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Thomas Anning-Dorson, Robert Ebo Hinson, Mohammed Amidu, Michael Boadi Nyamekye,

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Enhancing service firm performance through customer involvement capability and innovativeness

Service firm performance

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Thomas Anning-Dorson

*Department of Marketing and Entrepreneurship,
University of Ghana Business School, Ghana*

Robert Ebo Hinson

*Department of Marketing and Entrepreneurship,
University of Ghana Business School, Ghana and
University of the Free State Business School, Bloemfontein, South Africa*

Mohammed Amidu

Department of Accounting, University of Ghana Business School, Ghana, and

Michael Boadi Nyamekye

Department of Marketing, University of Professional Studies, Accra, Ghana

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Abstract

Purpose – Because of the paucity of empirical research on firm-level capabilities of firms for effective customer involvement, the purpose of this study is to evaluate service firms' capacity to coopt customers to enhance the innovativeness and firm performance relationship. This study conceptualizes involvement capabilities of service firms as a strategic driver that exploits their internal firm assets, which in turn facilitates the positive relationship between innovativeness and firm performance.

Design/methodology/approach – Data were collected from 344 managers of service firms across different sub-sectors in an emerging economy. The study first confirmed the constructs through confirmatory factor analysis before analyzing hypothesized relationships. Regression models were specified with robust standard errors to test the hypothesized relationships.

Findings – The study found that involvement capability of service firms helps them to exploit their relational assets and create and manage strong customer participation. Additionally, it was found that involvement capabilities enable service firms to capitalize on the competencies of customers, which in turn improves the outcomes of their innovativeness. The results showed that the interaction between involvement capability and innovativeness enhances firm performance significantly.

Practical implications – Service firms can enhance customer participation in the value creation process by increasing their involvement capabilities. The increase in such capabilities will enhance the innovativeness of service firms, thereby improving their financial and non-financial performance.

Originality/value – This study offers guidance on how a firm's innovativeness and customer involvement work together within the service operation to enhance firm performance.

Keywords Customer involvement, Innovativeness, Service firm performance, Strategic management and leadership, Customer co-creation, Involvement capability, Service operation

Paper type Research paper



1. Introduction

The goal of organizations has evolved from relationship marketing to involving and engaging customers in all possible ways in the value creation process (Pansari and Kumar, 2017). This is because value is not solely created by the firm, rather value is co-created with the customer (Lusch and Nambisan, 2015). Storey and Larbig (2017, p. 101) reinforce this point by saying that information on customer needs and how best to serve these needs are best obtained from the customer. Customers have more knowledge about the problem, while the service providers have more information about the solution, hence the need to involve the customer in the creation of the value that satisfies (Moeller *et al.*, 2013). The influence of customer involvement in the value creation process has received a lot of attention in the management literature (Yi *et al.*, 2011; Ngo and O'Cass, 2013; Blasco-Arcas *et al.*, 2016). Extensive research in the service has looked at customer involvement and participation from different perspectives to emphasize the importance of the subject to service firm development (Ryzhkova, 2015; Chen *et al.*, 2016). However, in the empirical examination of customer involvement, less attention is paid to the firm-level capability to involve (Anning-Dorson, 2018). The lack of depth in empirical research in this area does not help us understand how the firm can effectively be the value facilitator it ought to be as explained by Grönroos (2011). Anning-Dorson (2018, p. 2) defines involvement capability as to “the extent to which firms are able to engage customers in the value creation and delivery process”. As a capability, customer involvement is rooted in the routines of the service firm’s process such that it endears and disposes the firm to allow the customer to direct the interaction process. Anning-Dorson (2016) describes it as the ability to create the environment for the customer to have direct and fruitful interaction, as it engages the customer in the value delivery process. Involvement capability facilitates the creation of an atmosphere conducive for the customers to perform the two distinct roles of information sharing and co-development (Fang, 2008; Grönroos, 2011). The firm-level capability is considered critical, as the effective functioning of the customer in the co-creation process depends on the firm’s ability. This is even more important in services where value is more than often co-produced (Vargo and Lusch, 2004; Andreassen *et al.*, 2015).

Furthermore, in the marketing literature, customer involvement in the value creation process, especially in service operations, has been acknowledged as enhancing competitive advantage (Auh *et al.*, 2007; Payne *et al.*, 2009; Yi *et al.*, 2011). In creating competitive advantages, it is also suggested by Ordanini and Parasuraman (2011) that the capability to involve the customer during service development transforms the customer into an operand resource, which increases the firm’s innovativeness. However, Ngo and O'Cass (2013) note that recent research on innovativeness and customer involvement offers little guidance on how a firm’s innovation and customer involvement work together to enhance firm performance. Innovation is defined as the firm’s capacity to engage in the introduction of new processes, products or ideas. While some findings have suggested positive association between involvement and innovation (Cui and Wu, 2016), others have also found no relationship (Menguc *et al.*, 2014). Storey and Larbig (2017) call for deeper understanding of how the two capabilities interact to influence firm success. In this study, we investigate how service firm’s capability to involve the customer strengthens innovativeness to enhance service firm performance.

