Linking Market Orientation and Innovation Performance: The Mediating Role of Intellectual Capital

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ABSTRACT

This paper aims to explore the relationship between market orientation and innovation performance by examining the role of intellectual capital. To achieve research objective, this research particularly tries to find whether, MO impacts organizational IC, to find whether, IC impact innovative performance, and also to verify whether IC acts as a mediator between MO and innovative job performance. The target population of this study is Pakistani firms. Due to time and resource limits, the population was restricted to the city of Lahore. Through Convenience sampling data was obtained from manufacturing and service sector organizations. To test the hypothesized model, multiple mediation (indirect) analysis was utilized. The outcomes of the study partially supported the proposed model of this research. Importantly it is found that the human capital element of intellectual capital fully mediates the relationship between market orientation and innovative performance.

On the other hand, surprisingly the results of this study did not support the intervening role of structural capital between market orientation and innovative performance instead, it was revealed that market orientation impact innovative performance. Results show that human capital is off more importance than structural capital in creating high-value products. However, before making any inference the academicians and practitioners should consider sampling method and size of this study.

Keywords: Market Orientation, Innovation, Human Capital, Structural Capital

INTRODUCTION

The market orientation (MO) of a business is a vital performance factor. Several recent studies showed the link between MO and Organizational Performance (Devece, Llopis-Albert & Palacios-Marqués, 2017), few studies that have connected MO to innovation performance (Song, Wei & Wang, 2015). Several other scholars have strived to clarify the association between MO and competitive success (Baker & Sinkula, 1999b; Ruekert, 1992). However, issues relating to the mechanism of linkages between MO and innovative performance remained relatively overlooked (Narver, Slater & MacLachlan, 2004; Song, Wei & Wang, 2015). According to the resource-based view (RBV), proposed by Barney (1996), organizations are a collection of different resources. MO demands a synergy between outside-in and inside-out capabilities and resources (Deshpandé & Farley, 1999) which facilitates organizations to achieve competitive advantage (Siguaw, Simpson & Baker, 1998). In an unpredictable environment, optimal use of such resources even becomes more crucial for organizations. Many studies have reported that capabilities and internal resources within an industry is an indication of future strategic directions and is a great source of inducement for the industry (Atuahene-Gima & Ko, 2001; Baker & Sinkula, 1999a).

Since shorted product life cycles and stiff market competition have exuberated the emphasis on innovative performance (new product development compared to competitors)

(Lund, Vinding, 2006), the intervening role of innovation performance on the IC and overall firm performance linkage is pinpointed in some studies (Nesta & Saviotti, 2005).

Studies that have also examined how MO or IC influence the new product development focused on an individual basis (Berchicci, 2013). However, recent studies have strived to connect intellectual capital and market orientation by taking into account the relative importance of behaviors Viz, automatic and conscious knowledge on learning the culture and its influence on market orientation. Since composite of IC measures was used but the specific nature of this mediation was remained unexplored (Subramaniam &Youndt, 2005). As such, it is effective and essential to consider the impact of MO and IC regarding new product development. Therefore, whether every single IC measure namely human capital [HC] and structure capital [SC] mediates between MO and innovative performance remains elusive. This study is an effort to extend prior research by combing the internal and external views to test the impact of MO and IC on innovative job performance (Bontis, 1998). More precise the purposes of this paper are: (i) to find whether, MO impacts organizational IC (ii) to find whether, IC impact innovative performance, and also (iii) to verify whether IC acts as a mediator between MO and innovative job performance.

LITERATURE REVIEW

Market Orientation

Prior studies have acknowledged the role of MO for firms regarding aiding them to focus on gathering information about competitor capabilities and customer needs, and then using this information to produce superior value to customers (Hult, Ketchen & Slater, 2005). However, many researchers hold different judgment of MO. For example, Grewal and Tansuhaj (2001) considered MO as set specific behaviors of marketing personnel towards its consumer, competitors, and marketing, whereas Selnes, Jaworski, and Kohli (1996) thought it to be a resource. Similar, other researchers have conceptualized MO as a decision-making basis embedded in organizational culture (Diamantopoulos & Hart, 1993; Matsuno & Mentzer, 2000). Even though different scholars have delineated MO in different ways but the majority of empirical investigation has viewed MO as a description of an organizational environment that develops over time and delineated it as an organization-wide generation, dissemination, and responsiveness to market intelligence (Pulendran, Speed & Widing, 2015).

