

AN EXAMINATION OF THE EFECTS OF INTER-FIRM COOPETITION ON DIGITAL FINANCIAL INCLUSION: THE CASE OF SELECTED DIGITAL FINANCIAL SERVICES PROVIDERS (DFSPs)

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Abstract

Background: This article explains the effect of inter-firm coopetition on digital financial inclusion. Studies on the effects of coopetitive relationships have mainly been focused on outcomes and benefits for the firm, but rarely considering its effects on social welfare. This paper provides an assessment of how the effects of inter-firm coopetition on firm performance affects digital financial inclusion. Digital financial services providers in Zambia are engaging in inter-firm coopetition as they seek value creation and market expansion (Fleming, 2018). The collaborative intervention theory was used to explain the relationship in this study.

Methods: The study employed a mixed method design to assess the effect of joint decisions and actions on society. Purposive sampling was used in identifying the sample. 32 respondents were surveyed and 6 key informants were interviewed. Quantitative and qualitative data were collected from a sample of 14 digital financial services providers (DFSPs) in Zambia. Quantitative data were analysed using SPSS, and qualitative data used Nvivo 12.

Results: The findings reveal that inter-firm coopetition has a significant effect on digital financial inclusion (β = 1.88; t-value = 10.131, Sig (p) <.001). The key informants, from the interviews, all confirmed the quantitative findings.

Conclusion: The use of inter-firm coopetition in firm performance improvements has resulted in improvements in the access of digital financial services for the poor. DFSPs have jointly adopted DFS platforms which they use to penetrate previously untapped markets including far flung areas.

Keywords: INTER-FIRM COOPETITION, DIGITAL FINANCIAL SERVICES
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Introduction

Financial inclusion is a persistent world problem which has been a concern for many countries who have sought various ways to accelerate it (World Bank, 2018). The World Bank, (2018) estimates that about 1.7 billion adults in the world lack access to formal banking services, 350 million of whom are in Sub-Saharan Africa (SSA). Limited access and usage of financial services is one of the contributors to SSA's slow economic development (Dupas *et al.*, 2012). Financial services providers have been fragmented although they provide similar products to a common market (Wang *&* He, 2020). This has contributed towards persistently limited market expansion (Chironga *et al.*, 2017) which has resulted in low levels of financial inclusion, particularly in developing economies, including Sub-Saharan Africa (SSA) (Dupas *et al.*, 2012). According to Omwansa & Waema, (2014), at the micro level, the lack of access and usage of financial services has resulted in persistently high poverty levels. This is because it affects income stability and household welfare, in terms of limited access to shelter, quality education, health, and social amenities (Chegini *et al.*, 2021). To cope, households have receive financial support from friends and relatives (World Bank, 2020).

Over the past two decades, increased effort has been made in exploring strategies to expand access to the financially excluded. These strategies have evolved from offering microcredit, to microfinance and recently, to the more holistic financial inclusion which includes provision of microcredit, savings, insurance and remittances, and microfinance to under and unbanked populations. With further advancements in Information Communication Technology (ICT), digital financial inclusion, which involves the use of electronic devices, such as cell phones,

electronic tablets, laptops and computers, to access financial services by customers is now in use.

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The development of digital financial services (DFS) has helped increase financial inclusion although not to acceptable levels (Prahalad, 2019). DFS is limited by the reluctance of Digital Financial Services Providers (DFSPs) to collaborate to increase their geographical network and their product range, which would cater for the last mile customer (UNCDF, 2021). This is despite calls for collaboration by the World Bank, to enable service providers to reduce costs, share resources and risks, and reach a wider geographical market (UNCDF, 2019; World Bank, 2018). Calls for a well-coordinated digital financial services ecosystem which includes users, service providers, infrastructure providers, and government regulators have also been made so as to provide DFS at a much faster rate (ITU, 2016). Prahalad, (2019) stated that no one organisation can provide services to the poor on its own. She also stated that stakeholders need to collaborate in empowering locals and create new sources of competitive advantage and wealth for themselves. She contended that shared digital infrastructure and technology would dramatically reduce costs and increase service provision to the poor.

