral hazards (Waihenya, 2012; Agu, Anidiobu and Ezinwa, 2016; Panda and Leepsa, 2017; Son and Kim, 2018). The paper adopts these constructs as the dimensions of agent banking in Nigeria. These constructs have been shown in previous studies (e.g. Anidiobu and Ezinwa, 2016) to have relationships with different issues such as insecurities, high cost of operations, and high risks, which affects the survival and sustainability of mobile payment strategies in Nigeria.

Separation of ownership from control often time would lead to loss of proper monitoring by the owners on the managers, where the managers use the business property for their private purpose to maximize their welfare. In this case, the owners/principals represent the commercial banks that grant their licenses to agent banks to make use of their logos, brand names, devices, and other materials to run their businesses. Although the agents perform the services of these principals, the principals do not have absolute control over what the agent do; because the agents can be involved in other business operations outside the banking services, which help them to generate incomes that assist them to recoup their operation costs. Such conditions could lead to less commitment on the part of the agent and could lead to the termination of their contract. Prior studies have indicated that the separation of ownership from control enhances sustainability in relationships (Mantri and Feng, 2011; Siddiquie, 2014; Mahmood and Sarker, 2015; Mwende, Bichanga and Mosoti, 2015; David-west, Iheanachor and Umukoro, 2019; Gbongli, Xu and Amedjonekou, 2019). These findings are however contestable, as other researchers have made contrary findings (Baganzi and Lau, 2017). It is however possible that the regulations by a higher authority like the CBN could enhance this findings; for instance, if the CBN provides regulations that favor these agent banks, they would have

greater control than when they are operating directly with the commercial banks. Based on thispremise, the paper hypothesized that:

H1: Separation of ownership and control has a significant direct effect on the sustainability of mobile payment strategies.

H1$_a$: CBN's regulations increase the effect of separation of ownership and control on the sustainability of mobile payment strategies.

Risk preference refers to the disparity in the preference of risk between the principals and their agents. Usually, agents would prefer stability since their income and job depends on their firms, while their principals (i.e. commercial banks), on the other hand, would prefer to invest in a moderately risky ventures that have high profits. This would often time lead to less commitment by the agents because the agents would usually pursue projects that are less risky to them. The forms of risk that the principal would prefer are risks that would return higher profits, and the agent banks, on the other hand, would prefer the sought of risks that they can manage, and would rather not follow every decisions and suggestion of the banks (Panda and Leepsa, 2017). Previous researches in this area have indicated similar findings that risk preferences do not support sustainability (Agu, Anidiobu and Ezinwa, 2016; Akiyode-Lawanson, 2019). Although this occurs, it does not occur in all cases, as found by other researchers(Baganzi and Lau, 2017; Panda and Leepsa, 2017); the regulations in the forms of permissible activities approved from a higher authority like the CBN could be the reason for the contradictions. This study, therefore, argues that if the CBN regulations favor agent banks, they may be less risk-averse and this could lead to the sustainability of the mobile payment strategies. Thus, the study hypothesized that:

H2: Risk preference has a significant direct effect on the sustainability of mobile payment strategies.

H2$_a$: CBN's regulations increase the effect of risk preference on the sustainability of mobile payment strategies.

Concerning information asymmetry, it is susceptible to distorting information between the different parties in the contract. In thiscase, the principals, always expect information

from the agent banks concerning the business. The agent banks, on the other hand, would oftentimes sieve or sort the information that they release to their principals, as this benefits them (Panda and Leepsa, 2017). Such situations could result in information asymmetry, which could easily translate to non-sustainability and the termination of their contract (Mantri and Feng, 2011; Vutsengwa and Ngugi, 2013; Mahmood and Sarker, 2015; Mwende, Bichanga and Mosoti, 2015; David-west, Iheanachor and Umukoro, 2019). This may however not be the case in every situation, particularly if there are regulations from a higher authority which would mediate the effect of information asymmetry on the sustainability of mobile payment strategies. This paper therefore, hypothesized that:

H3: Information asymmetry has a significant direct effect on the sustainability of mobile payment strategies.

$H3_a$: CBN's regulations increase the effect of information asymmetry on the sustainability of mobile payment strategies.

