Consequences of Internal Market Orientation in the Telecom Industry

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ABSTRACT

The research filled a gap in existing knowledge regarding the effect of teamwork quality on new product development cycle time through the mediation of internal market orientation in the telecommunications industry in Saudi Arabia. This research extended previous effort done by providing evidence that high teamwork quality and internal market orientation could decrease the time taken in producing new products or services. Random sampling was used to select respondents for a survey from among members of new product development teams in Saudi telecommunications firms with total respondents 149 teams and response rate of 88.67 percent. Findings indicate that internal market orientation was found to affect positively new product development cycle time. Internal market orientation partially mediated communication, coordination, efforts and cohesion, and new product development cycle time. The findings suggest that managers should facilitate an environment conducive to teamwork. This study also contributed to the internal market orientation in mediating the relationship between teamwork quality and new product development cycle time.

Key words: Internal market orientation, Cycle time, Telecom industry, Saudi Arabia

INTRODUCTION

Market orientation (MO) is considered to be the very heart of modern marketing management and strategy to both academicians and practitioners [26]. In its current academic meaning, market orientation is a relatively recent term with only some studies attempting to find a suitable definition of its measurement [5]. Other alternative terms synonymously utilized for the concept include market oriented, marketing oriented, and customer oriented.

Market orientation has been defined from two perspectives: (1) organizational culture [9]; and (2) organizational behavior (Kohli & Jaworski 1990). The cultural perspective refers to market orientation as the culture of the organization that produces the required behaviors effectively and efficiently for the development of superior value for buyers and therefore, ongoing optimum business performance [9]. Within this school of thought, researchers theorize market orientation based on three magnitudes: (1) Customer orientation: The firms’ understanding that they must create superior value in order for their buyers to continue to return; (2) Competitor orientation: The firms’ understanding of the strengths and weaknesses in the short team, and the capabilities in the long-term, as well as both existing rivals and potential rivals; and (3) Inter-functional coordination: Inter-functional coordination is the synchronized use of company resources to create optimum customer value [6].

Scholars seem to agree that IMO enhances employees’ adoption of strategic directors given by superiors [16]. Generally, employing strategic directions and integrating them in daily work behavior reflects the employees’ adherence to, and completion of, formal job tasks described as in-role behavior [16]. In particular, IMO is reported to positively impact employees’ adherence to, and fulfillment of, certain market oriented directives [15]. Nevertheless, empirical evidence to reinforce these assumptions is still lacking to date and the influence of IMO upon organizations continues to be a significant area of study [26].

IMO’s fifth dimension mentioned in literature entails reacting to the information produced concerning the employee’s wants and needs. In marketing literature, among the top widely recommended uses for IMO information is the
creation of job products that meet the needs of employees and satisfy and motivate them [5]. According to Sasser and Arbeit [25], employees generally exchange time, energy and values for the firm’s money and this is analogous to an external market exchange wherein customers primarily provide cash to obtain goods or services. On the basis of prior market orientation literature, action taken is catered to gather favorable customer reaction [11]. For the maximization of customer value and response, firms may either minimize their customers’ perceived costs in relation to the benefits or they may maximize the benefits in relation to costs [29].

Materials And Method

Theoretical Framework:
The theoretical framework of the current study is grounded on the inter-relationships among a number of variables, namely, teamwork quality as the independent variable, new product development cycle time as the dependent variable, internal market-orientation as the mediating variable, and environmental turbulence factors as the moderating variable that affects the relationship between teamwork quality and new product development cycle time. Figure 1 shows the theoretical framework.

![Figure 1: Theoretical Framework of the study](image)

As shown in Figure 1, a new product development (NPD) cycle time is directly influenced by teamwork quality of the organization. Second, the internal market orientation is proposed to mediate the relationship between teamwork quality and new product development cycle time. The importance of NPD cycle time is stressed in this model as success of new products depends on their being first to be available in the market [21].

