SERVICE INNOVATION AND ORGANISATIONAL PERFORMANCE: MEDIATING ROLE OF CUSTOMER SATISFACTION

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ABSTRACT

Innovation plays a key role in the success of businesses the world over. The purpose for this study is to explore the mediating role of job customer satisfaction in the relationship between service innovation and organisational performance. Data for the study was obtained from 450 commercial bank customers in Ghana using structured questionnaire. The PLS-SEM was the main analytical tool used to analyse the research findings via AMOS 22. Findings from this study revealed a positive and significant relationship between service innovation and organizational performance. Additionally, the study revealed that customer satisfaction was found to have positive and significant effect on organisational performance. However, there was no significant relationship between service innovation and customer satisfaction in this study. The study contributes to existing literature on service innovation from a developing country context. The implications for the study are also discussed.
Keywords: Service Innovation, Customer Satisfaction, Organisational Performance, Ghana

INTRODUCTION

In todays globalised market, innovation has assumed an important facet in the way businesses are done. Due to the level of competition globally as we as increasing sophistications of consumers, innovation is increasingly considered to be one the key drivers of the long-term success of firms (Yusheng & Ibrahim, 2019; Mahmoud, Anim & Hinson, 2018; Darroch & McNaugton, 2002). Firms that are able to innovate respond quickly to competition than non-innovative companies (Brown & Eisenhard, 1995; Miles & Snow, 1978). Again, investing in

the right kind of innovation in new technologies and strategies helps firms improve their productivity and general performance and growth (Yusif, 2012; Stiglitz, 2010; Beck, Chen, Lin & Song, 2012).

Crossan and Apaydin (2010) defined innovation as "the production or adoption, assimilation, and exploitation of value-added novelty in economic social spheres; renewal and enlargement of products, services, and markets; development of new methods of production, and establishment of new management systems." Innovation has also been defined as "a process of turning opportunities into new ideas (Drucker, 1993; Tidd & Bessant, 2009), the adoption of these ideas within the organization (Damanpour, 1991), and successful application of resulting novelties (Pries & Jazsen, 1995) in a way which provides values to the organization" (Dadfar, Dahlgaard, Brege & Alamirhoor, 2013; p.3).

What distinguishes innovative firms from non-innovative firms is that the former offers new or improved features of an existing product that seeks to offer value for customers better than the non-innovative firms. Innovative firms are also able to respond to problems quicker and offer solutions than the non-innovative firms (Vargo & Lusch, 2008; Michel, Brown & Gallan, 2008). The development in technology and its attendant services has influenced the adoption of innovation to assist service firms deliver prompt and quick service as well as enabled service firms to widen and effectively manage their delivery channels. Therefore, bank's adoption and use of service innovation would increase their efficiency, enhance their service and increase customer satisfaction and loyalty which would translate into long term profitability for the firm.

A review of the extant literature on innovation seem to suggest the continuous domination of manufacturing service studies compared to the service sector (Jaw, Lo & Lin, 2010; McDermott & Prajogo, 2012). There also seem to be a paucity of literature on innovation studies in the area of services (Mahmoud et al., 2018; Ettlie & Rosenthal, 2012; Jaw et al., 2010). In an attempt to close the gap between manufacturing and service innovation studies, researchers have called for a focus on service innovation studies (Flint, Larsson, Gammelgaard & Mentzer, 2005; Oke, 2007; Yusif, 2012; Carlborg, Kindström & Kowalkowski, 2014). Despite these attempts at closing the gap in literature, the service innovation literature still lags behind especially in developing country context. This study therefore aims at closing this gap in literature by focusing on service innovation from an African perspective as well as from customers' viewpoint which has also been relegated to the back (Mahmoud et al., 2018; Janssen, 2011).