Moral hazard could lead to agents suffering loss because the principal often utilizes their skills for risky projects that they are often unaware of. This could lead to conflicts and the ultimate termination of the contract. Agent banks utilize their own properties and expertise and sometimes take risks at their expense for their principal banks. Sometimes, they may even suffer losses for which they may never get adequate recompense for. This may cause them to renege in their efforts or transfer their efforts towards other media with less risk. Prior studies have indicated that the moral hazard does not enhance sustainability in relationships (Vutsengwa and Ngugi, 2013; Faustin and Harelimana, 2016; Baganzi and Lau, 2017; David-west, Iheanachor and Umukoro, 2019). This paper contends that the CBN's regulations could serve as a buffer in this relationship; and therefore hypothesized that:

H4: Moral has an indirect effect on the sustainability of mobile payment strategies.

$H4_a$: CBN's regulations increase the effect of moral hazard on the sustainability of mobile payment strategies.

Fig 1: **Conceptual Model on Agent Banking, Central Bank of Nigeria Regulations and Sustainability of Mobile Payment Strategies in Nigeria.**
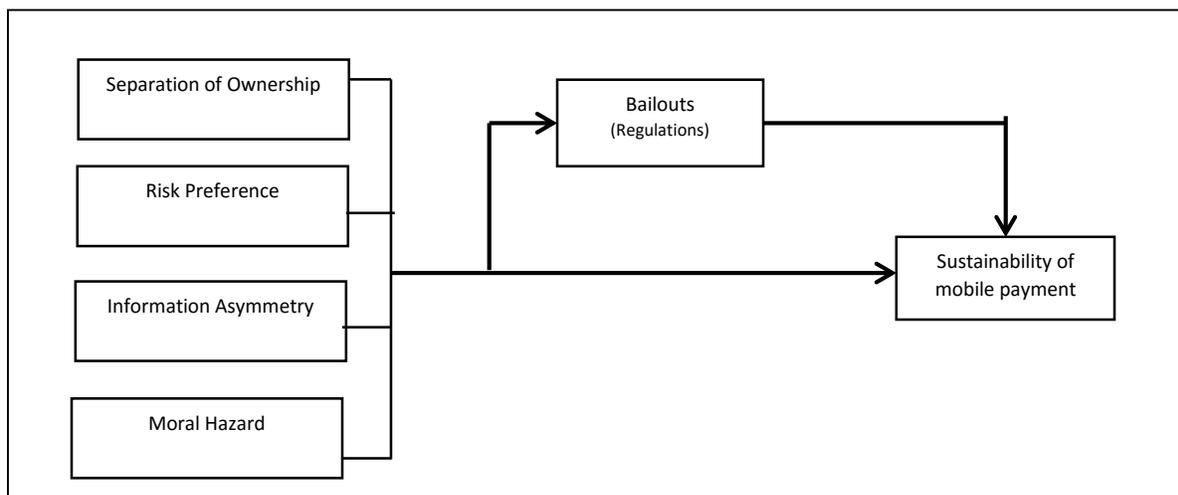
Source: *Authors' design*

Figure 1 presents the conceptual model of the study which shows the eidolon of the effects of agent banking on the sustainability of mobile payment strategies in Nigeria. The Model indicates that agent banking represents the separation of ownership from control, risk preference, information asymmetry, and moral hazards which affect the sustainability of mobile payment strategies. Furthermore, the Model suggests that the variables individually connect with regulations, and present their various effects on the sustainability of mobile payment strategies.

3.0   Methods

3.1 Population, Sample Size and Sources of Data

The design adopted for this research is explanatory; this is basically because the research aimed to determine the effects of the predicting and mediating variables on the outcome variable of the study. This type of design is usually suitable when the goal of the research is to establish a relationship between a casual variable and a criteria variable (Kothari, 2004). The research population is comprised of 745 registered agent banks,who were seen to be in a better position to reveal whether the system is effective or not and whether they will be able to sustain the mandate given to them by the CBN or not.The

study collected data using questionnaire which were administered through WATSAPP platforms of the agents banks, where they share information and make complaints as well. The study utilized this approach because they are highly dispersed and it would require a huge budget to meet them individually at their outlets. The study sent a structured questionnaire through google forms to three of these known WATSAPP platforms, and the response rate after one week was 268, which was therefore used as sample of the study.

