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Mediating role of internal communications in market orientation and performance of mobile telecom firms: Evidence from Ghana

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Abstract: The relationship between market orientation and firm performance and mediating influence of many external factors has been researched extensively across various contexts. However, little focus has been on mediating roles of internal organisational variables such as internal communication, which could potentially channel the effects of market orientation on performance. And this was examined using questionnaire survey of 95 managers from all the telecommunication companies in Ghana. Results show internal communication as a conduit, fully transmitting the positive effects of each dimension of market orientation on market performance. Therefore, enhancement of internal communication could offer unique capabilities for significant market performance.

Subjects: Marketing Research; Consumer Behaviour; Marketing Communications; Marketing Management

Keywords: market orientation; internal communication; mediation; market performance; telecom industry in Ghana

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The overarching discourse in our research work investigates organisation's offerings, customer service delivery and corporate culture on market performance, and how they influence consumers in making choices in order to maximise their utility. This is addressed in the context of the service sector, including banking, hospitality and mobile telecommunication. This current study is an expansion into the realm of performance of telecommunication sector and strategy. It also draws on the strengths we have in areas of corporate strategy and practical experience in the telecom industry in Ghana. This paper's report contributes to wider discourse of market orientation and performance and introduces further dimensions that could be of interest to both practitioners and academics.

PUBLIC INTEREST STATEMENT

Many studies have shown that the adoption of market orientation by firms improve their performance across many industries over the globe. Market orientation seeks to address companies' orientation towards customers, competitors and inter-functional coordination in their value creation processes. The telecommunication companies in Ghana have also adopted this strategy with the intention of gaining competitive advantage in the stiff competitive environment.

This work sought to examine market orientation adoption by these companies and how it impacts on their performance in terms of market share and competitive position. The novelty of this work lies in the fact that it is the first of its kind in the sector, and again the work looked at the mediatory role of internal communication in the relationship between market orientation and business performance. A survey of the six leading telecommunication companies was conducted, and the results shown that in deed market orientation adoption improves business performance and that further improvement was realised with improved internal communication.

1. Introduction

Telecommunication consumers in countries within the sub-Saharan African continent rely mainly on mobile technology for their telecommunication services. An estimated 20% of the population of 800 million access mobile broadband while less than 0.5% depends on fixed network. The sub-continent has a total mobile subscriber base of 386 million and this gives a penetration rate of 41% and annual growth rate of 14% as at the end of year 2014 (Detecon Report, 2013). Until the last decade the major multinational telecom operators have focused on the Southern African region. However, currently some of these major players in the industry are operating in parts of the sub-Saharan region examples are Airtel, Vodafone and Etisalat. There are also operators that started in the continent (MTN, Econet and Globacom) and competing strongly in the market space. Competition in the sector within the sub-continent is aggravated by the huge number of prepaid subscribers who are very volatile, price sensitive and therefore not loyal to a particular network. For example, in Nigeria and Kenya as at 2013, 99 and 98%, respectively, of mobile subscribers were on prepaid (Ericsson Mobility Report Sub-Saharan African, 2014). The implication of these outlined situations is that operators are compelled to implement strategies to retain their customers and that constant price wars continue to impact on their profit margins.

In Ghana, the service subsector has seen tremendous growth over the years, contributing 48.6% of gross domestic product. Additionally the telecommunication sector accounts for more than 12.1% of this growth (Ghana Statistical Service, 2006). The growth in part is attributable to the changes that occurred in the telecommunication sector as a result of the liberalisation of that sector in the early part of 1980s. The intense competition that came about as a result of the many operators rushing to acquire licences has led to an improvement in the service quality and fall in prices for telecommunication services (National Communication Authority, 2014). The combined effect is the dwindling revenues of operators and increasing demand for more quality services by customers.

In Ghana, there are six mobile network operators, namely MTN with market share of 45.63%, Vodafone with 21.97%, Tigo with 14.28%, Airtel with 12.35%, Glo with 5.17% and Expresso with 0.59% (National Communication Authority, 2014). These companies have adopted varied strategies in order to improve their market performance (market share). This study paid attention to all the mobile telecom companies in Ghana (see Table 1). For many years the assertion that businesses that adopt market orientation strategy improve on their performance has been made by academicians and marketing managers (Kotler & Allan, 1987; Sin, Tse, Heung, & Yim, 2005; Smirnova, Naudé, Henneberg, Mouzas, & Kouchtch, 2011; Webster, 1988).