This study, therefore, seeks to achieve the following objectives:

- Assess the effect of service innovation on CS in Ghana's banking sector
- Explore out the relationship between service innovation, customer satisfaction and organisational performance
- Find out whether or not CS mediates the relationship between service innovation and organisational performance

LITERATURE REVIEW

Service Innovation and Organisational Performance

Service innovation has been defined as "institutionalized change grounded in reconfiguration of resources, actors and institutional arrangements, enabling actors to integrate resources and co-create value in novel and useful ways" (Edvardsson & Tronvoll, 2013). Mele and Russo-Spena (2015) argue that "Innovating is not implying the making of novel units of output but rather the designing and creating of new markets, contexts and meanings, and that more effort is needed

to understand the complexities of innovation in changing social, cultural and business contexts" (Mele & Russo-Spena, 2015). Innovation has been linked to organisational performance and service innovation has been considered to influence firms growth and competitiveness (Rajapathirana & Hui 2018; Gunday, Ulusoy, Kilic & Alpkan, 2011; Baker & Sinkula, 2002; Darroch & McNaugton, 2002). Previous research findings have established that innovation adoption is positively linked to bank performance (Rajapathirana & Hui, 2018; Ameme & Wireko, 2016; Nguyen, Tran & Wang, 2014; Gunday et al. 2011; Alam, 2013; Huhtala et al. 2014). These finding suggests that the more banks adopt innovation in their activities, the better they perform (Gunday et al. 2011). We therefore hypothesise as follows:

H1: Service Innovation adoption would have a significant, positive and direct effect on Organisational performance

Service Innovation and Customer Satisfaction

The relationship between service innovation and customer satisfaction has received little empirical evidence in the developing economy banking service context (Ameme & Wireko, 2016; Nguyen et al. 2014; Musara & Fatoki, 2010). Innovation adoption enhances firm's delivery of service by simplifying the delivery process and also reducing transaction time, thereby ensuring customer satisfaction and loyalty. Ameme and Wireko (2016) found a significant effect of customer satisfaction on technological innovations in the banking sector in Ghana. However, their study also revealed that due to the heavy transaction costs customers are disadvantaged in using technological innovations in banking sector. Again, Nguyen et al. (2014) concluded that technology adoption in banking would enhance service delivery to customers. We therefore hypothesise that:

H2: Service Innovation would have a significant and positive effect on customer satisfaction

Customer satisfaction and Organisational performance

Customer satisfaction has been long linked to firm performance. A satisfied customer would repeat purchase or transaction with the firm thereby increasing the firm's returns leading to profitability (Kotler, 2017; Gustafsson, Johnson & Roos, 2005). Satisfied customers would be loyal to the firm (Anderson & Sullivan, 1993; Wangnheim & Bayon, 2004); patronise the firm over its competitors; cost less to serve; less price sensitive and promote the firm's business by word-of-mouth. Eventually, customer satisfaction would be achieved which would them lead to customer loyalty. Customer loyalty thus would lead to increase in sales and revenue and to better financial performance (Eklof, Podkorytova, & Malova, 2018). In their study, Williams and Naumann (2011) found significant, and moderate-to-strong relationships between satisfaction levels and financial and market performance. We therefore hypothesise that:

H3: Customer satisfaction is expected to have a positive influence on Organisational performance
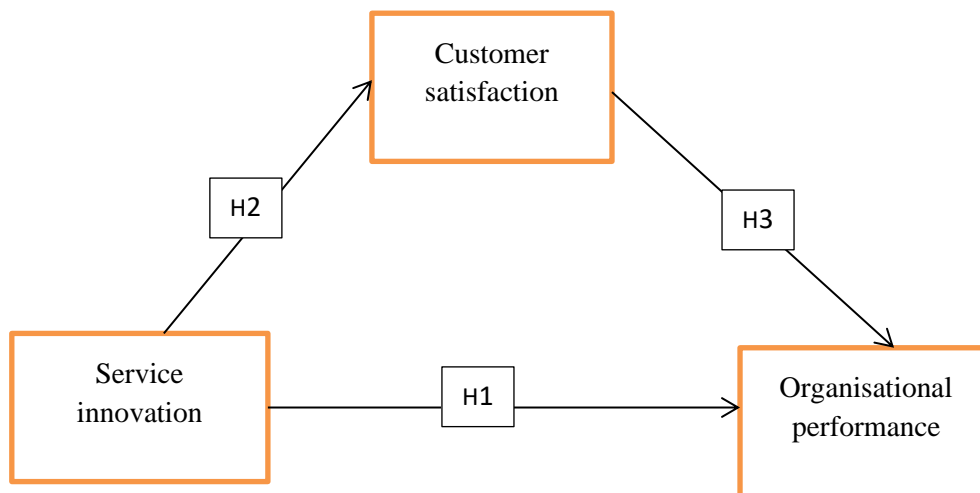
Figure 1: Conceptual framework and hypotheses of the study

METHODOLOGY

Study Design and Instrument

For the purpose of this research the quantitative approach was adopted to understand the effect of service innovation on organisational performance in the banking sector of Ghana. Specifically, the cross-sectional survey design was used to gather the data. Cross-sectional survey is defined as a data collection method where a researcher collects data from a representative cross section of the population of interest in order to understand the situation (Creswell & Creswell, 2017). The cross-sectional survey design was chosen because it allows for data to be collected on a large number of bank customers so that results can be generalized (Creswell & Creswell, 2017).

the quantitative measure of the study was obtained through structured questionnaire. A Likert scale which ranged from 1 = strongly disagree to 5 = strongly agree was used to. The questions used were adapted from previous researchers who have used similar questions in their studies.

Service Innovation had 5 variables and was measured using the Likert scale which ranged from "1 = strongly disagree to 5 = strongly agree". The questionnaire scale was adapted from Rajapathirana and Hui (2018) and Mahmoud et al. (2018) who used similar scale.

Customer satisfaction also had 4 variables and was measured using the Likert scale which ranged from "1 = strongly disagree to 5 = strongly agree". Respondents were asked to rate their responses on four statements. The questionnaire scale was adapted from Ibrahim and Abdallahamed (2014), Nguyen et al. (2014) and Nefat, Belazić & Alerić (2012).

Organisational performance – subjective measurement was used to measure Organisational performance, on a 5-point Likert scale (1 = Not very effective and 5 = Very effective). Powell (1995) suggests the use of subjective measures instead of financial measures because he claimed private enterprises would not disclose their financial information easily as a matter of policy due to the sensitive nature of financial statements. The instruments used are market share, return on assets, return on investment, and overall performance. This scale is adopted from Jaworski

and Kohli (1993); Samiee and Roth (1992), Rajapathirana and Hui (2018) and Huhtala et al. (2014).

Data Collection and Sampling Technique

Using simple random and convenient sampling technique, 500 respondents were selected as the sample for the study. It took about a month to distribute and retrieve the questionnaires from the respondents. Some of the respondents were issued with the questionnaire around the banking premises whiles others were given randomly at offices and shops.

Data Analysis

To verify the relationship among the variables and to test the research model, the study used the structural equation modeling approach via the Analysis of Moment Structures (AMOS) version 24. To analyze the study data, measurement model was used in verifying and confirming the legitimacy and consistency of constructs and the structural model in testing the hypothesis.

RESULTS OF THE STUDY

Model Analysis

The study used Confirmatory Factor Analysis (CFA) in measuring and testing the model consisting legitimacy and consistency test. Using factor analysis in purifying at the initial stage, factor loadings were established to be positively higher than 0.7 and so satisfactory in running structural equation modeling techniques.

As such, the study utilized the principal component analysis in the analysis of all the variables. The analysis from the reliability test confirms the findings of (Hair, Ringle, & Sarsted., 2016; Fornell & Larcker, 1981). Cronbach's alpha values higher than 0.7 means a good reliability of scale (see Table-1).