In the present research, teamwork quality is conceptualized as a six dimensional construct, which is consistent with past research that tends to cluster teamwork into two categories: tasks and interpersonal processes [8]. Specifically, task processes include three dimensions: effort, balance of member contribution, and coordination dimension. These dimensions are related to the accomplishment of team goals and functions that allow teams to solve the objective problem to which the group is committed [4]. Interpersonal processes include other three dimensions: mutual support, cohesion, and communication. These dimensions perform maintenance functions [4] that are designed to build, strengthen, and regulate group life.

Hypotheses Development:
In this paper, a number of links are proposed to constitute the relationship among the three variables. The first link is the one that connects the dimensions of teamwork quality with new product development (NPD) cycle time and this link is reflected by H1 in the framework. The second link is the one that
connects the dimensions of teamwork quality with the firm’s NPD cycle time through the mediating influence of internal market orientation and this link is referred to as H2.

**Direct relationship between teamwork quality and NPD Cycle Time:**
Given that teamwork quality is a higher-order construct represented by six dimensions, it is proposed that a link exists between factors of teamwork quality and new product development cycle time. It is proposed that teamwork quality has a positive influence on the performance of tasks and thus the performance of organizations, represented as NPD cycle time.

Teamwork is the activity of multiple interrelated individuals [23]. It is a set of interrelated components of performance that are needed to efficiently and successfully facilitate coordinated and adaptive performance [23]. Both task work and teamwork, even though they are distinct components, are important for teams to be effective in complex situations (Morgan et al., 1986). The multilevel process, which arises when team members are involved in managing their individual task- and teamwork and the teamwork processes, is defined as team performance [12].

At a fundamental level, teamwork quality elements like communication, cohesion, sub-tasks coordination, and stress on the team members’ contributions to the project enable team members to acknowledge domain-relevant skills possessed by teammates. The awareness of these skills is invaluable as the team will be in a better position to identify the expertise needed in facing uncertain issues. For example, open communication of relevant information [7], and coordination of individual activities [3] enable teams to ensure that every member can contribute their knowledge to their best ability [25]. Accordingly, highly communicative teams emphasize every member’s contribution and sufficiently coordinate tasks to facilitate team awareness of product information. This makes the teams ready to evaluate problems from various facets and provide an optimum solution [28]. This collaboration with other teams helps apply the teams’ domain-relevant skills in the united project and creates synergy.

**H1:** Teamwork Quality positively affects new product development cycle time where more Teamwork Quality leads to shorter NPD cycle time:

**2.2.2 The Mediating Effect of Internal Market Orientation:**

In an attempt to examine the influence of a number of organizational factors that are related to teamwork on the performance of some of the large banks, Lancaster and Velden [13] examined this impact through the mediating influence of internal market orientation. The findings of their study revealed that the market orientation policies mediated the relationship between teamwork characteristics and the performance of the banks.

A workplace where members of the organization are inclined and have the ability to communicate increases the information exchange frequency. In the context of open workplace, people readily provide suggestions without having to worry about being taken seriously. Criticisms are expressed freely as it is likely to be accepted and to lead to enhancements. The level of accurate information flow through an organization is imperative as it not only helps steer clear of mistakes but also develops among the many organizational members. On the other hand, communication that is ineffective blocks market-oriented activities and results in conflict due to misunderstandings, erroneous methods and frustrations [2]. Such conflicts and misunderstanding between members could have a negative impact on organizational performance.

Jaworski and Kholi [10] conducted a study that attempted to examine the mediating impact of market orientation on the relationships the independent variables of top management, inter-departmental dynamics and organizational system and the dependent variable of business performance. The findings of their study revealed that the construct of market orientation did have a mediating influence on the relationships between the independent variables and the dependent variable.