Market orientation as an antecedent of greater and better performance has been researched across many industries and regional locations. In Spain, Bigne and Blesa (2003) looked at the concept of market orientation as an antecedent of greater performance in medium scale enterprises and established that companies that adopted market orientation strategies had better performance. Also similar results were found in larger corporations in Japan (Deshpande, Farley, & Webster, 1993) and in some strategic business units in USA (Narver & Slater, 1990). On the whole therefore, market-oriented firms have been found to respond better to their external environment and therefore offer

Table 1. Market share of telecom operators in Ghana

Mobile operators	Market share: voice (%)	Market share: data (%)
1. Scancom (MTN)	45.49	48.47
2. Gt/Vodafone mobile	23.53	18.69
3. Millicom (Tigo)	13.74	14.75
4. Airtel -Mobile	12.28	13.96
5. Glo Mobile	4.58	4.07
6. Expresso	0.38	0.23
Total	100	100

Source: National Communication Authority (2014).

superior value to the customers. These firms put strategies that give an edge in the competitive environment. Additionally, the positive relationship that exists between market orientation and overall performance of firms has been established in less developed economies. For instance, in Ghana, the work by Akomea and Yeboah (2011) is an example which focused on the pharmaceutical industry.

Whereas many studies have used external and non-employee-related factors as mediators in the market orientation–performance relationship (Craig et al., 2013; Jin, Namwoon, & Rajendra, 1998), this study used internal organisational variable (internal communication) as a mediator in the relationship between market orientation (i.e. customer orientation, competitor orientation and inter-functional coordination) and market performance of Telecommunication firms in Ghana. The researchers' choice of internal communication is based on many empirical studies that have established the strong predictive power of internal communication on affective employee commitment (Gomes, Joana, & Rosa, 2011), strong influence on employee perceived equity of organisational procedures (Brault, 1992) and finally as an input for competitive organisation information. All these are directly link to organisational performance and therefore internal communication could be considered as internal capability of the firm that triggers higher performance and this is investigated in this research in the telecom sector in Ghana. Hence, the key objective of the study was to investigate the mediating role of internal communication in the market orientation–performance link and suggest actions that players in the sector could take in order to realise the full potential of being a market-oriented organisation.

2. Conceptual background and hypothesis formulation

2.1. Market orientation

The seminal work of Narver and Slater (1990) contributed greatly to the growth of interest in research into the concept of market orientation. Their work on competitive advantage led to development of a measuring scale for the concept. They concluded that the concept of market orientation has three behavioural components: customer orientation, competitor orientation and inter functional coordination. These three key suppositions establish a potential positive relationship between market orientation and organisational performance. In the same vein, from the angle of organisation's capability, Eisenhardt and Martin (2000) have defined the concept of market orientation as a dynamic capability of the firm to integrate or combine organisational resources and capabilities to achieve better organisational performance. As a further development of the concept, Craig et al. (2013) linked market orientation, new product development and performance in export venture and defined market orientation as organisation-wide development of market intelligence, dissemination of intelligence across departments and organisation-wide responsiveness to it.

In a related development, the concept of market orientation as put forth by Narver and Slater (1990) has been considered by a number of researchers as being embodied in the culture of an organisation (Baker & Sinkula, 2005, 2009; Hunt & Morgan, 1995). Therefore, organisations which have such culture could gain competitive advantage by applying the concept as a performance norm. In Ghana, a number of researchers have looked at the concept of market orientation by looking at its effect on business variables. Mahmoud (2011) looked at market orientation and business performance among SMEs in Ghana, his work showed that in the Ghanaian SMEs market orientation leads to superior performance under keen competitive environment. A related work by Keelson (2012) looked at listed companies in Ghana and the relationship between some organisational factors such as top management factors, internal organisational factors and market orientation. In the telecom sector of Ghana, the only known study is the work of Abdulai Mahmoud and Hinson (2012); however, their focus was not on business performance. Again, the individual sub-constructs of market orientation were not studied to understand their varied impact on business performance. This current study sought to fill this gap and went further to mediate the relationship between market orientation and business performance with internal communication. From the existing research works, the researchers were of the view that market orientation could be looked at as either a single construct

or from the three sub elements in relation to organisational performance. The construct of Narver and Slater (1990) and their measuring scale developed for market orientation was adopted for this study from the managers' perspective within the telecommunication industry in Ghana.

2.1.1. *Customer orientation*

Customer orientation has been seen by Matsuno, Mentzer, and Özsomer (2002) as the organisation-wide generation of market intelligence pertaining to current and future needs of customers and how this is disseminated into the organisation to guide all of its decisions, because of the over whelming importance of the customer (Tanja & Jurij, 2014). The company that puts the customer in focus in all decisions would be able to respond to changes in customer preferences and taste which will in the long run build a large number of loyal customers for the company. Therefore, the main aim of a customer-oriented organisation would be gaining loyalty of customers by offering superior value to the customer continuously (Hasanzadeh & Ghadiri, 2010).