In Zambia, access of branch networks is highly concentrated in urban areas and along the main trade corridors. The providers of formal financial services in Zambia include 17 commercial banks, 3 Mobile Money Networks (MNOs), 25 Financial Technology Companies (FinTechs) and 47 Non-Bank financial institutions (NBFIs) comprising insurance companies, pension funds, microfinance institutions, building societies, leasing companies, foreign exchange bureaus, and savings and credit cooperatives (BOZ & UNCDF, 2019). Approximately 60 percent of all commercial bank branches are in Lusaka and the Copperbelt.

About 18 percent of the districts in Zambia are not served by any regulated financial institution and they lack access points (MoF, 2017). Commercial banks have the most financial services products, with the largest volume of transactions. Their branch networks which are mainly along the business corridors fail to serve an estimated 3.5 million (41%) of Zambia's adults who are financially excluded and the more than 5 million (60%) adults who use informal financial products and services (BOZ & UNCDF, 2019). Further, branch networks are reducing in number as most of the commercial banks have closed their brick and mortar branches (Kabamba, 2020). This has further reduced physical access to formal financial services for peri-urban and rural areas.

With the entry of MNOs and FinTechs, despite the closure of bank branches, there is an upward trend in access and usage of financial services through the provision of digital financial services. While commercial bank use in Zambia dropped from 24% to 20% from 2015 to 2020, The use of DFS accelerated from 14% to 59% of the total population within the same period (BOZ, 2022). Mobile money accounts had exceeded bank accounts by 2015 (Standard Chartered Bank, Zambia & MTN, 2016). In 2015, mobile phone subscribers were at 70 percent of Zambia's 16 million population, and 36 percent of these were able to access the internet (IBRD, 2020). By the end of 2019, mobile phone subscribers had increased to 99.1% with a national mobile network geographic coverage by MNOs at 87%, and an internet penetration at 53.1% (BOZ, 2020). Formal financial inclusion has consequently increased from 38.2 percent in 2015 to 61.3 percent in 2020 (BOZ, 2020). According to the Zambia Finscope 2020 survey, the goal is to reach the 30.6 percent unbanked population and the 32.3 percent who are under-banked (BOZ, 2020). To reach these targets, the Bank of Zambia (BOZ) strategic initiatives for is to encourage collaborations in the development and delivery of innovative products to accelerate financial inclusion (BOZ & UNCDF, 2019). In this regard, the BOZ has developed the National Financial Switch (NFS), which enables DFSPs to digitally interact. This is from the background that financial services providers are not self-sufficient and hence need to cooperate in order to acquire resources and share capacities. This, it is hoped, would reduce costs, lead to development of innovative digital products and make financial services available and affordable (MoF, 2017).

Theoretical review

The disruptive changes in the banking sector has led to an evolution of banking models. These models prompted the development of theories that explain the current practice. The nonbank

led theory is one of the theories which capture the new entrants and the use of digital services in the financial services sector. It posits that customers access financial services by other means than through a bank account (Muthee & Jangongo, 2018). According to Muthee *&* Jangongo, (2018) in this instance, customers interact with a non-bank entity such as an MNO or a FinTech through a retail agent or via digital devices, for their financial needs. In this model, cash is exchanged for e-money by depositing the cash with an agent, or by buying mobile money using a phone. This e-money is stored in a virtual account which is not connected to a bank account in any way (Dzombo et al., 2017). In this way, the financial institution maintains its financial mediation role in addition to spreading financial services to previously geographically unreachable areas. Muthee *&* Jangongo, (2018) noted that the major concern for both the customers and the providers is the risk which arises because the regulatory environment for the non-banks is not stringent regarding the know-your-customer policies. The non-banks do not require much transparent documentation for customer identification and record keeping as banks do (Muthee & Jangongo, 2018), This is an important prerequisite for having a trusted and safe financial system (Muthee & Jangongo, 2018). This study is dealing with a digital financial services system which includes non-banks, and does not require physical contact with a bank. The non-bank led theory provides a basis for digital interactions. However, for this study, a theory for collaborations is required to demonstrate how society could benefit from financial services providers' interventions.