Thus based on these arguments, the following hypothesis is generated:

**H2:** Internal market orientation mediates the relationship between teamwork quality and NPD cycle time:

And the following sub-hypotheses is generated:

**H2a:** Internal market orientation mediates the relationship between communication among the teamwork and NPD cycle time:

**H2b:** Internal market orientation mediates the relationship between coordination among the teamwork members and NPD cycle time.

**H2c:** Internal market orientation mediates the relationship between balance of member contribution among the teamwork and NPD cycle time.

**H2d:** Internal market orientation mediates the relationship between mutual support within the teamwork and NPD cycle time.

**H2e:** Internal market orientation mediates the relationship between efforts within the teamwork and NPD cycle time.

**H2f:** Internal market orientation mediates the relationship between cohesion among the teamwork and NPD cycle time.

**Results:**
In the following section a detailed description, means and standard deviation (STD) was calculated for each construct and overall factors for the study variable (teamwork quality, internal market orientation, new product development cycle time).

Table 1: Descriptive Statistics of Latent Construct

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPD cycle time</td>
<td>4.74</td>
<td>1.10</td>
</tr>
<tr>
<td>Coordination</td>
<td>4.88</td>
<td>.92</td>
</tr>
<tr>
<td>Balance of member contribution</td>
<td>2.87</td>
<td>.72</td>
</tr>
<tr>
<td>Efforts</td>
<td>5.08</td>
<td>.87</td>
</tr>
<tr>
<td>Communication</td>
<td>4.94</td>
<td>.75</td>
</tr>
<tr>
<td>Mutual support</td>
<td>2.73</td>
<td>1.09</td>
</tr>
<tr>
<td>Cohesion</td>
<td>5.04</td>
<td>.71</td>
</tr>
<tr>
<td>Informal information generation</td>
<td>5.51</td>
<td>.84</td>
</tr>
<tr>
<td>Formal face-to-face information generation</td>
<td>4.19</td>
<td>1.64</td>
</tr>
<tr>
<td>Formal written information generation</td>
<td>4.51</td>
<td>1.34</td>
</tr>
<tr>
<td>Information dissemination</td>
<td>4.79</td>
<td>1.19</td>
</tr>
<tr>
<td>Response</td>
<td>4.61</td>
<td>1.46</td>
</tr>
<tr>
<td>Market turbulence</td>
<td>5.42</td>
<td>.80</td>
</tr>
<tr>
<td>Competition turbulence</td>
<td>5.34</td>
<td>.76</td>
</tr>
<tr>
<td>Technological turbulence</td>
<td>5.70</td>
<td>.66</td>
</tr>
</tbody>
</table>

Descriptive analysis of the means and standard deviations of constructs are shown in Table 1. Among the constructs, technological turbulence had the highest mean (M = 5.70, SD = 0.66), followed by informal information generation (M = 5.51, SD = 0.84), market turbulence (M = 5.42, SD = 0.80), competition turbulence (M = 5.34, SD = 0.76), cohesion (M = 5.04, SD = 0.71) and communication (M = 4.94, SD = 0.75). Likewise, mutual support had the lowest mean (M = 2.73, SD = 1.09) among the constructs. However, formal face-to-face information generation has the highest standard deviation (SD = 1.64) among the constructs. All items were measured on a seven-point scale.

In this section, the effect size of $f^2$ was computed using the following formula: $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}}) / (1 - R^2_{\text{included}})$. $f^2$ analysis complements $R^2$ in that the effect sizes of the impacts of specific latent variables on the dependent latent variables can be examined $f^2$ values of 0.02, 0.15, and 0.35, respectively, were used as the guidelines for small, medium, and large effect sizes of the predictive variables. Table 2 summarizes the respective effect sizes of the latent variables of the structural model.