3.2 Scale Development

The items used to measure the variables of this research were developed, designed, and constructed specifically for this study. The items were developed from the various assumptions of the agency and the government theories utilized in this study; this is basically because these assumptions made up the variables of the research. Although it would have been easier to adapt already validated scales that have been used by similar studies, we were unable to obtain such scales. Most studies (Faustin and Harelimana, 2016; Gbongli, Xu and Amedjonekou, 2019) that have been conducted in this area have utilized longitudinal data and not questionnaire survey data like ours. The study however utilized survey data because of the peculiarity of the firms' understudy; they are micro/small firms that are not bounded by law to keep and provide their financial records. Furthermore, they are still relatively new in Nigeria, therefore the majority of them are starting new. To ensure that the scale developed was valid, the study conducted an Exploratory Factor Analysis (EFA) on the data gathered, and we data loadings that were below the threshold of 0.50 eliminated. Apart from the control variable (gender), the outcome, predictor, and mediating variables were all scaled on the five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The reliability of these scales was accessed through the composite reliability, and only scales with alphas above 0.70 were utilized.

3.3 Sustainability of Mobile Payment

The sustainability of mobile payment in this study refers to achieving the aim of delivering financial services to under banked and unbanked members of society. It represents all the activities that ensure the continuation of the spread of the financial inclusion strategies by the CBN. Sustainability, as measured in this study, determined the extent to which the owners of agent banks agree or disagree that they are willing to continue with the business; the extent to which they agree or disagree that meeting up with the CBN's mandate is feasible; the extent to which they agree or disagree that there are enough incentives given by their principal banks for them to recover the operational costs in their business; and the extent to which they agree or disagree that their clients like utilizing their services. This scale proved valid after the Exploratory Factor Analysis (EFA), with a loading between 0.82-0.93; the scale was also reliable with an alpha of 0.76.

3.4 Separation of ownership and control

Separation of ownership and control as defined in this study refers to the situation where there is a loss of proper monitoring by the commercial banks on the agent banks, a situation where the agent bank utilizes the business property of the commercial banks for their private purposes to maximize their welfare. This, therefore, represented the extent to which the owners of agent banks agree or disagree that they prefer when they set their charges than when charges are set by the banks; the extent to which they agree or disagree that the properties of their principal banks assist them to make profits in other areas outside banking services; the extent to which they agree or disagree that various other benefits accrue to them simply because they are agents for a particular commercial bank; and the extent to which they agree or disagree that their own decisions are what their businesses operate on. The validity of the data indicated a fit, showing EFA loading between 0.84-0.89, and the reliability of the data indicated an alpha of 0.82.

3.5 Risk Preference

Risk preference here means that the agent bank owner's perceptions about risk are quite different from those of the commercial bank, such that there is always a struggle to reconcile their preferences. This divergence in their preferences could result in conflicts.

This measured the extent to which the agent banks agree or disagree that the banks' decisions do not affect their investment decisions; theextent to which they agree or disagree that they could take loans from other firms outside their principal banks and the extent to which they agree or disagree that they can delve in other banks branches other than that of their principal banks. With regards to validity, this scale was fit, the EFA indicated loadings of between 0.81 and 0.85, and the alpha indicated that the scale was reliable at 0.77

3.6 Information Asymmetry

Information asymmetry refers to the levels of disparity in the availability of information or the extent of the message that the owners get from the agents. It deals with the extent to which agent banks agree or disagree that they distort the information that they release to their principal banks and the extent to which they agree or disagree that they hoard information about other investments to their principal banks. The EFA suggested the validity of between 0.76 and 0.79, with an alpha of 0.71.

3.7 Moral Hazard

This is a situation that occurs when the agent banks have incentives to increase their exposure to risk because they do not bear the full costs of such risks, but may still have to suffer some measures for failure. This scale measures the extent to which the agents agree or disagree that some of the investment decisions of the principal banks cause them to suffer losses; the extent to which they believe that such decisions incur more cost to them; the extent to which the decisions of the principal banks halt the business activities of the agents. The scale was valid with EFA ranging from between 0.81 to 0.88, and the alpha was 0.89.