In the organizational capability literature, there is a surprising absence of the simultaneous examination of the performance implications of innovation and customer involvement (Newbert, 2007; Ngo and O'Cass, 2013). Given the importance of both innovation and customer involvement in creating a superior advantage for enhanced performance, it is important to address this lacuna in the literature. The extant literature

(Ordanini *et al.*, 2011; Prahalad and Ramaswamy, 2004) shows that customer involvement influences innovativeness in service operations. However, Sharma *et al.* (2014) note that there are several gaps in the field's knowledge. One of the gaps is the underdeveloped understanding of the role of customers in service innovation (Alam, 2006, Ostrom *et al.*, 2010). Additionally, few studies (Sharma *et al.*, 2014, Ordanini *et al.*, 2011) have examined organizational-level capabilities in terms of customer involvement and its linkages with service innovativeness and performance. This paper addresses these gaps by examining the combined effect of customer involvement capabilities and innovativeness in improving service firm performance. We argue that involvement capability is an important internal capacity that enables service firms to facilitate the process of customer involvement/participation. The rest of the paper is set out as follows: theoretical background and hypotheses, methodology, analyses, discussion and conclusions.

2. Theoretical background and hypotheses

The organizational capability perspective underpins this study. Collis (1994) asserts that capabilities are those that reflect an ability to perform the basic functional activities of the firm, such as plant layout, distribution logistics and marketing campaigns, more efficiently than competitors. In line with that, Helfat and Peteraf (2003) defined organizational capability as the "ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result" (999). Teece *et al.* (1997) explained from the dynamic improvement perspective by saying that a firm capability is the ability to learn, adapt, change and renew over time. From the organizational capability perspective, the performance differences among firms can be explained by their capabilities (March, 1994; Augier and Teece, 2009). In fact, how firms are able to incorporate sets of specific, identifiable processes or commonly accepted best practices as part of their routine operation, determines their performance over time (Branzei and Vertinsky, 2006; Eisenhardt and Martin, 2000). Zander and Kogut (1995) explain that the capabilities of a firm lie primarily in the organizing principles by which individual and functional expertise is structured, coordinated and communicated. They are, therefore, reflected in the ability of the firm to perform repeatedly, or "replicate", productive tasks that relate to the firm's capacity to create value (Teece and Pisano, 1994). Capabilities emerge through the integration of specialist knowledge across a number of individuals and are associated with the development of organizational competences and routines (Teece and Pisano, 1994). Organizational capabilities exploit resources and also enhance the efficacy of other firm-level competencies (Teece *et al.*, 1997). This study sees involvement capability as being core to the operations of service firm and allows for internal process and system flexibility to facilitate customer participation in the production and delivery of value. It reflects the service firm's integration of knowledge across the different customer interaction points and is associated with developing routines that facilitates customer integration into the production and delivery process. It therefore determines how the customer as a resource will be utilized.

In the sphere of service operations, the customer provides production resources in the form of information or effort in the servuction for the firm to create value (Hsieh *et al.*, 2004). However, the ability of firms to learn from, utilize and collaborate with their customers to create the required value is dependent on the level of customer involvement capability (Augier and Teece, 2009). Service firms that are able to turn their customers into a functional resource and actually utilize such resource in the value creation process, would have developed the capacity to reshape, reconfigure idiosyncratic and specialized asset that enhance operational efficiency and strategic effectiveness. The extant research has shown that customer involvement has a positive effect on innovation activities of service firms

(Anning-Dorson, 2016; Ryzhkova, 2015); hence, the ability of a firm to optimize customer involvement will positively influence innovativeness. This study posits that service firms that are high on customer involvement capabilities would enhance their innovativeness and their performance in both financial and non-financial terms. We also argue that both customer involvement and innovativeness capabilities can be complemented such that the more the service firm is able to involve the customer, the better the chance of innovation. Anning-Dorson (2018) found that there is a positive relationship between customer involvement and innovation propensity of firms.

From the above, we present Model 1 to explain the relationships being tested. The research model shows that there is an expected direct relationship between innovativeness and firm performance, which has been confirmed by a number of studies (Visnjic *et al.*, 2016; Grawe *et al.*, 2009; Lusch and Nambisan, 2015). The current study, therefore, does not set as a hypothesized relationship even though it is included in the model testing. The model focuses on the direct relationship between customer involvement capability and firm performance, on one hand, and the interaction effect of innovativeness and involvement capability and firm performance on the other hand (Figure 1).