Intellectual Capital

The notion of IC stems from RBV. The RBV focuses on resource collection of firm-related capabilities. Crucial resources make easier for firms to carry out their strategies to meet its customer needs and to be beneficial for firms in their struggle to achieve sustainable competitive advantage. These resources incorporate IC along with capabilities implanted in the business (Dumay & Garanina, 2013). In the current knowledge base economy, IC including both knowledge and human capital is vital for organization success (Dumay, 2014). Previous studies have suggested a various definition of IC (Edvinsson & Sullivan, 1996). For example, Bontis (1998) defined IC as "the collection of intangible resources and their flows." Moreover, the problem in the definition of IC for this study is sufficed to be considered any resource determinates which contributes towards value-generating processes of a firm. Edvinsson and Sullivan (1996) proposed that IC can be segregated into HC and SC. Precisely, HC is the collection of intangible resources which are implanted in organizational cogs (members), and SC

is the knowledge inculcated within organizational routines and procedures. Accordingly, this study will adhere to the two dimensional models of IC.

Conceptual Framework

This study is based on MO and RBV theory to examine the linkage between MO and IC along with their impact on innovative performance. A study by Subramaniam and Youndt (2005) shows that organization is striving to optimize its economic value, in the long run, should have to consider customers' needs, instead of sole emphasis on selling and production of products. MO is an asset/resource, whereas capabilities are a combination of specific procedures, processes, and skills. Therefore, resources cannot generate competitive advantage. Instead, the combination of both helps firms to create value.

Moreover, in a study by Calabrese, Costa and Menichini (2013) suggested that in contrast to tangible assets, IC can facilitate improved performance of a firm. Similarly, in another study authors have proposed that IC engender organizational innovation (Jablonski, Schmit, Minner & Kay, 2016). Therefore, it is argued that enable the MO to function effectively; organizations should have to acquire resources and capabilities inevitable for them to respond to the requirement of current market trends that will ultimately induce them to be innovative in term of product development that best caters the needs of its customer than competitors.

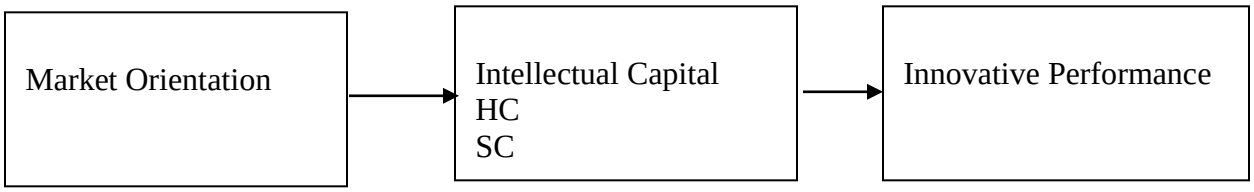

Figure: 1 Conceptual Framework

Market Orientation and Intellectual Capital

Few studies have studied the linkages between MO and IC. Although, studies which have pursued in this direction, supported the positive relationship between MO and IC (Subramaniam & Youndt, 2005). In a study by Hagedoorn and Cloodt (2003) in service industry proposed that MO benefited firms via generating capital based on its market and also, suggested the firm invest especially in IC to achieve competitive advantage. Moreover, an interviewed based study of four training based organization in Taiwan revealed that firms use their strategy to maintain a current market edge over its competitors by employing different organizational strategies for new markets to meet the demand and product successes (Jantunen, 2005). Relying on above scholarships of an IC, organizations and its members need to update their resource-based knowledge continuously. Thus, H1 is posited

$H_{1\,(a)}$: Market orientation will positively impact the Human capital.