Also, using average variance extracted (AVE), the composite reliability variables scores in our test of convergent validity revealed a significance level of 0.7 of the main constructs and reliability (Hair et al., 2016; Wu, 2010). Thus, AVE values exceeding 0.5 indicates a good convergent validity for the questionnaire (Fornell & Larcker, 1981). AVE measures distinguish legitimacy that is verified when a measure does not correlate well with other measures (Saxenian & Sabel., 2008). Table-4 revealed a good convergent validity of AVE square root higher than correlation among all constructs.

Table 1
Exploratory Factor Analysis

Construct	Items	Factor loadings	Cronbach Alpha values	CR	AVE
CSAT (CSAT)	CSAT1	.915			
	CSAT2	.915	0.890	0.931	0.818
	CSAT3	.883			
Org. Performance (OP)	OP1	.839			
	OP 2	.841	0.796	0.880	0.709
	OP 3	.847			
Service innovation (SI)	SI 1	.762			
	SI 2	.729	0.870	0.898	0.608
	SI 3	.779			
	SI4	.743			

Measurement of structural equation modeling

In other to test the significance level of hypothesis, this study used AMOS (v.22) and evaluated the decency of fit and measurement model enabling the use of a variety of indices in testing the fitness as well as various model fit measures. This is shown in table 2 below which confirms that all measurements had a good fit as per the criteria of (Bentler, 1992; Hair et al., 2016; Wu, 2010). This means that, the measurement of the structural model is reasonably justified.
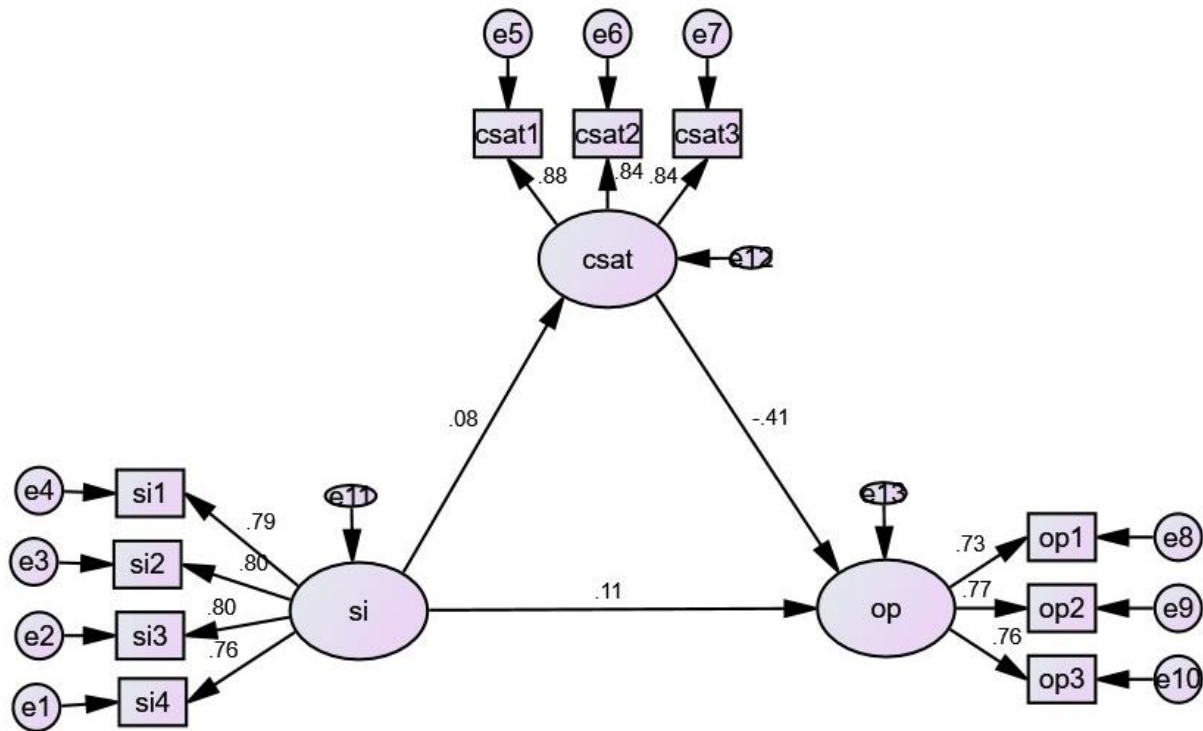