3.8 Bailouts

Bailouts in this study are referred to as the various incentives provided by the apex bank that is geared towards sustaining the mobile payment strategies. These include regulations and guidelines which the apex bank has provided to ensure that more of these agent banks are created and that existing ones are sustained as well. Such regulations

include permissible activities of both parties, the prohibited activities, operational and transactional limits of both parties. This scale measured the extent to which agent banks agree or disagree that they rely on the permissible activities as stipulated by the apex bank to carry on their business; the extent to which they agree or disagree that they prohibitive activities stipulated by the apex bank regulate their businesses. The scale was valid with EFA ranging from between 0.75 to 0.80, and the alpha was 0.83.

3.9 Gender

Gender was treated as a control variable in this study. The study examined how the gender of an agent banker affects the sustainability of the mobile payment strategies. Studies have shown that the gender of an agent would affect his/her level of control, risk appetite, information needs, and nature of decisions (e.g.(Faustin and Harelimana, 2016; Gbongli *et al.,* 2019).This study therefore examines how gender affects the sustainability of the strategies.

3.10 Techniques for Data Analysis

The technique adopted for the data analysis in this study is Hayes' Mediated Regression Analysis. This analysis establishes the causal effect between a predictor variable through a mediator(s) to an outcome variable. The approach is an advancement of the Baron and Kenny mediation approach which usually considers only the partial mediation and not the total mediation (Hayes, 2018). This approach gives holistic effects consisting of the direct, indirect, and total effects of the predictor variable through the mediator variable to the outcome variable. This was performed through the PROCESS V. 3.0 plugging in the Statistical Package for Social Sciences (SPSS). The outcome variable (sustainability of mobile payment) was loaded under the section labeled *Y*, while the various dimensions of the agency conflicts were loaded simultaneously under the section labeled as *X*; whereas the mediator variable (regulations) was loaded under the section labeled as *M.* We adopted a bootstrapping benchmark of 10,000, while the Model option was 4.

Table 1: Descriptive Statistics and Correlation between Agent Banking, Bailouts and Sustainability of M-Payment

Variables	Mean	SD	Gender	SO	RP	IA	MH	BR	SMY
Gender	1.54	.499							
Separation of Ownership	12.62	4.77	.356**						
Risk preference	11.76	4.55	-.273**	-3.71**					
Information Asymmetry	12.47	4.72	.160**	.018	.251**				
Moral Hazard	11.90	5.27	-.349**	-.129*	.297**	.246**			
Bailouts (regulations)	8.43	3.81	.261**	.412**	-.250**	.091	-.263**		
Sustainabilityof M/payment	12.27	4.83	.591**	.474**	-.334**	.419**	-.377**	.552**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: *SPSS V 23.0 Output*

Note: SO = Separation of Ownership; RP = Risk Preference; IA = Information Asymmetry; MH = Moral Hazard; BR Bailout/Regulations; SMY = Sustainability/M-Payment

4.0 Results

Table 1 indicated that gender has a positive and significant relationship with sustainability (r = 0.591; p< 0.01). By implication, the gender of the agents has a direct effect on sustaining the strategies. The relationship between separation of ownership and control indicated a positive and significant relationship as well (r = 0.474; p< 0.01), meaning that the higher the levels of separation in ownership and control, the higher the chances of sustaining the program. This finding is in tandem with the finding of previous studies (Agu, Anidiobu and Ezinwa, 2016; Baganzi and Lau, 2017; Akiyode-Lawanson, 2019). On the relationship between risk preference and sustainability, the finding showsa negative and significant relationship (r = -0.334; p< 0.01); meaning that there is an inverse relationship between risk and sustainability. Higher levels of risks will reduce the chances of sustaining the CBN's mobile payment strategies.   This finding aligns with those of prior studies as well (Gbongli, Xu and Amedjonekou, 2019). Information asymmetry and sustainability indicated a positive and significant relationship (r = 0.419; p< 0.01), meaning that higher levels of information asymmetry between both parties would increase the chances of sustaining this program. The relationship between moral hazard indicated negative and significant (r = -0.377; p< 0.01), which implies the higher the levels of moral hazard, the lesser the chances that the program will be sustained. Between bailouts and sustainability; there is a positive and significant relationship (r = 0.552; p< 0.01), implying that higher number of bailouts has a direct relationship with the sustainability of the mobile payment strategies forfinancial inclusion.