2.1.2. *Competitor orientation*

The gathering of information on competitors and the use of same for the decisions of the firm has been identified as another key to the success of the firm. Competitor orientation has been studied to be the analysis of short-term weakness and long-term strategies and capabilities of competitors (Ali, Yasan, & Seyed, 2014). They were of the view that the competitor-oriented firm would not only consider the current competitors but also future key competitors.

Competitor orientation and customer orientation appeared as equal components of the early studies of market orientation under which the relationship between the two components and organisational performance were also established (Day & Wensley, 1988; Narver & Slater, 1990). However, Dawes (2000), in his study of market orientation and company profitability, established a higher correlation between competitor orientation and company performance than customer orientation.

Significance of competitor orientation lies in the fact that the application of such an orientation creates a stable competitive advantage and offers stable value for customers (Ali et al., 2014).

2.1.3. *Inter functional coordination*

Peng and George (2011) in their study of inter-functional coordination in the hotel industry have defined it as the communication and sharing of information and resources, and integration and collaboration of different functional areas/departments. The key role that inter functional coordination plays in delivering excellent hotel service was identified by that research work and concluded that, besides the understanding of customer and competitor information, marketing requires inter-departmental cooperation and sharing of information and resources. Additionally, inter functional coordination, in the earlier work of the famous Narver and Slater (1990) was defined as the coordinated utilisation of company resources in creating superior value for target customers. In their seminal work they identified inter-functional coordination as one of the components of market orientation. Therefore, an assessment of the extent to which a company is market oriented is influenced very much by the level of inter-functional coordination. Hence, companies that deliver stellar service were seen to have stronger inter functional coordination.

Along the same line of thought, Auh and Menguc (2005) viewed inter-functional coordination as "a key form of internal social capital" and described inter-functional coordination as the capacity of the various departments to accept the divergent views and conflicting perspectives of different departments. They stressed that these conflicts should be harnessed in an effective way to the benefit of the organisation's customers. For the organisation to get the best out of its human capital, inter-functional coordination stands out as the internal element that could drive superior organisational performance.

2.2. Internal communication

Internal communication is considered to be a form of interaction that takes place within an organisation. Internal communication could be either formal or informal exchange of information between management and staff of an organisation (Hopkins, 2006). This kind of interaction could be from top managers to other staff or from bottom staff to managers or among staff at different levels in the organisation (Mazzei, 2010). The importance of internal communication among many others is to motivate staff (Ryyänen, Pekkarinen, & Salminen, 2012) retain and stimulate creativity, create awareness of current happenings within the organisation to deliver superior performance. In another perspective, Grunig and Hunt (1984) have looked at the direction of flow of internal communication and identified five kinds of internal communication flow within an organisation; horizontally between individuals in the same department; horizontally between individuals of different departments at the same level; downward from superior to subordinates; upward from subordinates to superiors; and finally, crisscross between individual in different departments and at different levels of the hierarchy.

As further developments of internal communication construct, Emmanuele et al. (2012) have identified two components of internal communication that occur in an organisation. They mentioned interaction among members and structured communication initiatives that are activated within the organisation. These initiatives and interactions are meant to orient the organisation towards their development and success (Invernizzi & Biraghi, 2012). It is worth noting that the direction of flow of communication as discussed above has also been championed by International Association of Business Communicators as one of the five elements of internal communication (Grunig, Grunig, & Dozier, 2002). The other four elements include the coordination and speed with which knowledge is shared and put in customer decisions thereby giving them a competitive advantage (Szukala & O'Connor, 2001), the clearness of the communication in order to remove ambiguities and encourage appropriate feedback from employees, the consistency of message from managers and colleagues within the organisation and the reliability and timeliness of the message. All these put together create an atmosphere where employees could deliver stellar performance for success (Eisenberg & Rowe, 2009; Szukala & O'Connor, 2001). On the whole firms that have effective internal communication are able to respond very well to current dynamic and turbulent economic environments.

2.3. Market performance

Different terminologies have been used by different authors for the same concept of market performance, Mohammed, Flynt, Sipel, and Lai (2013), Akomea and Yeboah (2011) used firm performance, and organisational performance was used by Udegbe, Udegbe, Olumoko, and Hassan (2012). In another breadth, performance could be seen as a subjective or objective, and could be either financial or non-financial. No matter how performance is measured, the organisation is able to use it as a control mechanism and motivation (Chenhall, 2003). Again, different authors have used different indicators to measure performance for example market share (Boundless, 2015), profitability and sales growth (Akomea & Yeboah, 2011; Foxall, 1998) and premium growth (Naver & Slater, 1994) and finally customer and employee satisfaction was used by Eric and Hamish (2008).