2.1 Involvement capability and firm performance

The capability theory suggests that capabilities are routines through which firms alter their resource base – acquire and shed resources, integrate them together and recombine those (Eisenhardt and Martin, 2000). Capabilities are seen to be rooted in routines, practices and operations of firms and, therefore, pose as imitation barriers for competitors (Ngo and O’Cass, 2013). Developing the appropriate capabilities consequently helps firms establish a sustainable competitive advantage and maximize their growth and performance (DeSarbo *et al.*, 2007). The thrust of the argument in this paper is that service firms that are able to develop the appropriate operational capabilities are able to deploy their resource effectively to enhance strategic success. Variance in the possession of customer involvement capabilities will result in differential effectiveness at generating and utilizing customer engagement opportunities to enhance performance.

Prahalad and Ramaswamy (2000) and Larivière *et al.* (2017) note that customers are fundamentally changing the dynamics of today’s marketplace and, therefore, can alter the linear relationship between strategic efforts and firm performance. The customer offers to the production process two value streams: resource base (as a resource) and partnership (as a co-creator) (Grönroos and Voima, 2013; Ma *et al.*, 2017). The onus is on the firm to successfully deploy the customer effectively to create the needed value for both the customer

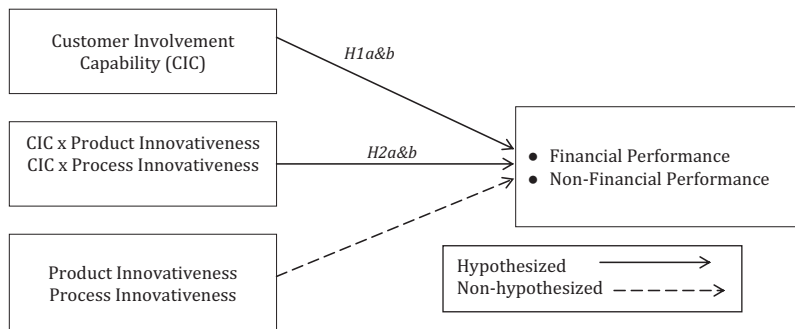


Figure 1. Research model

and the firm. This study agrees that it is not in every service process that the involvement of the customer is required and that customer participation may not be necessary at all times. However, it is argued in this study that customer involvement capability does not only facilitate the direct involvement of the customer into the co-creation process but also facilitate the use of the customer as a resource even outside of the direct co-creation process. We argue that involvement capability offers the service firm the necessary capacity to be flexible and meet customer utilization requirement at all times.

As espoused by [Cheng *et al.* \(2012\)](#), customer involvement offers the firm the opportunity to design, develop and launch innovative products and service through the effective utilization of the customer. Additionally, [Storey and Larbig \(2017\)](#) offers that involvement capability enables firms in the utilization of external knowledge as it facilitates acquisition, assimilation and transformation of new knowledge to create and exploit performance opportunities. It also facilitates information flow between the firm and customer; hence, information exchange allows the firm to meet both the current and future needs. The closer the firm is to the market (customers and other players), the better the chances of obtaining knowledge at a lower cost, timely updates and accurate knowledge. The capacity of the firm, therefore, becomes important in the effective deployment of the customer both as a resource and as co-creator as espoused by [Trischler *et al.* \(2017\)](#). This paper argues that firms with high levels of operational flexibility (which creates high customer involvement capabilities) will profit more from the service production and delivery process. The rationale is that such firms would have the capacity to guide the customer to direct the value creation process, which improves customer satisfaction and customer value – a measure of non-financial performance and important antecedent to improved firm performance ([Han and Hyun, 2018](#); [Rego *et al.*, 2013](#)). Beyond this, customer involvement has been found to be associated with improved firm performance ([Storey and Larbig, 2017](#); [Wang and Kim, 2017](#); [Auh *et al.*, 2007](#)). The thrust of our argument is that involvement capability enhances the value co-creation process of service firms which has been found to have a positive relationship with firm performance ([Feng *et al.*, 2016](#); [Jouny-Rivier *et al.*, 2017](#); [Pansari and Kumar, 2017](#)). This is made possible because when involvement capability is high, customers are allowed to direct the service co-creation process, shape the quality of service delivery and provide information on future needs and demands and also persuade prospective customers to experience the service. These acts go a long way in satisfying the customers, which has a direct and positive relationship with overall firm performance.

The study, therefore, hypothesizes that:

- H1.* The higher the customer involvement capability of a service firm, the higher the service firm (a) financial performance and (b) non-financial performance.