4.1   Hypotheses Testing

To test the hypotheses of this study, we collated data on the various constructs of the study; for agent banking, for instance, the constructs included the separation of ownership and control, risk preferences, information asymmetry, and moral hazards, and data was collated for each of the constructs and correlated against the data gathered from the sustainability of mobile payment strategies. Also, the data for the bailout was collated and used as a mediator in testing against the separate effects of the various agent banking variables on the sustainability of mobile payment strategies.

Table 2.1: Separation of Ownership and Sustainability of Mobile Payment

		M (Bailouts)				Y (Sustainability)		
Antecedent		Coefficient	SE	P		Coefficient	SE	P
X (SEP.)	a	0.292	0.047	0.001	c'	0.169	0.0483	0.005
M					B	0.467	0.0585	0.001
C_1	f_1	1.010	0.454	0.001	g_1	4.214	0.4360	0.001
Constant	i_M	3.195	0.772	0.05	i_y	-0.306	0.7586	>.001
		$R^2 = 0.185$				$R^2 = 0.540$		
		$F(2, 265) = 30.062, p < .001$				$F(3, 264) = 103.333, p < .001$		

Table 2.2: Risk Preferences and Sustainability of Mobile Payment

		M (Bailouts)				Y (Sustainability)		
Antecedent		Coefficient	SE	P		Coefficient	SE	P
X (RSK)	a	-0.162	0.051	0.01	c'	-0.114	0.0475	0.01
M					B	0.513	0.0565	0.001
C_1	f_1	1.594	0.462	0.005	g_1	4.411	0.4342	0.001
Constant	i_M	7.878	1.071	0.001	i_y	2.471	1.0803	0.05
		$R^2 = 0.103$				$R^2 = 0.540$		
		$F(2, 265) = 15.210, p < .001$				$F(3, 264) = 98.863, p < .001$		

Table 2.3: Information Asymmetry and Sustainability of Mobile Payment

		M (Bailouts)				Y (Sustainability)		
Antecedent		Coefficient	SE	P		Coefficient	SE	P
X (INF.)	a	0.040	0.883	>.001	c'	0.319	0.039	0.001
M					B	0.519	0.050	0.001
C_1	f_1	1.937	0.459	0.001	g_1	4.201	0.388	0.001
Constant	i_M	4.937	0.883	0.001	i_y	-2.564	0.764	0.01
		$R^2 = 0.071$				$R^2 = 0.613$		
		$F(2, 265) = 10.096, p < .001$				$F(2, 265) = 139.554, p < .001$		

Table 2.4: Moral Hazard and Sustainability of Mobile Payment

		M (Bailouts)				Y (Sustainability)		
Antecedent		Coefficient	SE	P		Coefficient	SE	P
X (M-Haz.)	a	-0.142	0.045	0.01	c'	-0.106	0.042	0.01
M					B	0.512	0.056	0.001
C1	f_1	1.477	0.475	0.05	g_1	4.307	0.444	0.001
Constant	i_M	7.837	1.071	0.001	i_y	2.559	1.077	0.1
		$R^2 = 0.1019$				$R^2 = 0.530$		
		$F(2, 265) = 15.040, p < .001$				$F(2, 265) = 99.267, p < .001$		

SEP stands for Separation of Ownership; RSK stands for Risk Preference;INF stands for Information Asymmetry; M-Haz stands for Moral Hazard