This study used non-financial measures of performance (market share and competitive position) from the perspective of the managers of the six telecom companies in Ghana. The decision of the researchers was informed by the non-availability of financial reports of these telecom companies in Ghana because not all are listed on the stock exchange in Ghana. Again, the managers were not willing to provide financial measures of performance; therefore, the perceptual measures were the obvious method to use (Woodcock et al., 1994).

2.4. Hypothesis formulation

Many authors have researched on the relationship between market orientation as single construct and business performance (Akomea & Yeboah, 2011; Narver & Slater, 1990; Noble, Sinha, & Kumar, 2002). Others have established distinct relationship between the individual elements of market

orientation and specific aspects of firm performance (Dawes, 2000; Matsuno et al., 2002). Majority of these studies have pointed to positive relationship between market orientation and business performance, no matter how performance is measured either in terms of profitability (Dawes, 2000) competitive advantage (Zhou, Brown, & Dev, 2009) or total customer performance (Brown, Anthony, & Sara, 2002; Ledwith & O'Dwyer, 2009). Market orientation has been identified by many authors as sources of organisational advantages in areas such as increase customer perceived value leading to satisfaction and loyalty (Rob, Phil, & Brian, 2002; Reichheld & Sasser, 1990), efficient exploitation of untapped market opportunities Baker and Sinkula (2009), successful new product development and eventual creation of wealth for the owners of a firm (Rob et al., 2002). In spite of the above positive relationships between market orientation and market performance there are many other authors who have shown that the effect of market orientation on market performance is carried through other variables such as organisational learning orientation (Slater & Narver, 1995) and development of firm capabilities (Day, 1994; John, 2014). The ability of the organisation to learn from its environment would influence the speed with which it responds to changes in order to meet the demands of customers and competitive challenges. From this insight, this research considered the mediational effect of internal communication in the relationship between the three dimensions of market orientation and market performance.

2.4.1. *Customer orientation, internal communication and market performance*

Customer orientation as earlier discussed, has been seen by Matsuno et al. (2002) as the organisation-wide generation of market intelligence pertaining to current and future needs of customers and how this is disseminated into the organisation to guide all of its decisions, because of the overwhelming importance of the customer (Tanja & Jurij, 2014). The company that puts the customer in focus in all decisions would be able to respond to changes in customer preferences and taste which will in the long run help build a large number of loyal customers for the company. Therefore, the main aim of a customer-oriented organisation would be gaining loyalty of customers by offering superior value to the customer continuously (Hasanzadeh & Ghadiri, 2010).

Internal communication is an important concept and integral to internal public relations with links to positive organisational and employee outcomes such as employee engagement Karanges, Johnston, Beatson, and Lings (2015). This is so because research has shown a positive relationship between internal communication and employee engagement, enthusiasm and productivity (Kroth & Boverie, 2012). Therefore, the effectiveness of internal communication will reflect in the extent to which marketing intelligence is integrated into the organisation. Hence, customer orientation of an organisation is enhanced by the effectiveness of internal communication, which in turn enhances the market performance of firms. Against this background, we hypothesise that:

H₁: Internal communication mediates the positive effect of customer orientation on market performance

2.4.2. *Competitor orientation, internal communication and market performance*

Competitor orientation has been studied to be the analysis of short-term weakness and long-term strategies and capabilities of competitors (Ali et al., 2014). Ali et al. (2014) were of the view that the competitor-oriented firm would not only consider the current competitors but also future key competitors. The mere generation of such critical competitor intelligence would be of no use until there is a well-defined structure for internal communication in the organisation. Internal communication as already discussed, is a form of interaction that takes place within an organisation. This kind of interaction could be from top managers to other staff or from bottom staff to managers or among staff at different levels in the organisation (Mazzei, 2010). There are two components of internal communication that take place within an organisation as identified by Emmanuele et al. (2012). They mentioned interaction among members and structured communication initiatives that are activated within the organisation. These initiatives and interactions are meant to orient the organisation towards their development and success (Invernizzi & Biraghi, 2012). Again the role of internal communication in difficult times in improving performance of businesses has been supported by

Zara and Natalie (2011). The usefulness of the information on competitors lies in speed with which the organisation translates the information into strategic and tactical decisions for success.