The collaborative intervention theory is an intervention logic which is applied in situational intervention processes (Claiborne & Lawson, 2005). It states that different entities come together to provide a holistic solution to a problem (Claiborne & Lawson, 2005). The collaborative intervention theory has not been extensively used in the financial services sector (Ozili, 2020). It has however been in use in other disciplines such as education, psychology and health. In the health discipline, a patient is treated by several health experts for their different ailments. In the education discipline, a learner interacts with teachers from different departments so that they have a well- coordinated holistic education. It has only recently been used in financial inclusion research, specifically regarding service delivery (Ozili, 2020). The agents of collaborative interventions are the entities which are responsible and are able to collaborate with each other to create new activity systems used in the implementation of interventions that create transformational change (Yamazumi, 2021). According to Howard *&* Cox, (2008) the collaborative intervention model should result in a more effective and more

efficient system of service delivery in order to improve results. The improved results are due to the collective creation of new activity and agency systems (Claiborne & Lawson, 2005).

The collaborative interventions theory draws on the activity theory since inter-firm collaborations lie within a complex socio-economic context in which activity theory provides the structure in collaboration discussions (Hite & Thompson, 2018). The collaborative intervention process has eight outcomes which measure the extent to which the collaboration has been achieved (Claiborne & Lawson, 2005). The outcomes include; evidence of a shared vision, formal teams managing the collaborations, product innovations, shared responsibilities crafted in contracts, technically sound best practices for the interventions, long term ongoing projects undertaken, mutually shared goal attainment, continuous improvements in quality (Claiborne & Lawson, 2005).

Literature review and Hypothesis Development

Financial Inclusion

Financial inclusion as the process of ensuring easy access to and usage of adequate, affordable and timely formal financial services to financially disadvantaged and unbanked groups (Ngunyen, 2021; Ozili, 2022). According to Salazer, (2018), access and usage of financial services are the guiding factor to financial inclusion. Chegini *et al.,* (2021) stated that access and usage of financial services provides poor people with a proactive way to cope with risks, and reduce fluctuations in their consumption and vulnerability. Research has shown that persistent income inequalities, poverty and slow economic growth are a result of lack of or an under-developed financial system and poor access to finance (Kodan & Chhikara, 2013; Omar & Inaba, 2020; Singh & Roy, 2015). Ozili, (2018) asserts that financial inclusion is influenced by poverty levels, financial literacy levels, and the level of financial innovation, among others, and that these determine the level of intervention required for increasing financial inclusion. Financial inclusion is an enabler for poverty reduction, hunger alleviation, gender equality, economic empowerment of women, promotion of employment and economic growth, reduction of inequality, and industry, innovation and infrastructure (Simatele et al., 2021).

Digital financial innovations in digital financial inclusion

Financial services providers have experienced rapid changes in the business environment due to technological advancements (Ciobanu & Neamtu, 2017). Prahalad, (2019) contended that

shared digital infrastructure and technology would dramatically reduce costs and increase service provision to the poor. Digital financial innovations have the potential to penetrate remote communities with no access to brick and mortar facilities for financial services, as was previously the case (Field, 2022). Studies have shown that technological innovations in financial services accelerates financial inclusion and economic growth through enabling access (Ozili, 2018). For instance, M-pesa in Kenya, a digital transactions platform, is being used to facilitate increased access to financial services among the unbanked poor in Kenya (Natile Serena, 2020). In her study, Natile Serena, (2020) found that digital financial inclusion simultaneously addresses social problems and produces profits for the provider.