Source: *PROCESS V 3.0 Output*

Fig 2: Summary of the Agent Baking-Sustainability of Mobile payment strategies effects
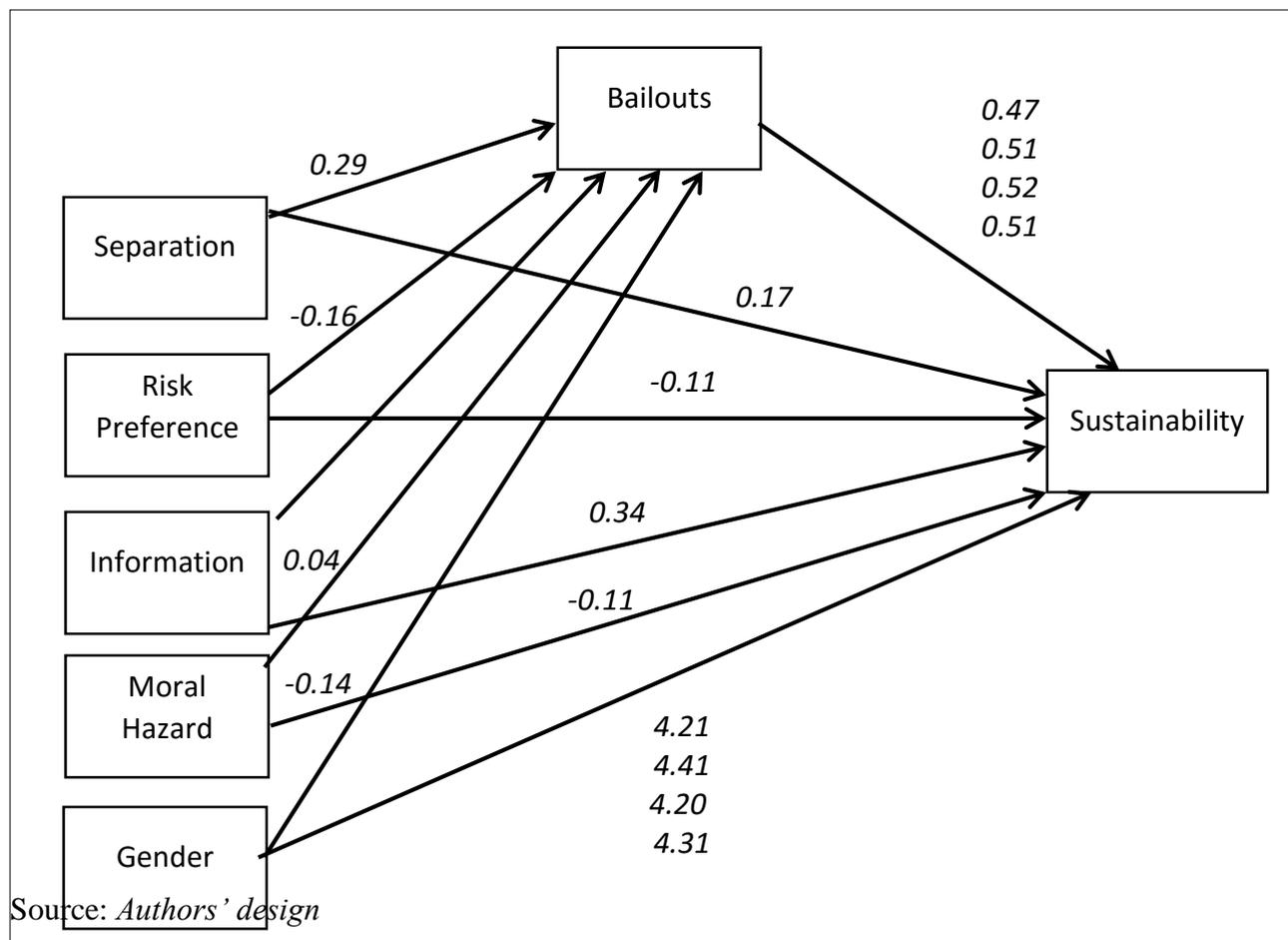

Source: *Authors' design*

Table 2 shows the results of the multiple mediation models that were tested to show the effects of Agent Banking on the sustainability of mobile payment. The results indicated that: there is a statistically positive significant effect of separation of ownership on sustainability (C'_1=0.169; P<0.005); there is a statistically negative significant effect of risk preferences on sustainability (C'_2= -0.114; P<0.01); Information asymmetry has a positive significant effect on sustainability as well (C'_3=0.319; P<0.001) and Moral Hazard, has a negatively significant effect on sustainability (C'_4= -0.106; P<0.01). This indicates that indirect effects exist between every form of Agent Banking and sustainability; separation of ownership and sustainability through regulations (b_1 = 0.136, P<0.001), risk preference through regulations to sustainability (b_2 = -0.083, P<0.001), information asymmetry to

sustainability through regulations (b_3 = 0.021, P<0.001), and moral hazard and sustainability through regulations (b_4 = -0.073, P<0.05).