Therefore, the critical role of effective internal communication in market performance cannot be over emphasised as it influences the speed, timeliness and effectiveness of competitive decisions. The many studies mentioned above demonstrate clearly that even in difficult economic situations companies that invest in effective communication could improve shareholder earnings and increase their competitive situation by allowing cohesion and internal inclusion (Daniel, Joana, & Rosa, 2011). In line with this, we posit that:

H₂: Internal communication mediates the positive effect of competitor orientation on market performance

2.4.3. *Inter-functional coordination, internal communication and market performance*

Inter-functional coordination as the third dimension of market orientation is clearly connected with communication, information sharing, integration and collaboration of different functional areas on customer intelligence (Peng & George, 2011). The usefulness of customer and competitor intelligence lies in the ability of the organisation to bring all functional areas to use the information as basis for all their activities in creating value for the customer. The creation of superior value for the customer through inter-functional coordination was again stressed by Narver and Slater (1990), that the organisation's ability to utilise its resource in a coordinated manner could improve its customer orientation. In the light of the above, internal communication plays a critical role in ensuring that intelligence generated from the market is put to use for the company to deliver stellar performance in its chosen market. Internal communication is also used to reorient the culture of the organisation to suit its changing environment. Therefore, where there is an effective internal communication, inter-functional coordination could be easily achieved and the benefits would be to the advantage of the organisation in the form of delivering superior service to gain competitive advantage. Accordingly, we hypothesise that:

H₃: Internal communication mediates the positive effect of inter-functional coordination on market performance

3. Research method

The population of the study was all the 196 managers of the leading telecommunication companies in Ghana namely MTN, Vodafone Ghana limited, Tigo, Airtel and Globacom this is sourced from the Human resource department of the mobile network operators. The sample size for the study was 132 managers and this number was determined in accordance with Gomez and Jones (2010) formula for calculating sample size in geographic and other social science research. The sample for study was selected through systematic random sampling technique of the managers throughout all the 10 regions of Ghana and structured questionnaire was administered to them. In terms of response rate, the study recorded a response rate of 71.97% ($n = 95$) which essentially indicates that more than half of the managers approached to participate in the study completed the questionnaires and returned them to the researchers (Burns & Grove, 2001). This shows that the results could be generalised for the entire telecom industry. 70% of the respondents were males while the remaining 30% were females this reflects the employment structure for such technical industries in sub Saharan Africa (International Labour Organization [ILO], 2009). These firms in the telecom industry have their operation spread throughout the country and they offer homogeneous services to each customer group. These companies have been in operation for over 5 years and they all operate virtually similar business models; however, there exist differences in the scale of operations.

3.1. *Measurement of variables, validity and reliability*

The market orientation measuring scale of Narver, Jacobson, and Slater (1993), (MKTOR) was adopted to assess the market orientation practices of the telecom companies in Ghana for this study. Market orientation consists of 14 items and broken down into customer orientation (6 items),

competitor orientation (4 items) and inter functional coordination (4 items) using a five-point Likert scale. To measure internal communication, the IABC questionnaire (Grunic et al., 2002) was modified and used by applying the five point Likert scale. Internal communication section contained 5 items with responses from strongly disagree (1) to strongly agree (5). Performance in the industry was assessed by the managers' perception of their company's performance in terms of their relative market share, competitive position and their level of technological excellence. 3 items with responses ranging from strongly disagree (1) to strongly agree (5) was used. Managers were not willing to provide financial measures of performance; therefore, the perceptual measures were the obvious method to use (Woodcock et al., 1994).

Confirmatory factor analysis (CFA) was used to validate the study's scales in LISREL 8.50, and using covariance matrix as the input and maximum likelihood estimation method, the scales were specified to load onto their respective constructs (Harrington, 2009; Vieira, 2011). Following suggested approaches (see Hair, Black, Babin, & Anderson, 2014), minor modifications were made by examining the modification indices, the correlated errors and the standardised loadings, to obtain items that uniquely measure their theoretically specified constructs. The final CFA model fit indices obtained: Chi-square— χ^2 (degree of freedom—DF) = 120.09 (109); p -value (p) = 0.22; root mean square error of approximation (RMSEA) = 0.033; Bentler non-normed fit index (NNFI) = 0.951; comparative fit index (CFI) = 0.961; standardised root mean square residual (SRMR) = 0.069; were within the recommended thresholds and thus suggest a satisfactory model fit (Bagozzi & Yi, 2012; Hair et al., 2014).

The final list of the retained items, their associated standardised loadings and t -values as well as the composite reliability (CR) and average variance extracted (AVE) values are shown in Table 2. Standardised loadings above 0.50, statistically significant t -values, and CRs above 0.70 suggest convergent validity for the scales (Hair et al., 2014). Also, lack of high cross loadings, lack of high inter-construct correlations (see Table 2) and AVEs above 0.50 and AVEs higher than the square of the correlation estimates for any two constructs demonstrate discriminant validity (Hair et al., 2014). Further, the scale reliability was examined using Cronbach alpha reveals values higher than the minimum cut-off point of 0.70 (Pallant, 2007), and thus demonstrate internal consistency of the scales (Field, 2009).

