

The Impact of Fintech and Digital Platforms on Financial Inclusion in the Informal Sector of Ghana

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Abstract

Financial technology (fintech) is widely recognized as an effective tool to drive financial inclusion across the world. However, its impact on financial inclusion in the informal sector is yet to be understood especially in developing countries. This study assessed the impact of fintech and digital platforms on financial inclusion in the informal sector of Ghana. A descriptive cross-sectional research design was employed to select 365 participants in the informal sector from eight regions of Ghana through multistage sampling method for data collection. Data was collected using a 5-point Likert scale that was adapted with items to assess the role of fintech and adoption by people in the informal sector. After the data was analyzed with SPSS software version 23.0, it was found that majority of participants took a neutral stance on the role and adoption of fintech; suggesting lack of awareness on fintech in the informal sector. The study can conclude that Ghana can benefit from the impact of fintech and digital platforms on financial inclusion in the informal sector through education and creation of awareness as there is lack of knowledge on fintech and its use in the sector.

Keywords: Digital Platforms, Fintech, Ghana, Informal Sector.

Introduction

Background of the Study

Fintech is a short form of 'Financial Technology' which is the application of information technology to provide financial services [1]. It is described as a technology that is seeking to enhance the provision of financial services [2]. Fintech is associated with innovations such as electronic payment systems, digital banking applications, blockchain technology and artificial intelligence [3]. The main purpose of fintech is to promote efficiency, accessibility and innovation in financial services [4].

Fintech is contributing in diverse ways to transform the financial sector and has caused revolution in payment systems through

platforms such as digital wallets, online payment gateways and payment applications that facilitate cashless transactions [5]. Fintech is also asserted as a disruptive innovation that affects the traditional financial sector which merely delivers through cash transactions and face-to-face exchanges between the service provider and customers [6]. Nonetheless, some have argued that fintech companies cannot replace the traditional banking sectors but has the advantage of engendering competition in the financial sectors by delivering efficient services with wider scope compared to the traditional financial sector [7]. It is in this context that this study sought to assess the impact of fintech on financial inclusion of the informal sector.

Studies have shown that different factors drive fintech in different context. In attempting to provide insight into the contributing factors, the state, economic impacts and potential risk of financial technology in China, Hua and Huang [8] revealed that China's fintech development was driven by inadequate supply in formal financial sector, strong support of the government towards promotion of financial inclusion using digital technology and tolerant regulatory. Mobile money technology has also been identified as the main influencing factors for the adoption of fintech [9]. In india, ease of use and end-user habits positively affected the adoption of fintech [10]. Regardless of the factors driving the adoption of fintech in a particular context, its impact in economic development cannot be underestimated.

Studies on the impact of fintech have shown its role in access and utilization of financial services. Tarawali [11] examined the impact of fintech innovations on financial inclusion in low-income countries with focus on the level of access and usage of financial services and the barriers that prevent people from using the formal financial systems in Sierra Leone. The results of the survey indicated that 72% of the participants did not own account at a formal financial institution such as bank with 67% of the participants indicating that they had used mobile money services in the past one year. The study concluded that fintech has the potential to increase the number of people using financial services compare to the formal financial systems. In another study, it was found that fintech had the capacity to bring improvement and offer solutions to the existing challenges in the traditional financial sector [12]. Another study found that fintech has a facilitate role in third party, credits and insurance payments which have significant impact on economic growth [13]. In addition to economic growth, fintech serves as a transformational tool for entrepreneurship as it has the capacity to bring structural change in the traditional financial system [14].

Despite, the numerous studies on the role of fintech on financial inclusion and its impact on economic development, there is still limited knowledge on the impact of fintech and digital platforms on the financial inclusion in the informal sector of Ghana. This gap in knowledge if not addressed would undermine policy intervention in the sector and affect national development.

Problem Statement

The advent of fintech and digital platforms present opportunities to increase the level of financial inclusion in every economy [15]. However, the impact of these technologies on the informal sector in relation to financial inclusion is one problem that has not been well explored in research hence yet to be understood. The informal sector is broadly made up of micro, small and medium size business entities which are mostly operated outside government regulations [16]. Lack of finance to this group of businesses remains a major constraint that impedes their growth. Farazi [17] observed that operators within the informal sector hardly own bank accounts and access to bank loans among them is very low. This problem would likely contribute to prevent the growth of the sector and consequently affect its inputs to national economic development. While some operators of the informal sector may not desire to formally access financial services to support their businesses since they do not want to be taxed, the difficulty associated with accessing financial support from financial institutions is also a barrier that has prevented them from benefiting from formal financial services.