The total effect also show statistical significance of separation of ownership on sustainability (C_1= 0.167; 0.136 ≤ C_I ≤ 0.305), statistical significance of risk preference on sustainability (C_2= -0.114; -0.083 ≤ C_I ≤ -0.197) statistical significance of information asymmetry on sustainability (C_3= 0.319; 0.021 ≤ C_I ≤ 0.339) and a statistical significance of moral hazard on sustainability (C_4 = -0.106; -0.073 ≤ CI ≤ -0.179).

5.0   Discussion of Results

This study aimed to determine the mediating roles that bailouts (regulations) play on the effect of agent banking in the sustainability of mobile payment strategies. The results indicated that the sustainability of mobile payment was significantly predicted by separation of ownership and control and information asymmetry, whereas, risk preferences and moral hazards do not predict sustainability of mobile payment. These findings are not farfetched from the findings of prior studies (Agu, Anidiobu and Ezinwa, 2016; Akiyode-Lawanson, 2019; David-west, Iheanachor and Umukoro, 2019; Gbongli, Xu and Amedjonekou, 2019). Normally, situations, whereby the agents have more controls, would often translate into greater and higher sustainability, than situations where their controls are less. Regulations, however, brings about improvements in both situations. In other words, there are divergence in the direct effects and mediated effect (i.e. indirect and total effects). The apriori assumptions of this study were premised on sound theoretical grounds and sequential logic as earlier explained. The assumptions are that contracts would be easily sustained when there is less conflict between stakeholders and agents and that even when the conflicts are high, palliatives from a higher authority would help reduce such conflict and lead to the sustainability of such contracts (Mantri and Feng, 2011; Mwende, Bichanga and Mosoti, 2015; Faustin and Harelimana, 2016; Baganzi and Lau, 2017).

The indirect effects indicated a stronger effect of risk preference and moral hazards through regulations respectively. By implication, these results indicate a slight increase from the inverse effects that were initially displayed in the direct effects. What this

means is that although the effects of risk preference and moral hazards dampen the sustainability of mobile payment strategies, regulations by the CBN would improve the effects. Meanwhile, separation of ownership and information asymmetry did not have significant indirect effectswith the sustainability of mobile payment. What this implies is that although these two forms of agent banking have a high propensity of sustaining the mobile payment strategies, regulations from the CBN does not improve these effects indirectly. The total effects, however (i.e. the direct effects combined with the indirect effects) indicated some improvements. Although those of risk preference and moral hazard still indicated negative effects and are susceptible to hindering the sustainability of the strategies. The negative effects are however reduced compared to when the effect was direct; by implication, regulations have a way of reducing the way agent banks see risky projects and how they see moral hazards as well. Separation of ownership and control and information asymmetry, on the other hand, witnessed improvements when regulations were added to their direct effects, meaning that bailouts would offer them larger control spectrum and greater information media, such that maintaining their outlets would be much easier, and there would be lesser conflict within their principal banks, and sustaining the strategies would be easier.

This study further contributes to knowledge by investigating the impact of gender on the sustainability of mobile payment strategies. The analysis found that most agents, although often run by female staff, are owned by males. Also, agent banks owned by males are more susceptible to help in sustaining the mobile payment strategies than those that are owned by females.

5.1 Conclusion

Major contributions of this study were theoretical and methodological; the study combines the agency theory with the bailout theory to show how the mobile payment strategies can be sustained either directly or indirectly. This was done using predictive and logical simulations, in the sense that the various aspects of the agency theory were used in predicting the sustainability strategies of mobile payment, and bailout was adopted as a mediator showing how these predictions would fare if there were regulations. Methodologically, this study performed a mediation analysis to show how

the agency relationship and sustainability of mobile payment can be improved through proper regulations.