2.2 Innovativeness-involvement capability interaction and firm performance

[Hult *et al.* \(2004\)](#) assert that firms that stay close to customers are likely to benefit from innovation activity more than those that do not. Having the ability to stay close to customers helps to generate and respond to intelligence on customers' present and future needs ([Jaworski and Kohli, 1993](#)). More recent literature has confirmed the importance of customer involvement in innovation activities. For instance, [Storey and Larbig \(2017\)](#) and [Saldanha *et al.* \(2017\)](#) found that customer involvement has a positive effect on service design success and innovation. This was because involvement capabilities allow firms to exercise their ability to acquire external knowledge, assimilate such knowledge and transform it into innovative offerings and processes. [Storey *et al.* \(2015\)](#) emphasize that involvement capabilities help firms develop innovative products and processes tailored to suit customer

preferences and in turn improve sales and overall performance. [Ngo and O’Cass \(2013\)](#) note that innovativeness is closely related to customer involvement such that as firms encourage customer participation, they are able to engineer a fit between their innovation activities and customer demands.

In services, customers play an interesting and complex role in a service firm operation, as they do not only receive and consume the service but also serve as an important component in its improvement process ([Normann, 1984](#); [Ryzhkova, 2015](#)). [Anning-Dorson \(2018\)](#) explains that customer involvement capability allows firms to develop new ideas on what exactly customers are asking for, which leads to the introduction of new products and processes. The importance of customers in the innovation process is born out of the fact that customers are important holders and source of external knowledge that explains their needs and aspirations. Customers are central to the value creation and delivery process. Capturing their unique knowledge about usage and latent needs is key to innovation ([Mahr et al., 2014](#)). As explained by [Storey and Larbig \(2017\)](#), customer involvement paves the way for absorption of customer knowledge, which facilitates the development successful products and services. Additionally, the customer from the value co-creation perspective possesses certain competencies that help in the creation of new products and services to meet changing needs ([Witell et al., 2017](#)). This study argues along the lines of [Blazevic and Lievens \(2008\)](#) that those firms with higher levels of customer involvement capabilities can capitalize on the competencies of customers to improve upon the effects of their innovativeness. The service innovation literature tends to suggest a significant difference between successes and failures in service innovations with greater customer involvement in successful offerings compared to those that were unsuccessful ([Cui and Wu, 2016](#); [Anning-Dorson, 2018](#); [Yeh, 2016](#)). We therefore argue that aligning innovation activities with customer involvement capabilities will enhance how well firms satisfy customers and also improve the performance of service firms both in short and the long term. We posit that involvement capabilities must seek to complement the innovation efforts of service firm such that they can create both customer and firm value. Hence, the position of this paper is that the interaction of customer involvement capabilities and innovativeness will enhance service firm performance, that is, financial and non-financial performance. We, therefore, hypothesize, thus:

- H2.* Customer involvement capabilities will enhance the positive relationship between innovativeness (process and product) and service firm (a) financial performance and (b) non-financial performance.

3. Methodology

3.1 Sample and data collection

The data for this study were collected from the service sector of Ghana. To develop a sampling frame, the study used an online database – Ghana Business Directory (GBD) (from [ghanaweb.com](#)) to identify services firms across different sub-sectors. This database has been used in similar studies such as [Anning-Dorson \(2016\)](#) and [Story et al. \(2015\)](#). The GBD provided detailed information about the firms that allowed easy accessibility via personal contact and other means of communication. A total of 27 Universal Banks and 390 SMME Financing Institutions (the two extremes of banking service providers); and 106 Insurance Firms constituted of 18 Life, 26 General and 61 Brokerage firms were obtained. The list also had 558 business and management consultancy firms, 354 lodges and guesthouses, 741 media and communication firms and 204 general merchants. The total of all the eligible firms stood at 2,380; however, the study particularly focused on firms with active office(s) located in at least one of the three largest cities of Accra, Kumasi and Takoradi. This

brought the final figure to 1,881. Questionnaires were emailed to each firm for the non-performance questions to be filled by a top management member in charge of marketing, clients' service or operations or any related portfolio. An instruction was included on the questionnaire that performance measures (thus, financial and non-financial performance) were to be filled by finance manager/officer. After two reminders and follow-ups, a total of 408 responses were received. After excluding those who significantly could not complete the questionnaire and those who were not in a management position, the final number of useful questionnaires amounted to 344, which were used for the analysis. In all, 108 were from banking institutions, insurance 48, consulting 24, media and communication 61, hospitality 52 and retailing 51. Following the [Armstrong and Overton \(1977\)](#) recommendation, the responses of questionnaires collected within the first two weeks were compared with that of the past two weeks. The group means were not significantly different; hence, non-response bias was not considered a problem for this study.