The emergence of fintech and digital platforms in recent years has the potential to bridge this gap by offering innovative financial solutions that are more accessible, cost-effective and tailored to the needs of the informal sector [18]. These solutions include mobile banking, digital payment systems, peer-

to- peer lending and micro-insurance, among others.

While a number of studies have been conducted to evaluate fintech and digital platforms from various angles, little attention has been paid to evaluating how these developments may affect the informal sector's financial inclusion. Among these studies include Odei-Appiah, Wiredu and Adjei [19] who looked into the effect of fintech usage on financial inclusion, Beck [20] investigated opportunities related to fintech, Makina [21] investigated the potential of fintech in financial inclusion in African countries, and Kandpal and Mehrotra [15] studied the role of fintech in digital financing in India. The existing body of research on fintech and financial inclusion suggests that little is known about how fintech affects financial inclusion in the informal sector of Ghana. The study was conducted to fill this knowledge gap by assessing the impact of

fintech and digital platform on financial inclusion in the informal sector of Ghana.

Purpose of the Study

The main objective of the study was to assess the impact of fintech and digital platforms on financial inclusion in the informal sector of Ghana.

Limitation of the Study

Our study did not sample participants from all the categories of people operating in the informal sector. As a result, the findings cannot be generalized as the study recruited participants from some part of the informal sector. The interpretation of the study findings should therefore be done in the above given context.

Schematic Diagram

The schematic diagram shows the research process as in figure 1 below.



Figure 1. Schematic Diagram Showing the Research Process

Materials and Methods

Study Design and Setting

The study which used a descriptive cross-sectional design with quantitative approach was conducted in Ghana, a country in West Africa in the Sub-Saharan region. Ghana was originally known as the Gold Coast until it had independence from the British in 1957 [22]. With Accra as the capital town, Ghana is divided into 16 regions and has over 100 districts. It shares borders to the north with Burkina Faso and to the South with the Gulf of Guinea [23]. On the east, Ghana shares border with Togo and with Cote D'voire to the west [23]. Ghana has a total land area of 238,535 sq km and its population is estimated at 32.1 million according to the Ghana Statistical Service. With over 75 ethnic groups in the country the major languages spoken in Ghana include Dangme, Twi, Ewe, Ga, Dagbani, Dagaare among others.

Politically, Ghana is a democratic country that practices multiparty systems where elections are held every four years to elect a president and members of parliament. The president is the head of state and the executive arm of government. The other two arms of government are the Legislature and the Judiciary which are responsible for making and interpretation of laws respectively. Economically, Ghana is a developing country with over 50% of its population engaged in the informal sector activities [24]. It is endowed with mineral resources including gold, diamond, bauxite, timber, oil among others. In addition, Ghana has cash crops such as cocoa which is the major source of foreign exchange for the country.

In recent years, Ghana has embarked on a digitization agenda where the country is aiming to achieve a cashless economy [25]. This digitization drive in the country makes it a suitable setting to investigate the impact of fintech and digital platforms on financial inclusion of the informal activities. This study

stands to provide insights into how the digitization agenda of the country is impacting majority of its population in the informal sector with regard to financial inclusion and consequently help to guide policy decisions in the country.

Study Population, Sampling and Sample Size

The population of this study consisted of all individuals in the informal sector of Ghana. The population is therefore an infinite population as the exact number of people in the sector is not known and cannot be counted due to the dynamics of the sector.

This study adopted a multistage sampling technique to select participants from the informal sector for data collection. With this method, the country (Ghana) was first clustered into 16 regions from which eight (8) regions were selected at random. Individuals working in informal sector were recruited at random to participate in the study. In all, a sample of 365 participants took part in the study.

Data Collection Tool and Procedure

This study was employed the use of a 5-point Likert scale to collect data for the study. The instrument consisted of six sections where the first part was designed to collect demographic information of participants. The remaining section of the instrument was focused to gather the opinions of participants in relations to the impact and adoption of fintech in the informal sector.

Study Population, Sampling and Sample Size

The population of the study was made up of operators in the informal sector which included farmers, artisans, block producers, transport operators, traders and casual labourers. A multistage sampling technique was used to select eight regions and six informal sectors in those regions for recruitment of participants. A sample of 365 participants was used for the study.