$H_{1\,(b)}$: Market orientation will positively impact the Structural capital.

Intellectual Capital and Innovative Performance

Over last few decades, the notion that IC may be a source of competitive advantage has appealed to several researchers and practitioners alike (Jablonski et al., 2016). Prior study proposed capabilities and internal resources of a firm represent a strategic policy towards bottom

line, and it shows firm a sense of optimal orient for future operations. Further authors focused that resource has to be novel to sustain competitive advantage to incorporate new product development (Dumay & Garanina, 2013). Moreover, studies have also argued that IC namely HC, SC and customer capital can influence performance (Bontis, 1998). Similarly, the study showed that unique capabilities are a type of intangible asset, therefore when IC is high firms are most likely do have innovation capabilities that transformed into the success of new products development (Jablonski et al., 2016).

Further, another study by Rossi, Cricelli, Grimaldi and Greco (2016) reported that employees who have professional knowledge, creativity, R&D abilities were able to achieve a sound relationship with customers and positively related to innovative performance when compared with their immediate competitors. Lastly, in a cross-sectional study by (Rossi et al., 2016) proposed that components are enveloping experienced leaders and talented staff that can employ their technological abilities and skills and meanwhile, can comprehend customer requirement was able to better contribute towards the performance of firm via new product development. Thus, we propose

$H_{2\,(a)}$: Human capital will positively impact the Innovative performance.

$H_{2\,(b)}$: Structural capital will positively impact Innovative performance.

Mediating Role of Intellectual Capital

Within-outside resources and capabilities should be combined with MO to provide a sustainable competitive edge. Moreover, a study argued that IC is vital particular to service-based firm and also suggested that IC like service quality might act as an intervening variable with a significant impact on performance. More precise, a study by Jablonski et al., (2016) proposed that IC plays a mediating role in connecting market orientation to organizational value, and further argued that MO is beneficial in creating a resource that might enable the organization to create value via IC. Similar, a study found learning culture to be a mediator of the impact of an individual's knowledge on MO. In a nutshell, it can be inferred based on suggestions mentioned above and arguments by prior studies that awareness of marketing department about changing trends in the market and then sharing of such information across department act as a catalyst to strength its IC in term of the needs of their target customers. Resultantly IC might be able to produce new products that best suited to the requirements of its customers. Hence, we propose

$H_{3\,(a)}$: Human Capital will mediate the relationship between Market orientation and innovative performance.

$H_{3\,(b)}$: Structural Capital will mediate the relationship between Market orientation and innovative performance.

METHODOLOGY

The target population of this study was Pakistani Information Technology [IT] firms. However, considering the time and resource constraints the population was restricted to Lahore city. By employing convenience sampling technique data was collected from various departments (e.g., marketing, finance, and human resource) in four companies comprising less than 200 employees. The overall researcher has distributed 155 questionnaires, and only 114 responses were received, and the overall response rate is about 74%. Out of received

questionnaires, 112 were used for further data analysis. All the scales employed in this study to measure the key variables were previously tested by scholars in term of their psychometric properties. These scales enveloped various items that were answered by employees on five point'sLikert-scale ranging from strongly disagree (1) to strongly agree (5). For market orientation, this study has used 9 items scale developed by Chien (2010). The items included are 'company set goals based on customer demands' and "information on customers is transparent within the company." Chien (2010) eight-item scale was employed to measure the construct of intellectual capital. Sample items are 'employees have relevant knowledge and skills in the industry' and 'The firms established close relationship' etc. (Chien, 2010). Innovation performance was measured using 4 items scale. The sample items included are 'compare with our competitor faster speed of new product launching' and 'compare with our competitors...increasingly higher new product market share'.

RESULTS

This study has used correlation (see Table1) and Preacher and Hayes (2008) multiple mediation (indirect) analysis to test the mediating (see Table 2) role of intellectual capital between the market orientation and innovative performance. However, before these tests, reliability for each scale was calculated using Cronbach alpha coefficients which were well above 0.70 as shown in the table of the correlation matrix in parenthesis.