Figure 2: Structural Model of the Study

The structural model assessed the link between the latent constructs (Hair, Sarstedt, Ringle & Gudergan, 2017). From Figure-2, the path estimates show that SI has significant and positive effect organisational performance (OP) and Customer satisfaction (CS) with a correlation of 0.110 and 0.080 respectively. It means that, service innovation influence more on OP (11%) followed by CS (8%) in that order. CS however has a negative effect on OP -0.41 i.e. -41%. This means that customer satisfaction (CS) has a negative influence organisational performance (see Figure-2).

Model Fit Analysis

We employed Amos in order to test fitness of our model as well the level of significance of our formulated hypothesis. The results of the fit test compared with various indices shows that our model satisfies all the fit criteria. The result shows a good fit that confirms the criteria of Bentler (1992); Hair et al. (2016) and Wu (2010). This justifies the measurement of the model. This is represented in Table 2.

Table 2
Goodness of Fit

Measurement	Indices	Criterion	Results
Absolute fit measures	AGFI	>0.8	0.955
	GFI	>0.9	0.974
	RMSEA	<0.08	0.043
	NFI	>0.9	0.972
	CFI	>0.9	0.987
Incremental fit measures	IFI	>0.9	0.987
	CMIN/DF	<3.0	1.840

Hypothesis Testing and Effect

After testing for the goodness of fit indices for the model, the model measurement was validated and the hypothesis tested. This was indicated in Table-3 that, service innovation (β SI-OP=0.106, p<.01) showed a positive relationship with organisational performance; however (β SI-CSAT=-0.092, p>.05), showed a negative relationship with customer satisfaction. On the other hand customer satisfaction, (β CSAT-OP=-0.359, p<.001) showed a negative but significant relationship with organisational performance. These findings support H1 and H3 respectively.

Table 3
Path Analysis

Path	Path weight(β)	P Values	Hypothesis	Results
SI→ OP	0.106	*	H1	Supported
SI→ CSAT	0.092	0.117	H2	Not supported
CSAT → OP	-0.359	***	H3	Supported

Note: * significant at 0.05, ** significant at 0.01, *** significant at 0.001; SI—Service innovation; OP – Organisational performance; CSAT – Customer satisfaction

Mediating Role of Customer Satisfaction

To establish the meditation effects, all significant parameters were tested using guidelines from Baron and Kenny (1986) for partial and full mediation conditions.

Following the steps provided by Baron and Kenny (1986), Judd and Kenny (1981), and James and Brett (1984), first, OP (dependent variable) was regressed on Service innovation (independent variable) and this also showed a significant effect (SI → OP, β=0.048, p=0.033). Second, CSAT (mediator) was regressed on Service innovation (independent variable) and it showed a significant effect (SI → CSAT, β=-0.040, p=0.082). Third, OP (dependent variable) was regressed on CSAT (mediator) and SI (independent variable) and the effect was also significant (SI → CSAT → OP, β=0.064, p=0.002 was recorded for the first path, (β=0.397, p=0.000)) also recorded for the second path. The results of the regressions are presented in Table

-4. The assumption was that if all the first three or all the four steps are achieved, then mediation testing would be possible. From Table-4, the first three steps in the Baron and Kenny (1986) steps are achieved indicating mediation possibility.