Data Analysis

The data for the study was analyzed using SPSS version 23 software. Prior to the analysis, each participant was given a unique code to avoid duplication of entries. The data was screened and all errors were removed to ensure accurate results. A descriptive analysis was performed were statistics such as mean, mode,

median and standard deviation were determined for each item. The results were presented in tables with interpretations.

Results

The table 1 and 2 below shows the background information of participants and descriptive statistics respectively.

Table 1. Background Information of Participants

Variable	Frequency	Percentage (%)
Gender		
Female	189	51.8
Male	176	48.2
Total	365	100.0
Age		
18-25 years	39	10.7
26-33 years	45	12.3
34-41 years	111	30.4
42-49 years	140	38.4
50 or more years	30	8.2
Total	365	100.0
Highest education level		
Basic level	152	41.6
Secondary level	121	33.2
Tertiary level	92	25.2
Total	365	100.0
Religious background		
Christian	171	46.8
Muslim	142	38.9
Traditionalist	51	14.0
Total	365	100.0
Marital status		
Married	203	55.6
Single	162	44.4
Total	366	100.00
Occupation		
Artisan	21	5.8
Block producer	75	20.5
Casual laborer	11	3.0
Farmer	41	11.2
Trader	85	23.3
Transport operator	132	36.2
Total	365	100.0

Years of work		
Less than a year	21	5.8
1-3 years	50	13.7
4-7 years	140	38.4
8-11 years	121	33.2
12 or more years	33	9.0
Total	365	100.0
Region of residence		
Ashanti	83	22.7
Bono	72	19.7
Bono East	18	4.9
Central	14	3.8
Eastern	83	22.7
Greater Accra	63	17.3
Oti	15	4.1
Volta	17	4.7
Total	365	100.0

Table 2. Distribution of Participants' Response on the Impact of Fintech on Financial Inclusion

Code	Construct	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Impact of fintech on financial inclusion						
FIN1:	Fintech services have expanded my access to financial products and services	0 (0.0)	200 (54.8%)	6 (1.6%)	125 (34.2%)	32 (8.8%)
FIN2:	Fintech services have increased my ability to save and invest my money	232 (63.6%)	12 (3.3%)	95 (26.0%)	26 (7.1%)	0 (0.0)
FIN3:	Fintech adoption has made it easier for me to send and receive money	0 (0.0)	234 (64.1%)	3 (0.8%)	51 (14.0%)	77 (21.1%)
FIN4:	Fintech services have improved my ability to access credit and loans	0 (0.0)	215 (58.9%)	23 (6.3%)	104 (28.5%)	23 (6.3%)
FIN5:	Fintech services have reduced the time to access credit	0 (0.0)	215 (58.9%)	23 (6.3%)	104 (28.5%)	23 (6.3%)
FIN6:	Fintech services have increased awareness on financial products	0 (0.0)	215 (58.9%)	23 (6.3%)	104 (28.5%)	23 (6.3%)
FIN7:	Fintech services have improved my relationship with financial institutions	0 (0.0)	215 (58.9%)	23 (6.3%)	104 (28.5%)	23 (6.3%)
FIN8:	Fintech services have impacted me positively	0 (0.0)	215 (58.9%)	23 (6.3%)	104 (28.5%)	23 (6.3%)
Adoption of fintech in the informal sector						

FIS1	I am aware of fintech solutions in Ghana	0 (0.0)	223 (61.1%)	1 (0.3%)	108 (29.6%)	33 (9.0%)
FIS2	I have used a fintech solutions in the past year	0 (0.0)	219 (60.0%)	2 (0.5%)	62 (17%)	81 (22.2%)
FIS3	Fintech solutions are easy to use	0 (0.0)	248 (67.9%)	13 (3.6%)	79 (21.6%)	25 (6.8%)
FIS4	Fintech solutions are more convenient than traditional banking methods	194 (53.2%)	1 (0.3%)	63 (17.3%)	107 (29.3%)	0 (0.0%)
FIS5	I trust fintech solutions to keep my personal and financial information secure	210 (57.5%)	11 (3.0%)	125 (34.2%)	18 (4.9%)	1 (0.3%)
FIS6	I believe fintech solutions can help improve financial inclusion in Ghana	208 (57.0%)	1 (0.3%)	59 (16.2%)	97 (26.6%)	0 (0.0)
FIS7	Fintech solutions offer better interest rates and fees than traditional banks	0 (0.0)	170 (46.6%)	50 (13.7%)	98 (26.8%)	15 (4.1%)
FIS8	Fintech solutions offer transparency than traditional banks	0 (0.0)	170 (46.6%)	50 (13.7%)	98 (26.8%)	15 (4.1%)
FIS9	Fintech solutions have impacted financial inclusion	0 (0.0)	170 (46.6%)	50 (13.7%)	98 (26.8%)	15 (4.1%)