3.2. Common method bias test

Given that the data for the study were obtained through a self-report instrument (i.e. questionnaire), method bias became a concern (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Given this, two recommended statistical approaches (see Podsakoff et al., 2003) were employed to examine the presence of common method bias (CMB) in our data. Harmon's single-factor test (using principal component analysis in SPSS 20) revealed 5 factors with Eigenvalues above 1, accounting for 86.28% of total variance. The first component accounted for 35.2% of the variance, which is not the majority of the total variance. Next, in CFA, was estimated by specifying all items to load onto a single factor. The model fit indices obtained: χ^2 (DF) = 408.39 (119); p = 0.00; RMSEA = 0.161; NNFI = 0.459; CFI = 0.526; SRMR = 0.135; were significantly worse than those of the measurement model. These results indicate that a single factor is not acceptable and therefore we concluded that the presence of CMB in the study was small.

3.3. Structural model estimation and hypothesis evaluation

Prior to estimating the study's model, we examined the descriptive statistics on the participants and also the associations between the constructs through correlational analysis. As shown in Table 3, we observe moderate-level scores obtained across the three dimensions of market orientation focused on in the study. Inter-functional coordination is perceived to be highest, followed by customer orientation and then competitor orientation. Roughly, moderate-level scores were obtained on the mediator construct (i.e. internal communication) and also the outcome constructs (i.e. market performance). The results of the correlational analysis also suggest positive association between each pair of constructs (although few were statistically insignificant).

Table 2. Validity and reliability results

Construct/measures	Loadings (t-values)
Customer orientation (CR = 0.749; AVE = 0.503; CA = 0.738)	
• We constantly monitor our level of commitment and orientation to serving customer needs	0.814 [†] (fixed)
• Our strategy for competitive advantage is based on our understanding of customers' needs	0.714 (5.31)
• Our business strategies are driven by our beliefs about how we can create greater value for customers	0.579 (4.72)
Competitor orientation (CR = 0.778; AVE = 0.540; CA = 0.775)	
• Our sales/marketing people regularly share information within our business concerning competitors' strategies	0.767 (fixed)
• We rapidly respond to competitive actions that threaten us	0.669 (5.53)
• Top management regularly discusses competitors' strengths and strategies	0.764 (5.88)
Inter-functional coordination (CR = 0.765; AVE = 0.524; CA = 0.756)	
• We freely communicate information about our successful and unsuccessful customer experiences across all business functions	0.605 (fixed)
• All of our business functions (e.g., marketing/sales, Technology, finance/HRM etc.) are integrated in serving the needs of our target markets	0.714 (4.99)
• All of our managers understand how everyone in our business can contribute to creating customer value	0.836 (4.96)
Internal communication (CR = 0.855; AVE = 0.549; CA = 0.850)	
• In most situations, I receive the information I need to effectively perform my job	0.802 (fixed)
• My departments readily shares information with other departments	0.843 (8.89)
• Other departments readily share important information with my department	0.848 (8.96)
• Most of the information passed down from top-management is detailed and accurate	0.559 (5.46)
• This organisation releases company news in a timely manner	0.600 (5.92)
Firm performance (CR = 0.868; AVE = 0.689; CA = 0.858)	
• I am very satisfied with the market performance of the company	0.797 (fixed)
• The company is well known in the market	0.744 (7.74)
• The company has reached an excellent technological competitive position	0.937 (8.87)

[†]Loadings significant at 1%.

Table 3. Correlational and descriptive results

Constructs	1	2	3	4	5	Min	Max	Mean	SD
1 Customer orientation						2.00	4.67	3.27	0.623
2 Competitor orientation	0.211*					1.67	4.33	2.85	0.536
3 Inter-functional coordination	0.118	0.017				2.00	5.00	3.53	0.545
4 Internal communication	0.351**	0.378**	0.342**			1.60	4.60	3.50	0.567
5 Market performance	0.219*	0.188	0.133	0.427**		1.67	5.00	3.58	0.725

* $p < 0.05$.

** $p < 0.01$.

To examine how internal communication might act as a mediator in the links between market orientation (i.e. customer, competitor orientation and inter-functional coordination) and market performance, we employed structural equation modelling (SEM) technique (in LISREL 8.5). Following existing approaches (see Lu, Zhou, Bruton, & Li, 2010), we estimated a baselined model (b) as a full

mediation model (see Figure 1), which did not have direct paths from the precursor constructs to the outcome. The model fit indices displayed in Table 4 indicated a good fit to data. To examine the robustness of these results we continued to estimate and compare series of alternative models against our baseline model through sequential chi-square tests with the parameter constraint of interest in the study.

First, the paths related to Hypothesis 1 were constrained to zero. After freeing these paths, the other paths related to Hypothesis 2 and Hypothesis 3 were in a like manner constrained to zero one after the other. For each of these three alternative models, the goodness of fit indices reported in Table 4 was worse than those of the baseline model. This suggested that constraining any of the hypothesised paths results in a poor fit to data. This finding was confirmed by the significant change in Chi-square for each of the alternative models; indicating that each of the paths was important and hence providing support for our baseline model.