Inter-firm coopetition in digital financial inclusion

Despite the digital intervention's successes, there is increasing recognition that fragmented interventions have not solved the financial inclusion problem (Omwansa & Waema, 2014). DFSPs have been fragmented, each operating independent of the other players (Cygler et al., 2018). The fragmentation has contributed to the slow rate of digital financial inclusion and hence stifling progress on poverty reduction at the micro level (Wang *et al*, 2020). In addition, the fragmentation disadvantages both the organisations and society because the costs are higher when an organisation sources resources on its own than when they collaborate. These cost are passed on to consumers in the society (Czakon et al., 2019). According to Omwansa & Waema, (2014), financial inclusion cannot be addressed by a single actor nor single technology, but by a coordinated approach that is able to cater for the complex challenges that arise from providing financial services to the poor, at a faster rate. They contend that collaborations enable successful provision of financial services solutions to the poor which one particular provider may not provide effectively (Omwansa & Waema, 2014). In addition, Prahalad, (2019) asserts that stakeholders need to collaborate in empowering locals in order to create new sources of competitive advantage and wealth for themselves. Unfortunately, there has been limited empirical evidence of the effects of inter-firm coopetition on welfare (Cygler et al., 2018). Previous studies have only shown that, where competing financial services providers have engaged in cooperation, there are positive outcomes for the firms (Cygler et al., 2018; Feela, 2020). Interoperable of digital systems, have encouraged the competitors to collaborate in product development and delivery to a wider markets (Chikumbi & Siame, 2019). There is need to determine the effect of inter-firm coopetition on firm performance in the financial services sector. The following hypothesis was therefore developed;

H_1 – Inter-firm coopetition has a significant influence on firm performance.

According to Bouncken *et al*., (2017) successful inter-firm performance is due to different perspectives, including the need for acquisition of new resources and expansion into new markets. Firms pool their resources together to increase the volumes and the value of transactions by reaching the previously unserved areas. As the financial institutions seek to improve performance through inter-firm coopetition, they are increasing the access and usage of their new products and services, and hence the increased level of digital financial inclusion. The following hypothesis was therefore tested;

H_2 – The performance of firms engaged in inter-firm coopetition have a significant influence on digital financial inclusion.

Research Methodology

Approach

A cross sectional, explanatory, mixed method design was employed to investigate the existence of inter-firm coopetition and examine its effect on firm performance. This approach was the most appropriate method of data collection for this study because cross sectional studies are relatively easier, faster and inexpensive, faster and easier to conduct, useful for generating and clarifying hypotheses and can lay the groundwork for decisions about follow-up studies (Zikmund et al., 2013). Purposeful sampling (Sibona et al., 2020) was used to identify the digital financial services providers that are engaging in collaborations with competitors. The unit of analysis was a digital financial services provider engaged in collaborations with competitors. The study population included 15 commercial banks, 3 MNOs and 3 FinTechs. The targeted sample size was 63 respondents calculated by multiplying a total of 21 digital financial services providers multiplying by 3 respondents per firm. The unit of enquiry included managers heading a department which engages in digital financial services. Information Technology staff involved in interoperability of digital systems, and digital financial services staff who deliver the digital services. The study area was Lusaka, Zambia, since the unit of analysis is either based in Lusaka or have their headquarters in Lusaka.

For quantitative data collection, a questionnaire, comprising 52 questions, was administered on 36 of the 63 targeted respondents. The data was cleaned and analysed using SPSS. For qualitative data collection, semi-structured interviews were carried out on 6 key informants. The data was then recorded, and transcribed. It was then coded and grouped into themes by

use of Nvivo 12. The data was supplemented by collecting additional evidence from documents, market reports and newspaper articles. Triangulation of multiple data sources was used to improve data validity (Cresswell, 2012).