Discussion

The study examined the impact of fintech and digital finance in expanding financial services in the informal sector of Ghana. The finding showed that majority of participants indicated neutral responses on the role of fintech and digital finance in the expanding financial service in the informal sector. This finding suggests lack of awareness regarding the role of fintech and digital finance in the informal sector. Contrary to the results based on the studies that revealed that fintech and digital finance played a critical role in financial inclusion [12], [15], [26], [27], the current results showed that participants in the study lacked knowledge about fintech and digital finance thus highlighting the need for effective education and orientation on fintech for people in the informal sector. This further supports the finding made by an earlier study by Coffie [28] that promotion of fintech in driving financial

inclusion in Ghana depends on government regulations and building of infrastructure. The use of regulation and having adequate fintech infrastructure and effective awareness creation can significantly impact financial inclusion among people especially in the informal sector. Furthermore, the result can also be due to mixed experience of participants on fintech and digital finance that led to their neutrality. The finding implies that there are underlying barriers to the adoption of fintech and digital finance in the informal sector which should be addressed through engagement and education by financial institutions with people in the sector. The outcome also calls for attention of researchers to carry out qualitative studies to understand the reasons for the expressing of neutrality by people in the informal sector on fintech and digital finance.

In all, the outcome of the study presents a general lack of clear position of participants on

the role of fintech and digital finance in expanding financial services. This revelation can be attributed to lack of knowledge or awareness as well as mixed experiences on fintech and digital finance on the part of people in the informal sector.

The study also sought to assess the state of adoption of fintech solutions in the informal sector of Ghana. The outcome of the study showed that majority of the participants lacked understanding with regard to fintech solutions as they took a neutral stand on the items used for the assessment. This means that there is uncertainty about the adoption of fintech solutions in the informal sector. The result is not consistent with the outcome of previous studies where there was adoption of fintech in various sectors [29], [30]. As found by Broni and Owusu [31] where lack of awareness, skills and regulatory frameworks served as barriers to the adoption of fintech solutions, the current results could be due to lack of literacy as majority of people in the informal sector of Ghana have low education background which limits their ability to adopt fintech solutions. This neutrality stance could also be attributed to fear for use of new technologies among people in the informal sector due to lack of trust and confidence. The finding is relevant as it underscores the need for stakeholders to create supportive frameworks that would encourage the adoption of fintech solutions in the informal sector.

Equations

The sample size for the study was calculated using the Cochran's formula as follows;

$$\text{Sample size (n)} = z^2 \frac{pq}{e^2} \quad (1)$$

Where

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[1]. Leong, K., & Sung, A., 2018, FinTech (Financial Technology): what is it and how to use technologies to create business value in fintech way.

Z = Z-score value at 95% confidence interval = 1.96

P = proportion of the people in the informal sector (65.3% of labour force are in the informal sector as estimate by Ghana Statistical Service) = 65.3% = 0.653

q = 1-p = 1- 0.653 = 0.347

e = Margin of error = 5% = 0.05

Substituting the above values into equation 1;

$$\begin{aligned} \text{Sample size (n)} &= 1.96^2 \frac{(0.653)(0.347)}{0.05^2} \\ &= 0.8705/0.0025 \\ &= 348 \end{aligned}$$

The sample size was increased by 10% to cater for errors and omission that could arise in the data. This yielded an estimated sample size of 383.

Conclusion

In conclusion, the study established that there is no significant impact of fintech on the financial inclusion of people in the informal sector of Ghana. This outcome can be attributed to factors including lack of awareness or mixed-feeling among participants regarding the role of fintech in financial inclusion. This insight is significant and demand attention on the part of fintech firms to create awareness on fintech and how it can impact on financial inclusion in the informal sector.

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Conflict of Interest

We declare that there is no conflict of interest in the conduct of this study.

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