4. Measures

4.1 Product innovativeness

The measurement of product innovativeness in this study relied on studies such as [Sundbo et al. \(2007\)](#), [Alam \(2006\)](#), [Sirilli and Evangelista \(1998\)](#). Product innovativeness in service firms is reflected new service development, product launch success, leading in service product originality, new service release rate and service offering differentiation. All items were on a seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. *Process innovativeness*: in measuring process innovativeness in service firms, this study relied on the works of [Damanpour and Gopalakrishnan \(2001\)](#); [Sirilli and Evangelista \(1998\)](#) and [Sundbo \(2003\)](#). It was measured by the extent to which service firms create and improve the method of service delivery, and the adoption of new elements (e.g. input materials, task specifications, information flow and equipment) – [Damanpour and Gopalakrishnan \(2001\)](#) to the firm's production process ([Gallego et al., 2013](#)). Four items were used to measure process innovativeness also on a seven-point Likert scale.

4.2 Involvement capability

This was measured by following the works of [Anning-Dorson et al. \(2015\)](#), [Stokes \(2014\)](#) and [Berthon and John \(2006\)](#). Six items were used to measure involvement capabilities also on a seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. The items measured how service firms allow customers to direct the interactions, encouragement for customers to participate in the service delivery, co-design and co-production. It further measured how customer insights are gathered, how to incentivize the customer to participate and invite prospective customers.

4.3 Firm performance

Firm performance was measured in both financial and non-financial terms. Financial performance was assessed on five measures – return on investment, profit, sales volume, market share and cash flow as done in studies such as [Odoom et al. \(2017\)](#) and [Jaworski and Kohli \(1993\)](#). The non-financial performance was measured by service quality, customer satisfaction and employee satisfaction as used in the [Anning-Dorson \(2017a\)](#). Performance is measured relative to major competitors that enabled control of performance differences caused by differences among sectors and served markets. Performance is measured as the top managers' assessment of the indicators mentioned above. Again, the seven-point Likert scale is used ("over the past three years, our company has shown much better performance across these indicators than the main

competitors, 1 = “much worse”, 7 = “much better performance”). In developing economies, [Hoskisson et al. \(2000\)](#) and [Anning-Dorson \(2017b\)](#) reckon that hard data across performance measures for a large number of enterprises is unavailable. The situation in this study was no different, hence, the use of subject measures for firm performance in this study, as previous studies have found a strong correlation between subjective assessments and their objective counterparts ([Slater and Narver, 1994](#)).

4.4 Control variables

To partial out the effect of certain firm-level characteristics that may confound the findings, the study controlled for such characteristics. Following [Wang \(2008\)](#), the study controlled for firm size, type of service (industry effect), firm age, the number of owners and form of ownership as having a potential impact on the performance of financial service firms. The study measured the size by the log of the total number of full-time employees; and firm age by the log of the number of years the firm had been in business. *Industry effect* was controlled for as the importance of the industry in which a firm competes as a predictor of firm-level variables is widely recognized in the literature ([Dess et al., 1990](#)). As indicated, the study controlled for the number of owners and the form of business ownership in terms of private or public.

5. Analyses

5.1 Assessment of measures

[Table I](#) presents the standardized loadings and the *t*-values of each indicator. All indicators had significant standardized loadings of *p*-value ≤ 0.05 , and *t*-values of the individual indicators ranged from 5.52 to 17.66 ([Anderson and Gerbing, 1988](#)). The reliability and validity of the measures represent the constructs being evaluated and assess the psychometric properties of scaled measures ([Fornell and Larcker, 1981](#)). Composite reliabilities indicate internal consistency, which means that the measures consistently represent the same latent construct. The composite construct reliability of each construct ranged from 0.66 (product innovativeness) to 0.71 (non-financial performance), which meets the acceptable criteria ([Fornell and Larcker, 1981](#); [Hair et al., 2010](#)). The variance-extracted estimate measures the amount of variance captured by a construct in relation to the variance because of random measurement error. The Average Variance Extracted (AVE) is reported in the diagonal of [Table II](#). The variance extracted scores of the constructs ranged from 0.55 (process innovativeness) to 0.70 (financial performance), which suggests adequate convergent validity ([Bagozzi and Yi, 1988](#); [Fornell and Larcker, 1981](#); [Hair et al., 2010](#)).

The five constructs were tested for the goodness of fit and validation of scales of the measurement by the confirmatory factor analysis (CFA). We used AMOS 20 and the maximum likelihood estimation procedure to examine all scales. The exact model fit was assessed using chi-square (χ^2) test. Modeling after [Bagozzi and Yi \(1988\)](#), a number of approximate fit heuristics were also examined to provide additional information on model fit and the indices ranged from good to very good. The five-factor CFA model fits the data well, with indices meeting the respective criteria (χ^2 (d.f.(degree of freedom)) = 143.876 (78); goodness-of-fit index (GFI) = 0.98; normed fit index (NFI) = 0.95; Tucker–Lewis index (TLI) = 0.95; IFI = 0.96; comparative fit index (CFI) = 0.96; root mean square error of approximation (RMSEA) = 0.062; and standardized root mean residual (SRMR) = 0.042. These indices meet the accepted criteria for the overall model fit of the sample group suggested by [Hair et al. \(2010\)](#) and [Kline \(2015\)](#).