5.2 Policy Implications of the Findings

Several theoretical contributions have been made through the findings of this study. Firstly, the study objectives proposed direct, indirect, and total effects of agent banking through bailouts (regulations) on the sustainability of mobile payment strategies. The premises of the paper were centered on two theoretical frameworks; the agency theory and bailout theory.. The agency theory explains the relationship that exists between an agent and the principal as one that is conflicting as long as the principal believes that the agent is not serving their best interests. The study proposed as implied in previous studies that the various aspects of the agency theory would help in the sustainability of the CBN's mobile payment strategies (Jumah and Wagaki, 2017; Ogunwusi, 2020). The findings of the study have extended the applicability of the agency theory in agency banking in Nigeria by indicating that aspects of the agency theory like separation of ownership and control and information asymmetry enhance sustainability while risk preferences and moral hazard does not. The results shows that the separation of the effects of ownership and control and information asymmetry in agent banking in Nigeria to have direct positive effects on the sustainability of mobile payment strategies, but that risk preferences and moral hazards do not enhance sustainability.

Secondly, this study explored the effectiveness of bailouts in predicting the effects of agent banking on sustainability of mobile payment. The study based this premise on the bailout theory; that regulations from a higher authority would enhance the attainment of the mobile payment strategies. The intervention discovered is more complex than anticipated because, risk preference and moral hazards respectively do not have positive relationships with the regulations, nor do regulations mediate the effect of risk preference and moral hazard respectively on sustainability. By implication, whether the CBN provides regulations or not, the extent to which the agents prefer to engage in risky ventures would differ from that of the principal, and as such, sustaining the mobile payment strategies would always be difficult.

Separation of ownership and control and information asymmetry, however, indicated increase effect on sustainability when combined with regulations, and this implies the bailout theory is a good predictor of some aspects (i.e. separation of ownership & control and information asymmetry) of the agent banking-sustainability relationship, but not a good predictor to some aspect of the relationship between agent banking (i.e. separation of ownership & control and information asymmetry) of sustainability of mobile payment, but not a good predictor of some aspects of same relationship (in terms of risk preference and moral hazards).

For the management of financial institutions: the findings of this study imply that they ought to adjust in the area of their risk preferences and moral hazard as evidence has shown that these could cause conflicts between both parties and would lead to the non-sustainability of the mobile payment strategies. For the CBN, the findings are suggestive of the fact that their regulations are effective to some extent, however, the onus lies on them as the higher authority to monitor this agent banks-commercial banks relationship in other to ensure that foul practices are reduced, as this would help in the sustainability of mobile payment strategies. For the agent banks, the findings imply that certain aspects of the concepts (e.g. separation of ownership & control and information asymmetry) are quite beneficial for the operations of the agent bankers. They should therefore concentrate on such aspects as it is obvious that these would help in the sustainability of the strategies.

5.3 Limitations of the Study

The major limitation of this study is the size of the sample size utilized, which is small and may not ensure high validity. In other words, more licenses still need to be offered to more individuals to operate as agent banks. This study was conducted in Ebonyi State, Nigeria, i.e. in a single state out of the five states in the southeastern part of Nigeria, meaning that the results presented here, represent the findings from a specific state in a region of six states..The findings, therefore, may not be generalized as a holistic policy document; although it sets the stage for further research. Finally, this study did not capture how the ages and the educational qualifications of the agents affect the sustainability of the CBN's financial inclusion strategies, although they

appear to be essential as they could help in determining the levels of adherence and persistence that the agents may be willing to give to achieve the sustainability of the CBN's financial inclusion goals.

5.4 Frontiers for Future Research

In line with the findings, implications of the findings, and limitations, this study recommends further studies to be done in other areas that have not been covered by this study. Firstly, studies encompassing a much larger population of agent banks need to be done. This will present a clearer picture of the issues that may hinder the sustainability of the CBN's financial inclusion goals. Secondly, this study was conducted in Ebonyi State, i.e. one of the five states in the southeastern part of Nigeria, this, therefore, does not present a general picture of the agent banking situation in the entire country. Further studies, therefore, need to be conducted in other regions of the country for better understanding of the various dimensions of the issues investigated in this study.Similarly studies capturing the effects of agents' ages and educational qualifications should be conducted, as this will add a new dimension to the study.

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