Table 1: Inter Correlation

Variables	1	2	3	4
HC	1			
SC	0.49***	1		
MO	0.67***	0.47***	1	
IP	0.57***	0.18	0.29**	1

***p<0.001, **p<0.01, * p<0.05

Results of correlation analysis revealed a significant moderated positive correlation between market orientation and innovation performance (r= 0.29, p < 0.01), between market orientation – human capital linkages (r= 0.47, p< 0.001). Whereas the association between market orientation and social capital was found insignificant (r= 0.18, p > 0.05).

Table 2: Mediation Link of MO to IP through HC

Description of Indirect Path	B	S.E	Z-value	p-value
(MO⟶ SC⟶ IP)	0.40	0.01	4.52	0.00

The results of mediation analysis in table-2 revealed that only indirect effect was significant and R^2 was 25% (F-value=19.22). Furthermore, the Confidence Interval [CI=.13 to .71] also did not include zero value which means that the effect of MO on IP was fully transmitted through HC. Consequently, hypothesis 3(a) of this study was accepted. Additionally, the results of MO to HC and HC to IP as predicted in hypotheses 1(a) and 2(a) were supported [($\beta = 0.56$, $p < 0.01$) and ($\beta = 0.71$, $p < 0.01$) respectively).

Table 3: Mediation Link of MO to IP through SC

Description of Indirect Path	B	S.E	Z-value	p-value
(MO⟶ SC⟶ IP)	0.03	0.05	0.51	0.60

The results of mediation analysis in table-3 showed that only direct effect was significant and R2 was 10% (F-value=5.22). Furthermore, the Confidence Interval [CI= -.10 to .18] did include zero value which means that the MO has a direct impact on IP. Consequently, hypothesis 3(b) of this study was not accepted, whereas hypothesis 1(b) was supported. Additionally, the results of MO to SC and SC to IP as predicted in hypothesis 1(b) was supported ($\beta = 0.56$, $p < 0.01$), but hypothesis 2(b) did not get support from study results ($\beta = 0.05$, $p > 0.05$).

DISCUSSION

The results of this study partially supported the proposed model of this essay, importantly it has been found that HC fully mediate the relationship between market orientation and innovative performance, it means that the external capabilities unless and until not fitted with internal resource (i.e., human capital) would not be converted into products which capture the need target customers better than its competitors. This finding is in agreement with prospective RBV, the resource that is adapted to the needs of the external environment provide (first adopter) a competitive advantage to a firm in the industry (Dumay, 2014). On the other hand, surprisingly the results of this study did not support the intervening role of structural capital between market orientation and innovative performance instead, it was revealed that market orientation impact innovative performance. The possible explanation of this direct effect can be drawn from a study that have tested importance of various combination of three component model of IC (clusters) on performance and found integration of IC component have varying level of significance, notably this study provided slim evidence that some organizations focus more on human capital than any other type of capital(Joshi et al. 2013). Accordingly, this may be the case in this study that selected organizations might focus more on the development of human capital compare to structural capital. Another possible reason might be the small size of selected organizations in which employee might rely on employer ’s prompt instructions instead of a well-structured way of information sharing information.

CONCLUSION

Market orientation has been regarded as a fundamental element for superior innovation performance. Although existing research significantly enhances our understanding of market orientation-innovation performance link, the mechanism of such linkages is still unclear which this study has tried to uncover. Despite the findings that market orientation facilitates innovation performance, this relationship works in the presence of some intervening mechanisms such as the intellectual capital of a firm. This highlights that intellectual capital (i.e., human capital and social capital) is a key resource that must be managed effectively because skilled and experienced human resource helps firms to create greater value for its customers.

Moreover, it also helps to bounce on opportunities and convert the threats into a competitive advantage. Therefore, as a valuable resource, intellectual capital should be spent on those developments that are valued by its target and potentials customers. Though both components of intellectual capital are important, in this study human capital is of more importance than structural capital in creating high-value products. However, before making any inference the academicians and practitioners should consider sampling method and size of this study.

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