Constructs/Measurement items	Factor loading	<i>t</i> -value	CR	Service firm performance
<i>Customer involvement capabilities</i>			0.92	
We allow customers to direct the interaction during service delivery at all times	0.860	Fixed		
We always encourage our customers to help us in the production of quality service	0.820	7.321		
Our customers generally co-design and co-produce most of our products	0.750	7.632		1279
We continuously encourage our customers to persuade prospective customers to experience our products/services	0.792	8.587		
We frequently provide incentives to foster participation of customers in new product/service development	0.819	7.738		
We always gather market insights through face-to-face customer meetings, visits, workshops or customer suggestions'	0.819	7.212		
<i>Product innovativeness</i>			0.88	
Our company is always able to differentiate our products from the competition	0.784	Fixed		
In comparison with our competitors, our company has a high success rate in new product launch	0.781	9.540		
Our company is faster in bringing new service offerings into the market than any other	0.791	10.422		
Our company has introduced more innovative products during the past five years than any other	0.764	8.398		
New products in our company often take us up against new competitors	0.737	7.263		
<i>Process innovativeness</i>			0.83	
We adapt to different service processes to meet customer needs	0.768	Fixed		
During the past five years, our company has developed many new management approaches to help serve customers faster and better	0.730	5.521		
Our future investments in new service process are significant compared with our annual turnover	0.693	6.922		
Our company changes service process at a great speed in comparison with our competitors	0.792	7.162		
<i>Financial performance</i>			0.92	
Better cash flow	0.837	Fixed		
Better return on investment	0.869	17.440		
Better market share	0.804	14.405		
Better return on investment	0.844	17.660		
Better cash flow	0.850	14.530		
<i>Non-financial performance</i>			0.85	
Employee satisfaction	0.718	Fixed		
Customer satisfaction	0.879	16.943		
Service quality	0.838	14.189		

Table I.
Measurement model

To investigate the multicollinearity of constructs, the assessment of discriminant validity is tested. Discriminant validity compares the variance-extracted estimates of the measurements with the square of the parameter estimate between the measurements. If the variance-extracted estimates of the constructs are greater than the square of the correlation

between two constructs, then the evidence of discriminant validity exists (Fornell and Larcker, 1981). On the basis of this test, the study found that the correlation between any pair of main constructs was not larger than the respective square root of the average variance extracted for each of the constructs, in support of discriminant validity (Table III).

An initial measure to avoid common method bias was to allow different respondents to answer the dependent and the independent variables. However, because respondents came from the same company and the fact that there were no available objective measures for performance, a test for common method variance (CMV) was conducted. This was done to eliminate any possibility of common method variance that may cast doubt on the integrity of the findings of this study. The study tested for common method bias through Lindell and Whitney's (2001) test for CMV and found that CMV was not a problem for the study.

5.2 Results

To assess the hypotheses, multi-variable linear regression estimation with robust standard errors was performed, where controls were first regressed on firm performance (financial and non-financial performance). In the second model, the direct effects of product innovativeness, process innovativeness and customer involvement capability were added. Two additional models were added, in which each interaction terms (moderation effect) was estimated, thus, Models 3 and 4. Table III shows the direct effects of product innovativeness, process innovativeness and customer involvement capability. In Model 2, customer involvement capability is found to be positively related to both financial ($\beta = 0.198, p < 0.001$) and non-financial performance ($\beta = 0.122, p < 0.001$). Hence, *H1a* and *H1b* were confirmed; thus, the higher the customer involvement capability of a service firm, the higher the financial and non-financial performance. Model 2 recorded a substantially higher R^2 of 36.7 per cent for non-financial performance and 41.4 per cent for financial performance compared to the 17.1 and 14.9 per cent recorded in Model 1 where only the controls estimated. This shows that the explanatory powers of the two models in Model 2 were superior to those in Model 1, indicating the effect innovativeness and customer involvement on financial and non-financial performance.