Data Collection

Data was collected with the help of one research assistant, who has previously been involved in data collection. Managers and support staff who are directly involved in digital financial services delivery and relationships with other providers, were surveyed using a 5-point Likert scale questionnaire. For qualitative data, interviews were conducted on management staff. The eligibility of the respondents was assessed by considering their age, academic qualifications, job title, department and years worked in a financial institution. The aim was to ensure that all the respondents are qualified and are knowledgeable enough to provide responses regarding inter-firm coopetition in the provision of digital financial services. The targeted sample which refused to respond was not surveyed. The respondents were asked about the existing competition among DFSPs, the kind of collaborations taking place; and how these collaborations with competitors are affecting their firm performance.

Data Analysis

SPSS version 29.0.0.0 for windows was used in carrying out data management and analysis of quantitative data. The Analysis of variance (ANOVA) was used to simultaneously measure, explain, and predict the relationships among the variables, known as variates (Hair et al., 2014). From simple linear regression analysis, R^2, p-value and the t-test were the measures used to test hypotheses (Mindrila & Balentyne, 2022).

The analysis of qualitative data which was obtained from in-depth interviews and related documentation. All interviews were transcribed verbatim from voice recordings to word documents. NVIVO 12 was used to group the qualitative data from the interviews, into themes and sub-themes. Triangulation of the findings from the different data sources was then done to confirm the results derived from more than one point of view (Vosloo, 2004).

Results

Demographics

For quantitative data, the response rate was at 53%, corresponding to 32 respondents from 14 out of 21 digital financial services providers. Descriptive statistics show that the male gender accounted for 75% of the respondents with 25% females. For the ages of respondents, 20 – 29 accounted for 15.6%, 30-39 were 37.5%, 40-49 were 37.5% and the 50 and above, accounted for 9.4% of the respondents. In terms of educational qualifications, bachelor's

degree holders constituted 46.9% of the respondents, master's degrees at 43.8%, diploma holders were 6.3% and 3.1% have a PhD. 94% of the respondents have worked in their firms for at least one year. 72% have worked for more than 4 years while only 3% have worked for less than a year. 40.1% of the respondents were from the digital services departments. 15.5% were from sales and marketing departments, and from support departments, IT 6.3%, Corporate 6.3%, compliance 3.1% Treasury 6.3% and Finance 3.1%. 50% of the respondents were managers. Of these, 62.5% are directly managing digital retail services. Of the remaining 50% of non-managers, 31% are directly involved with DFS while the rest are providing support services such as IT support, compliance and customer relationships.

For qualitative results, 6 participants were interviewed. The descriptive statistics show that the male gender accounted for 83% of the respondents with 17% females. For the ages of respondents, 50% were between 30-39 years, and the other 50% were between 40 -49 years. 50% had MBAs, 17% had a first degree, 17% had a diploma, and 17% had a professional qualification. 100% of the respondents have worked in their firms for at least 6 years. 100% were either managers or heads of departments. 50% were directly dealing with digital banking services, 33% were IT and innovations specialists, while 17% were support staff in cash management and transactions.

Questionnaire responses

Digital financial inclusion was measured by access and usage of DFS in relation to the performance of firms engaged in inter-firm coopetition. The measures for access to DFS included; product awareness, availability and affordability; account ownership; and speed of product delivery. These variables formed the survey questions which were used to evaluate whether DFS was more accessible to wider markets and hence improved financial inclusion. Account usage was included to measure whether or not transaction volumes, their value and the frequency of account usage has increased, from the performance perspective. Linear regression analysis, was used to analyse the quantitative data. Qualitative data was obtained using a semi-structured questionnaire.