Furthermore, we compared our baseline model to a partial mediation model (this had the direct effect paths from the precursor constructs to the outcome construct added to the baseline model).

Figure 1. Estimated research model.

Notes: Values before and within the parenthesis are standardised parameter estimates and t-values, respectively. (2) * $p < 0.05$; ** $p < 0.01$.

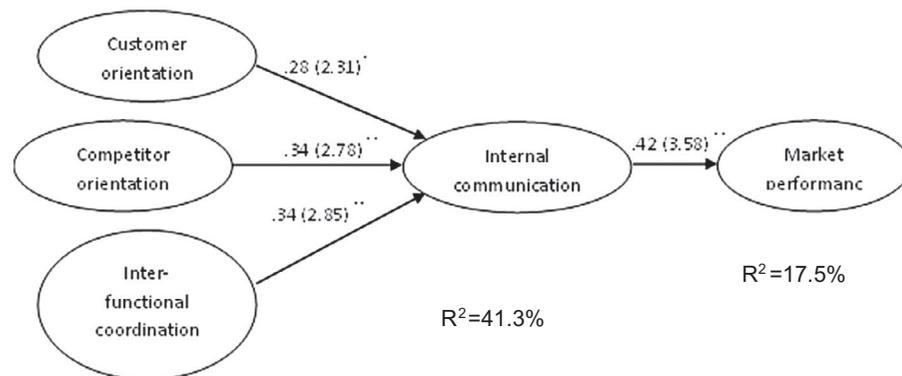


Table 4. Results of alternative model comparisons

Model	χ^2	DF	$\Delta\chi^2$	ΔDF	p	RMSEA	NNFI	CFI	SRMR
Baseline (b)	120.13	112	-		0.28	0.028	0.957	0.965	0.069
Model 1	138.10	114	$\Delta\chi^2_{(b,m1)} = 17.97^*$	2	0.06	0.047	0.925	0.937	0.131
Model 2	141.22	114	$\Delta\chi^2_{(b,m2)} = 21.09^*$	2	0.04	0.050	0.919	0.932	0.135
Model 3	139.26	114	$\Delta\chi^2_{(b,m3)} = 19.13^*$	2	0.05	0.049	0.916	0.930	0.138
Model 4	120.09	109	$\Delta\chi^2_{(b,m4)} = 0.97$	3	0.22	0.033	0.951	0.961	0.069
Model 5	140.39	112	$\Delta\chi^2_{(b,m5)} = 20.30^*$	3	0.04	0.052	0.893	0.912	0.151
Model 6	126.76	110	$\Delta\chi^2_{(b,m6)} = 6.67^*$	1	0.13	0.040	0.943	0.954	0.083

Notes: Baseline model (b): *full mediation* (i.e. no direct paths from customer orientation, competitor orientation and inter-functional orientation to market performance).

Model 1: Paths of Hypothesis 1 constrained to zero.

Model 2: Paths of Hypothesis 2 constrained to zero.

Model 3: Paths of Hypothesis 3 constrained to zero.

Model 4: *partial mediation* (i.e. baseline model plus direct paths from customer orientation, competitor orientation and inter-functional coordination to market performance estimated).

Model 5: *direct effect model* (i.e. paths from customer orientation, competitor orientation and inter-functional coordination to internal communication were constrained to zero).

Model 6: *non-mediation model* (i.e. paths from internal communication to market performance was constrained to zero).

* $p < 0.01$.

This did not result in a significant change in Chi-square, which suggests that our baseline model equally fit the data well. The goodness of fit indices obtained too were not better than those of our baseline model, and therefore we concluded that, still, a full mediation model (i.e. the baseline model) better fit the data.

Notwithstanding the above, to rule out other alternative explanations, we further estimated and assessed a direct effect model and a non-mediation model in relation to the partial mediation model. In the first case (i.e. the direct effect model), we assumed that there is no “causal” links between precursor constructs and the mediating construct. In the second case, we assumed that there exists no “causal” linkage between the mediator construct and the criterion construct. The results obtained (see Table 4) indicate a significant change in Chi-square and thus suggest that these models do not fit the data well. The fit indices obtained too were substantially worse than those of the partial mediation.

In effect, our baseline model was superior to any of these alternative models and therefore we conclude that per data collected from the research context, internal communication fully acts as a mediator in the market orientation–market performance link. From the parameter estimates shown in Figure 1, the study provides sufficient support for all the three hypotheses. The discussions and the implications of these findings are presented next.