Table 2: Effect Size

<table>
<thead>
<tr>
<th>Exogenous</th>
<th>Endogenous</th>
<th>$R^2$ Included</th>
<th>$R^2$ Excluded</th>
<th>$f^2$-squared</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORD</td>
<td>NPD</td>
<td>0.44</td>
<td>0.42</td>
<td>0.02</td>
<td>Small</td>
</tr>
<tr>
<td>BOC</td>
<td>NPD</td>
<td>0.44</td>
<td>0.41</td>
<td>0.04</td>
<td>Small</td>
</tr>
<tr>
<td>EFFT</td>
<td>NPD</td>
<td>0.44</td>
<td>0.40</td>
<td>0.06</td>
<td>Small</td>
</tr>
<tr>
<td>COMM</td>
<td>NPD</td>
<td>0.44</td>
<td>0.43</td>
<td>0.01</td>
<td>None</td>
</tr>
<tr>
<td>COH</td>
<td>NPD</td>
<td>0.44</td>
<td>0.43</td>
<td>0.01</td>
<td>None</td>
</tr>
<tr>
<td>ET</td>
<td>NPD</td>
<td>0.44</td>
<td>0.42</td>
<td>0.02</td>
<td>Small</td>
</tr>
<tr>
<td>IMO</td>
<td>NPD</td>
<td>0.44</td>
<td>0.35</td>
<td>0.16</td>
<td>Medium</td>
</tr>
<tr>
<td>CORD</td>
<td>IMO</td>
<td>0.49</td>
<td>0.49</td>
<td>0.00</td>
<td>None</td>
</tr>
<tr>
<td>BOC</td>
<td>IMO</td>
<td>0.49</td>
<td>0.49</td>
<td>0.01</td>
<td>None</td>
</tr>
<tr>
<td>EFFT</td>
<td>IMO</td>
<td>0.49</td>
<td>0.49</td>
<td>0.00</td>
<td>None</td>
</tr>
<tr>
<td>COMM</td>
<td>IMO</td>
<td>0.49</td>
<td>0.49</td>
<td>0.00</td>
<td>None</td>
</tr>
<tr>
<td>COH</td>
<td>IMO</td>
<td>0.49</td>
<td>0.44</td>
<td>0.10</td>
<td>Small</td>
</tr>
</tbody>
</table>

The effect sizes of communication, cohesion on new product development cycle time were 0.1 for both and the effect size of coordination, balance of member contribution, effort and communication on internal market orientation were 0.1 or 0.0. Following Cohen’s (1988) recommendation, the effect size of these variables can be considered as none since the values were almost zero. In addition, coordination, balance of member contribution, effort and environmental turbulence had a small size effect in new product development since the $f^2$ values ranged between 0.2 and 0.06. Furthermore, cohesion can be considered to have a small effect in internal market orientation since the $f^2$ values was 0.1. However, internal market orientation had a medium effect on new product development cycle time ($f^2 = 0.16$). Chin et al., (2003) state that a low effect size $f^2$ does not necessarily imply that the underlying effect size is very small; as such it can still be considered as good effect size.

Discussions:

The non-significant result may be attributed to the fact that in Saudi telecommunication companies, communication between all stages in the production cycles depends on automated systems, which allow
transformation to go from one stage to the next stage through the systems. One of the main reasons why communication is done through automated systems rather than personal face-to-face communication is because many employees in Saudi Arabia are foreigners particularly from Asian countries such as India and Pakistan. Due to language barrier, automated and systematic communication channels replace personal communication.

In this context, the result is different from Hoegl and Gemuenden’s (2001), who found a discrepancy between the explanatory power of teamwork quality on team performance between different types of raters (team members and stakeholders). Several possible reasons can be given for these differences. One of the reasons could be that the raters had different properties or a different reference framework.