Access to financial services

Respondents were asked on whether product awareness, availability and affordability of their financial products had increased due to collaborations. The results revealed that collaborations have increased efforts towards access of financial services. In terms of product awareness, 84.4% of the respondents agreed that awareness of their financial products has increased due to

collaborations with other DFSPs. 81.3% (26) agreed that there has been increased availability of their financial products through their positive interactions with other DFS providers. For affordability, 68.8% of the respondents agreed that their products and services are more affordable due to collaborations with other DFSPs. However, there were mixed reactions regarding price reductions with only 43.8% having agreed that they have reduced the pricing of products and services due to cost sharing with other DFSPs. 37.5% were not sure while 15.6% disagreed. To determine availability, 68.7% of the respondents agreed that they have increased accessible joint financial technologies that cover a wide market. In addition, 59.4% of the respondents agreed that through their collaborations, account ownership has increased over and above the increase in the use of digital technologies on their own. Availability was also measured by speed of service delivery. 78.1% of the respondents agreed that the joint financial technologies with other DFSPs have enabled real time transactions for their customers.

Usage of financial service products

Respondents were asked on changes in volume and value of their product and service earnings due to collaborations. 75% of them agreed that through the collaborations they have increased the number of transactions by volumes; while 71.9% of the respondents agreed that the frequency of account usage has increased due to collaborations. 59.4% agreed that, customers' accounts had increased by value. Finally, 78.1% of the respondents agreed that their collaborations with other DFSPs have contributed towards increased financial inclusion.

Hypothesis Testing

H_1 – Inter-firm coopetition has a significant influence on firm performance.

The hypothesis that inter-firm coopetition has a significant influence on company performance is supported (β = .570; t-value = 3.862; Sig <.002). The results imply that a significant positive change in inter-firm coopetition brings in a positive change in the performance of Zambian DFSPs.

The statistical findings are supported by the following extract from interviewees:

> *"We have seen a notable increase in the number of clients that we on-board as well as the electronic transactions as a result of this integration."*

The narration confirms that inter-firm coopetition has led to an increase in the volumes, which is an indicator of increased access. This implies that inter-firm coopetition has improved firm

performance by on-boarding those who were previously not their customers, including the previously unbanked.

H_2 – The performance of firms engaged in inter-firm coopetition have a significant influence on digital financial inclusion.

Quantitative results confirm that the hypothesis is supported (β = 1.88; t-value = 10.131; Sig (p) <.001). This means that any positive change in digital financial inclusion is related to the changes in the performance of the DFSPs. The performance outcomes of inter-firm coopetition affect digital financial inclusion. For instance, increasing access by use of joint digital service delivery systems, as highlighted by the interviewee 1 excerpt:

"We think of ways in which we can reach the unbanked. So people that were traditionally not our customers, we are finding ways and means to bring them in…..We have scaled down on our branch networks but promoted our digital capabilities and you can open an account digitally and transact by going to the nearest Airtel or MTN booth." Banker.

The narration confirms the quantitative results that inter-firm coopetition between banks and MNOs exist, and they are able to jointly develop products to reach the unbanked.

Discussion

H_1 – Inter-firm coopetition has a significant influence on firm performance.

Their primary aim for DFSPs is to improve firm performance or to survive the dynamic environment. The results indicate that through inter-firm coopetition, the DFSPs have been able to improve both market and financial performance. Inter-firm coopetition enabled increased geographical coverage, leading to increased product and service offerings. This performance was as a result of product improvements and expanded markets. These have increased the volume of transactions and subsequently the profit margins. This is supported by Bengtsson & Kock's, (2014) finding that establishment of new markets or the enlargement of demand in an existing market leads to value creation and value capture, which impact on company performance. These results are further supported by Grewe *et al*., (2016a) who established that inter-firm coopetition enlarges the total market, increases customer satisfaction and improves company performance. The following vignette from the interviews, supports the findings:

"Customers have broadened because you now have added those that are not necessarily bank customers, but are receiving or sending payments from those people. This has increased volumes." Banker.

H_2 – The performance of firms engaged in inter-firm coopetition have a significant influence on digital financial inclusion.