To assess the moderation effects (i.e. the interaction effects), the study followed Little *et al.* (2007) to create single indicants for each variable involved in multiplicative interactions as the use of single indicants helps reduce model complexity. To reduce the possibility of multicollinearity problems because of the usage of interactive terms, all measures involved in multiplicative interactions were mean-centered. In Model 3, the interaction term of customer involvement capability and product innovativeness was added to Model 2 and estimated. The results found support for the hypothesis that customer involvement capabilities will enhance the positive relationship between product innovativeness and

Table II.
Discriminant validity
(correlations) and
descriptive

Correlation matrix	1	2	3	4	5
Customer involvement	0.65				
Product innovativeness	0.277**	0.59			
Process innovativeness	0.411**	0.430**	0.55		
Financial performance	0.317**	0.426**	0.408**	0.70	
Non-financial performance	0.317**	0.474**	0.504**	0.832**	0.66
Mean	4.344	4.566	4.789	4.895	4.968
Standard deviation	1.169	1.070	0.946	1.102	1.126

Notes: Pearson correlation is significant at the 0.05 (two-tailed); **0.01

Variables	Model 1		Model 2		Model 3		Model 4	
	Financial performance	Non-financial performance	Financial performance	Non-financial performance	Financial performance	Non-financial performance	Financial performance	Non-financial performance
<i>Controls</i>								
Size	0.112 (0.0757)	0.0971 (0.0732)	0.0865 (0.0632)	0.0801 (0.0644)	0.0906 (0.0612)	0.0929 (0.0631)	0.0881 (0.0607)	0.0854 (0.0630)
Age	-0.126 (0.0914)	0.0931 (0.0884)	-0.0898 (0.0762)	0.118 (0.0775)	-0.125* (0.0737)	0.0894 (0.0761)	-0.127* (0.0733)	0.0878 (0.0761)
Service type	0.226*** (0.0268)	0.233*** (0.0259)	0.172*** (0.0227)	0.188*** (0.0231)	0.150*** (0.0222)	0.171*** (0.0220)	0.145*** (0.0222)	0.167*** (0.0230)
Nationality	0.216* (0.125)	-0.0656 (0.121)	0.134 (0.105)	-0.132 (0.107)	0.103 (0.102)	-0.148 (0.105)	0.111 (0.101)	-0.137 (0.105)
No. of owner	-0.00687 (0.114)	-0.0597 (0.110)	0.0151 (0.0956)	-0.0205 (0.0973)	0.0116 (0.0922)	-0.0251 (0.0951)	-0.00457 (0.0917)	-0.0458 (0.0952)
Public/private	-0.484* (0.262)	-0.734*** (0.253)	-0.176 (0.222)	-0.476** (0.226)	-0.150 (0.214)	-0.420* (0.221)	-0.0921 (0.214)	-0.363 (0.222)
<i>Direct effect</i>								
H1: Customer involvement (CI)			0.1984*** (0.0346)	0.1222*** (0.0352)	0.397*** (0.0528)	0.293*** (0.0545)	0.429*** (0.0540)	0.316*** (0.0561)
Product innovativeness			0.239*** (0.0404)	0.242*** (0.0411)	0.0634* (0.0344)	0.0823*** (0.0355)	0.0552 (0.0342)	0.0819** (0.0355)
Process innovativeness			0.429*** (0.0523)	0.278*** (0.0532)	0.420*** (0.0498)	0.354*** (0.0514)	0.421*** (0.0494)	0.351*** (0.0513)
H2: Interaction effect							0.108*** (0.0315)	0.125*** (0.0327)
Process innovativeness × CI					0.0805** (0.0347)	0.135*** (0.0358)		
Product innovativeness × CI					0.606 (0.633)	1.719*** (0.653)	0.381 (0.635)	1.536** (0.659)
Constant	4.916*** (0.701)	5.426*** (0.678)	1.016 (0.650)	2.166*** (0.662)	0.606 (0.633)	344	344	344
Observations	344	344	344	344	344	344	344	344
R-squared	0.149	0.171	0.414	0.367	0.455	0.395	0.461	0.396

Notes: Robust standard errors in parentheses; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table III.
Robust regression
analysis

service firm performance (i.e. both financial performance and non-financial performance). The coefficients were also found to be significant and positive for financial performance ($\beta = 0.081, p < 0.01$) and non-financial performance ($\beta = 0.135, p < 0.001$). Model 4 shows the results for the moderation effect of customer involvement capability on process innovativeness-firm performance relationship. A significant and positive for financial performance ($\beta = 0.108, p < 0.001$) and non-financial performance ($\beta = 0.125, p < 0.001$) was found.

6. Discussion and conclusions

Based on the results above, the study offers some important implications for both practice and knowledge. From the findings, this study makes important contributions to the customer involvement and service innovation literature. This study provides insights on the challenges faced by service firms in making customers more functional in their operations to impact positively on overall performance. Customers often see what is offered to them as less finished and more as a process into which they can make an input to help them create the desired benefit sought (Ngo and O'Casey, 2013). However, research on the firm-level capacity to make customer participation has been lacking. This study sees involvement capability as underlining service firms' ability to create and manage strong customer participation process (Rust *et al.*, 2004). It is found that involvement capability helps service firms to enhance their overall performance. Service firms that are able to develop their involvement capabilities are able to coopt customers into the production and delivery process, thereby enhancing the innovativeness of the firm.