4. Discussions and conclusion

The study looked at how internal communication might act as a mediator in the link between market orientation and market performance in the telecommunication sector in Ghana. The study focused on the three dimensions of market orientation (Customer-, Competitor orientations and Inter-functional Coordination) (Narver & Slater, 1990). Although the bivariate correlational analysis conducted suggests positive associations between each dimension of market orientation and performance (see to Table 2), they were weak and also the structural model estimation using SEM revealed that these paths were not far extreme from zero. Thus, suggesting that whereas market orientation may directly impact the market performance of telecom firms in Ghana positively, such impact could be insubstantial. Notwithstanding this, the correlational analysis results (see Table 3) indicate that among the three dimensions of market orientation, customer orientation may have the greatest positive effect on market performance directly. Managers of telecommunication companies are therefore encouraged to continuously focus on engaging in strategies and activities that will enable them understand market needs in order to help provide products and services that enhance value for customers.

Further, the study reveals that internal communication positively mediates the link between each dimension of market orientation and market performance of telecom firms in Ghana. We find that, given the increasing market saturation of the telecom industry in Ghana, internal communication could be of significant importance to the operators in translating their market orientation activities into enhanced market performance. Internal communication is seen as the glue that binds employees together to achieve the common goals of the organisation. Therefore, its effectiveness is critical to the success of the firm (Eisenberg & Rowe, 2009; Szukala & O'Connor, 2001). Further added that it makes a critical contribution to market orientation practices within organisations. Unlike other resources that competitors could lay hands on, internal communication could be recognised as rare and inimitable to the focal firm and hence effectively utilising it could be a source of competitive advantage while pursuing market orientation.

The more effective the internal communication of an organisation, the greater the advantage it gives to the organisation, in that the staff of the organisation become very engaged in the organisation, this goes a long way to impact positively on performance (Dawkins, 2004). This assertion was corroborated by this study, as a full mediation was revealed when internal communication was

made to play a mediating role in the relationship between market orientation and market performance in the telecommunication industry in Ghana. This goes to confirm the important role internal communication plays in improving market performance as suggested by Pedro and Eisenberg (2012) and hence, strengthening the hand of management to continue to invest in it so as to improve market performance as the business becomes more and more market oriented. Furthermore, the full mediation also suggests that the benefits of implementing market orientation strategies is largely realised through the existence of well-designed internal communication system within the organisation. Effective internal communication has implication on many organisational performance matrices; for example, on employee engagement, commitment, job satisfaction (Carrière & Bourque, 2009) and even on induction of new employees for them to learn the culture so as to become advocates for the organisation (White, Vanc, & Stafford, 2010). Finally, these findings could be of great importance to operators in other countries within the sub-Saharan Africa since the customer characteristics are almost similar and the telecom operators are also having their operations in multiple locations within the subcontinent. Again this research has added to the body of literature that sought to decompose the concept of market orientation and their effect on firm performance. Furthermore, the mediational role of internal communication in the link between market orientation and business performance has created opportunity for further research on other organisational capabilities that may potentially carry the impact of market orientation to business performance.

There were some limitations identified, such as the sample size that was used for the study which considered only the managers in the telecom companies in Ghana. For performance measurement, the consideration could have been on the organisational level; however, since we sought to gauge the managers' perception on their performance, it was deemed sufficient for the study, particularly where managers were unwilling to disclose their companies' financial performance (Woodcock et al., 1994).

Finally, according to Sriram and Stump (2004), a cross-sectional study which was used for the research does not allow study of changes in the variables, it captures only a snap short of the object of the study. A longitudinal study can solve this challenge by tracking the managers' perceptual changes of the level of market orientation and internal communication over a period of time (Bryman, 2008).

5. Conclusion

This is one of the few empirical studies that have examined the direct and interactive effect of market orientation and internal communication on performance of telecommunication companies. The study focused on the three dimensions of market orientation, including customer, competitor and inter-functional coordination. A structured questionnaire was administered to a sample size of 132 managers across all the 10 regions of Ghana using a systematic random sampling technique. The study demonstrates that all the three dimensions of market orientation positively impact on performance in the telecommunication industry. The study also reveals that, among the three dimensions of market orientation, customer orientation has the greatest positive effect on performance. Further, the study demonstrates that internal communication positively mediates the link between each dimension of market orientation and market performance of telecom firms in Ghana. Managers of telecommunication companies are therefore encouraged to continuously focus on engaging in strategies and activities that will enable them understand market needs in order to help provide products and services that enhance value for customers. Operators within the industry are also encouraged to use internal communication as a means to translate their market orientation activities into enhanced market performance. Future research should examine these relationships in other emerging or developing economies to deepen our understanding of the interactive effects of market orientation and internal communication on performance for telecommunication companies and help in providing us with rich insight into their interplay in research within the industry.

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