Table 4
Mediation Analysis: Customer satisfaction as Mediator

Model	Regression path	β estimate	t-value	p-value
1	SI → OP	0.048	2.14	0.033
2	SI → CSAT	-0.040	-1.74	0.082
3	CSAT → OP	0.397	9.38	0.000
4	SI → OP	0.064	3.10	0.002

Notes: p-values of ***Represent 0.001 significance level

Now, determining the type of mediation whether full or partial, since the first three steps are met and the fourth condition not met, the mediation is a partial one. Full mediation holds that all the four steps should be met.

Discussion

The purpose of this study was to examine the effect of service innovation on organisational performance as well as determine whether or not customer satisfaction mediate the relationship between service innovation and organisational performance. The results of the study revealed that service innovation has a positive and significant effect on organisational performance. This finding supports earlier findings (Rajapathirana & Hui, 2018; Ameme & Wireko, 2016; Nguyen et al. 2014; Gunday et al. 2011; Alam, 2013). It means that once banks invest in innovation and integrate it in their business operations, the end result would be growth and profitability. This is agrees with Stiglitz (2010) and Beck et al. (2012) positions that adopting new technologies and innovative strategies would help banks improve their productivity and general performance and growth.

Secondly, customer satisfaction revealed a negative but significant relationship with organisational performance. This could be because once customers are satisfied with the level of service as provided by the bank as a result of using innovative technologies, this would influence how the customers perceive the outcome of the encounter either positive or negative. In this case, the finding shows that customers are satisfied with the level of service and this would mean doing more business with the bank which would enhance the performance of the bank. This finding supports previous results (Yusheng & Ibrahim, 2019; Kotler, 2017; Gustafsson et al., 2005; Eklof et al., 2018). Kotler (2017) stated that satisfied customers would engage more with the business in terms of repeat purchases which would increase sales and revenue for the firm.

Service innovation however was found to have a positive but insignificant relationship with customer satisfaction. It is expected that improving service delivery and reducing stress involved in customer engagements during banking service should improve the satisfaction of customers as they are now given the best of service through innovation in the service delivery process. However, this finding seems to suggest that the banks are not doing enough to get

customers enjoying improved banking services or that the banks are not adopting the right kind of innovation that resonate with customers. This finding contradicts earlier findings that found a positive relationship between service innovation and customer satisfaction (see Yusheng & Ibrahim, 2019; Eklof et al., 2018).

Finally, the study revealed that customer satisfaction does not mediate the relationship between service innovation and customer satisfaction. This finding means that, even without customer satisfaction service innovation would have an effect on performance of organisations. However, due to the importance of customer satisfaction, firms should pay particular attention to customer needs, wants and expectations as these also determine the success or otherwise of the firm. Murali, Pugazhendhi and Muralidharan (2016) argue that implementing a customer satisfaction philosophy requires certain steps such as understanding customers, identifying customers' needs, wants and expectations and finally, measuring their perceptions (Sichinsambwe, Chishimba & Sikombe, 2017).

CONCLUSION AND IMPLICATION

This study assessed the effect of service innovation on customer satisfaction as well as the mediating effect of customer satisfaction in the relationship between service innovation and organisational performance. The study's findings show that organisational performance is determined to some extent by service innovation and the satisfaction of customers. However, service innovation was found not to have significant effect on customers' satisfaction. It therefore behooves on organisations especially service firms to pay particular attention to their service process by constantly updating and upgrading their service platforms and delivery channels to create positive customer experience that would lead to customer satisfaction and enhance firm performance. Again, firms should take the issue of customer satisfaction serious as it has the tendency to contribute to the overall organisational performance. Management should therefore role out programmes and activities geared towards building, maintaining and enhancing the positive customer relationships. But the most important activity or tool that could have long lasting effect on customer satisfaction is how well the firm treat customers in terms of delivering quality service and providing value for money products or services.

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