The findings from the analysis suggest that customer involvement capabilities are critical to both financial and non-financial performance. The findings suggest that increasing the capacity of the service firm's involvement capability will increase both customer satisfaction and overall firm performance (Auh *et al.*, 2007). Involvement capability allows firms to meet customer needs faster and better than the competition and such competitive advantage increases overall performance of the firm. Also, involvement capability complements the innovativeness of service firms. All innovation efforts especially products and process are targeted at improving the quality of value delivered to the customer. Firms should develop the capacity to involve customers in their innovation activities as such acts create competitive advantages (Ryzhkova, 2015). It is observed that the higher involvement capabilities, the higher the innovativeness which in turn improves both financial and non-financial performance. Involvement capabilities help in absorbing external knowledge, which can be transformed into the production of new products and services.

In service operations, customer participation is deemed to be critical to the value creation process and, therefore, enhances competitiveness (Yi *et al.*, 2011; Payne *et al.*, 2009). Innovativeness, in the same vein, has been linked with superior service firm performance (Anning-Dorson, 2016). While both involvement and innovativeness can have idiosyncratic effect to improve firm performance significantly, their concurrent examination in the capability literature barely exists. This study examined the complementary effect of service firms' innovativeness and involvement capabilities on firm performance. It was found that the interaction of customer involvement and innovativeness brings synergistic advantages to service firms. This implies that higher involvement capabilities will facilitate service firms' product and process innovativeness. The involvement capabilities allow service firms to stay close to customers, which helps to generate intelligence on the present and future needs. The intelligence gathered would enhance innovativeness in product and process, which increases customer satisfaction

and overall firm performance (Jaworski and Kohli, 1993). As indicated by Chan *et al.* (2010), encouraging and co-opting customers into business operations is next frontier of competitive effectiveness and can be made possible by the involvement capability of the firm.

Finally, on theoretical implication, in the development of firm-level capabilities such as involvement, the exploitative ability to enhance the development of other internal capabilities should be assessed. This study found that involvement capability enhances the innovativeness of service firms. The findings extend Helfat (2007) assertion that some capabilities govern the rate of change of ordinary capabilities. The current study has demonstrated that having the capacity to involvement customers into the value creation process is an important prerequisite to fully exploit the innovation potential of service firms. Service firms should endeavor to align their involvement capacity with other capabilities such as innovativeness to create competitive advantage (Helfat and Peteraf, 2003).

This study also makes contributions to practice. First, firms, especially service firms, must recognize that involvement capabilities offer two important advantages. One, they improve both financial and non-financial performance. The results show a positive and significant relationship between involvement capability development and firm performance. The implication is that when service firms invest in creating access and increasing customer participation opportunities, the returns are positive. This confirms the findings of Cui and Wu (2016), Ngo and O'Casey (2013) and Prahalad and Ramaswamy (2004). Increasing customer participation opportunities would enhance the utilization of the customer as a resource and also increase his/her effectiveness in the value co-creation process. This also allows service firms to create the desired experiences to customers as their current and future needs are shared effortlessly and naturally.

Second, they improve the effectiveness of strategy. Service firms are advised to develop their involvement capabilities as a prelude to innovation. The results showed that when involvement capability complements product and process innovativeness, there is complementarity of capability that improves firm performance significantly. Service firms stand a chance of accruing synergistic advantages through innovativeness that are built from the involvement capabilities. Service firms should endeavor to create competitive advantage through the alignment of involvement and innovation capabilities.

6.1 Limitations and future research

This study acknowledges certain limitations. First, although the purpose of the study was to assess the influence of customer capability on innovativeness and firm performance, it would have been interesting to assess this effect over time. The current study relied solely on a cross-sectional data and, therefore, limits the interpretation of the findings. Future studies may assess the extent of influence involvement capability on the innovation-firm performance relationship with a longitudinal data to broaden the empirical scope. Finally, the study recognizes the different characteristics of sectors and markets, which makes the generalizability of findings of a study limited by these specific characteristics. Future studies can replicate this study in other contexts. The application of the findings in this study must also be aligned with the specific characteristics of sectors and markets to have a meaningful impact.

Despite these limitations, it is believed that the insights developed in this study will not only help service firms in their capability development and strategy implementation, but also serve as motivation for researchers to further develop this line of inquiry in the complementarity of capabilities in service operations management.

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Corresponding author

Thomas Anning-Dorson can be contacted at: thomasdorson@gmail.com

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