The impact of inter-firm coopetition on digital financial inclusion is a secondary outcome for firms. It takes place while firms are jointly seeking to improve performance and/or survive in a changing environment. The findings are supported by Samsø Fibæk *et al.*, (2021) who found that access including increasing awareness, ensuring affordability and increasing availability were important in market expansion. For this study, awareness involves getting the financial products and services in people's minds so that they perceive it as important and easy to get to; ensuring affordability meant providing manageable costs for the consumer; and availability involves having a consistent actual location where a consumer can obtain products and services whenever they need them (Samsø Fibæk et al., 2021). These elements are aimed at improved market performance, which in turn improves financial inclusion. This information in the vignette indicate that inter-firm coopetition among DFSPs has led to increase in the access of financial services through market expansion, including among the unbanked.

"We have managed to capture more customers because of the same partnerships. It's been the opportunity to really increase the un-bankable population to access the, you know, the services that we have."

In addition to increased access, the study findings indicate that DFS usage has increased. There has been an increase in the frequency and in the number of transactions attributed to inter-firm coopetition. This has translated into increased volumes and value of transactions. This means that more people are using formal systems of transacting. Those that do not own bank accounts are now served indirectly through mobile transactions. The results imply that those that were previously not able to access banking services are able to do so through the wider digital networks created by inter-firm coopetition. Those that do not need to have a bank account are exposed to banking services of relatives and friends, by sending or receiving money using MNOs and FinTechs. In this way, inter-firm coopetition has contributed towards

increased digital financial inclusion. These results support other studies regarding the effect of collaborations on improved social welfare. A study by (Omwansa & Waema, 2014) examined how collaborations create innovative and appropriate financial products for the poor. They found that one provider will not be able to effectively provide financial solutions to the poor, but with collaborations, synergistic efforts would realize financial inclusion benefits faster and more efficiently. The use of inter-firm coopetition to increase financial inclusion also supports the collaborative intervention theory of financial inclusion which posits that joint effort, from multiple stakeholders, is required to get the unbanked populations into the formal financial services system (Ozili, 2020). The increase in usage of DFS is supported by the following vignette:

"People want to transact more and they want more avenues or more platforms to transact on. So the more you partner with people the more people will be coming through your system…. The new accounts are active yes."

Conclusion and implications

The effects of inter-firm coopetition on firm performance have been found to be positive, both from the literature and from the results of this study. The changing environment such as changing demographics, heightened customer expectations and demand for high quality affordable products has encouraged DFSPs to collaborate. As firms seek to improve their performance, they make choices in selecting the best solutions in service delivery. DFSPs have adopted inter-firm coopetition to gain resources and joint improvements in value for money processes for customers which has translated into improved firm performance. DFSPs have been able to improve on product offerings that are affordable and capture even those at the bottom of the pyramid, the previously unbanked people.

Digital financial inclusion was measured by access and usage of DFS in relation to the performance of firms engaged in inter-firm coopetition. DFSPs expand their markets to increase profitability, and this results in the outcome of digital financial inclusion. In all their activities of product awareness, availability, affordability and speedy service delivery, DFSPs aim to improve on their performance by increasing the market size and financial outputs. The results confirm that joint digital financial services has increased due to inter-firm coopetition. This is over and above the increase caused by the introduction of digital technologies. The collaborations have benefited both the firm and society since the avenues for getting people to

use financial products have increased, and more people are coming onto the system and are actively using the interactive digital platforms.

Policy makers may use the findings of this study to review existing policy on regulation of interoperability of digital systems. Regulation on inter-firm coopetition may be developed to protect the consumer in cases of potential tensions. Policy makers should anticipate and mitigate any difficulties connected with the use of inter-firm coopetition in digital financial inclusion resulting from their efforts.

Managers should be aware of the effect of their joint decisions in providing services as they also affect society. For instance, the decisions by DFSPs in seeking to capture more customers, they are able to reach those that were previously not reached. The literature and the study have shown that costs can be mitigated when DFSPs jointly deliver services to new markets.

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