Team members have more knowledge about the details of the new product processes and the progress of the project, while stakeholders rely more on information given in controlling reports and information given in (progress) meetings. So team members have more ‘micro knowledge’, while stakeholder’s base their judgments on more ‘macro knowledge’ of the project. Hoegl and Gemuenden (2001) called this macro vision a “bird’s-eye view”. They suggested that team members may have been missing relevant details about some of processes details of the team in terms of quality, schedule or budget. Furthermore, stakeholders’ ratings might be influenced by their perception of the overall performance of the larger development project or customer relationship to which a project team was contributing. Also, it is possible that team members assessed the performance of the team based on their overall impression of the expertise of the team leader or team members, instead of basing it merely on the actual performance of the team since they did not have better knowledge of the actual activities and communication within team members.

Literature has widely discussed the importance of communication within team on team performance and suggested that communication can be assessed in terms of frequency, formality, and openness. In this study, however, communication was treated in a general manner without giving consideration to the specific features. Past research suggests that teams that communicate informally tend to be more effective than those that have to rely on structured channels of communications. The reason is that informal communication is less time consuming and may allow team members to respond in a timely manner to market turbulence or customer demands [22].

With regards to coordination, result indicated a significant relationship between coordination and new product development cycle time. This means that coordination in a team affected the new product development cycle time in the telecommunication industry in Saudi Arabia. This result supports Hoegl and Gemuenden’s [8] contention that teamwork quality is significantly related with team performance from the perception of team members, leaders and managers. This result runs parallel with the argument of Gatignon and Xueerb. They contended that the process of coordination between different functional areas could improve new product process. Additionally, this study confirms Li and Calanotte’s (1998) contention that a firm having optimum interface between R&D and marketing is capable of realizing its technological capability compared to its rivals and by determining its innovative features required by the market, new product advantage is generated. But the result is not in line with Augusto and Coelho’s (2009). They examined the main effect of inter-functional coordination upon the capacity of the firm to launch new products and found insignificant effect.

Other study also brought forward limited evidence for its effect on new product [17]. Coordination in teams is high due to the functions of the team members. Teams engage in coordinating activities when they formulate action plans in relation to the team goals [18]. Also, coordination provides the mechanism to integrate team members’ skills and knowledge and minimize problems during developments of new product.

Narver and Slater [20] maintained that inter-functional coordination is a key component of the general market orientation construct. Hence, a positive relationship between inter-functional coordination and business performance should exist. Inter-functional coordination itself should help to reduce duplication of efforts, thereby minimizing resource consumption, maximizing efficiencies and correspondingly, reduction of NPD cycle time.

Inter-functional coordination represents more of an effective construct. Specifically, collaboration between functions was found to be highly related to inter-functional coordination [27]. This indicates that successful development of new products requires collective goals, teamwork, shared vision, mutual understanding, and shared information. Coordinating mechanisms, which are structural in nature, are important too. This means that there is a need for liaisons, committees and teams between functions.

**Conclusion:**

It is important for managers to consider that the pay-offs related with new product development are impacted by the turbulence in the environment, and this appreciation can be invaluable in managing allocation of teamwork. The rewards of market turbulence and competitive intensity seem to increase the degree of new product development cycle time. Therefore, high-tech firms should acknowledge the significance of team work quality and internal market orientation and exert effort to maintain their market
ability to sense and facilitate cooperation to sustain their competitive edge.

Internal market orientation in the telecommunication industry is a necessary condition for marketing creativity and business performance but appears more crucial for the time of ability to publish the product or services in the market before others to maintain their market share and to keep their customers from moving to competitors. In all cases, technology orientation should be married with market orientation if the opportunities of creativity and performance are to be fully realized. It is recommended that businesses do not develop an either/or approach to a technology-push and a market-pull. Rather, they should try to find a balance between the two, as suggested in previous work.

In sum, this research is beneficial for managers as it provides insight into new product development and what should be stressed when designing new products and marketing programs since new product development cycle time was shown in previous studies to increase the firm’s business performance. The study findings showed that the higher the turbulence in the environment, the higher will be the relationship between teamwork quality and improvement in new product development cycle time. It appears intuitive that in scenarios of great turbulence in the environment, the market and technological risks will make it challenging to come up with successful products sans optimum quality teamwork.

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