The Collaboration Of Organizational Infrastructure On Supply Chain Performance In Smes

Dr. Mahdi Abbas Taher (Corresponding author)
Faculty of Engineering, University of Tehran, Tehran, I.R.Iran
&
Jafar Bagheri
Department of Management and Humanities, University of Tehran, Tehran, I.R.Iran
&
Dr. Azadeh Asgari
Department of Foreign Languages, Shahid Beheshti University of Medical Science, Tehran, I.R.Iran

ABSTRACT
This study was performed with three main goals in mind. The first goal was to explore the relationship between three aspects of organizational infrastructure (top management, employee collaboration, employee freedom) and also their relation with supply chain performance, individually. At the beginning of second semester of 2013 the quantitative data was collected from 120 managers who worked in Iranian companies. To accomplish the purpose of this study, the 78-items questionnaire was administered in one session as research instruments. The descriptive analysis, tow-tailed Pearson’s product moment correlations coefficient, and Multiple-liner regression analysis were carried out to examine the associations among predictors to predict supply chain performance. The analyzed results demonstrate that there are correlation, between three components of organizational infrastructure and three various components of KMPs on supply chain performance. Moreover, it can conclude that these four predictors were closely related to supply chain performance and also observed the significant effect of KMPs in supply chain performance for the population tested were distinguished.

KEYWORDS: organizational infrastructure, top management, employee collaboration, employee freedom, supply chain performance

INTRODUCTION
Throughout the last two decades, researchers as well as business practitioners have recognized a trend towards integration and collaboration rather than arm’s length agreements between customers and suppliers. Companies contributing to the same supply chain recognize barter with their near suppliers and customers and have begun to understand the significance of management in the chain in order to focus on what is presented to the end customer in terms of service and cost service.

Supply chain is a compound network of organizations enlarging on the on the downstream side into a customer companies network and upstream side into tiers of suppliers, final consumers and retailers (Dous, Salomann, Kolbe, Brenner, 2005). The management of knowledge and supply chain has been a general practices in current days business world. As indicated by various studies, present competition is no longer among organizations, while among supply chains. The organizations have to incorporate their operations with trading partners, rather than work against them in order to keep competitive advantages for the intact supply chain (Carmeli, 2004; Spekman & Davis, 2004; Kramer, 1999; Pagh & Cooper, 1998). In today’s business environments, it is no longer an option, while a must to superior manage and integrate the supply chain (Spekman & Davis, 2004; Olson & Olson, 1999).

“Even though supply chain’s primary task is as a product movement system, material-processing and, information processing is crucial to supply chain success” (Bowersox, 2010). Likewise, Domenica (2002) stated that gathering, processing, and acting on data from the environment is a firm’s main task. Additionally, Cormican and O’Sullivan believed that “knowledge is key resource that must be created for all the organizations in the supply chain to stay competitive in global markets” (2003).
LITERATURE REVIEW

Levels of Supply Chain Maturity in Business Result

To estimate the impact of knowledge management practice (KMP) on supply chain development or maturity level among company performance, the Performance Measurement Group (PMG) conducted a survey in 2003 where the association between companies’ supply chain capabilities and their performance was investigated. The main conclusions from this study were:

- The survey found that 36% of the responding companies’ practices are at the mature stage 2.3. They expect to achieve the average of 2.9, by the end of 2003.
- Maturity differs widely among industry segments. Consumer goods companies are presently the leaders in SCP maturity (average of 2.5), because of an ongoing focus on reduction and cost management. At the other end of the spectrum, life sciences companies remain further functionally focused (average of 1.9).

- Analysis also indicated that mature firms outperform their peers in three of the four SCP areas: cost, responsiveness, delivery, and flexibility. The fourth performance area - asset turns - does not frankly relate to supply chain maturity as it is explained by this research. Additionally, mature organizations have a 10-25% advantage in three components of overall supply chain management costs - order management, materials acquisition, and inventory carrying. Accordingly, total supply chain costs for mature companies only amount to 9% of the revenue on average, versus 10.7% in immature firms. Mature companies can deliver products six days faster, meet customer requirements almost 100% of the time, and have total supply chain management costs that are 20% lower.

- The research showed high relation between financial performance and supply chain maturity. Mature companies leverage their SC expertise to obtain an overall business benefit. Actually, based upon earnings before interest and taxes (EBIT), mature companies are 40% more profitable. Although other factors, like channel management and product innovation, likely assist to this profit edge, supply chain management is a key driver. Moreover, having lower cost of goods sold (COGS) as a percentage of revenue, best performers are going on to decrease COGS overall, whereas their competitors are really seeing these costs increase.

- Best in class practice: Development in "overall" supply chain management lags behind the four process components. Make and deliver process are frequently the "low hanging fruit" of supply chain enhancement efforts - far more visible and easier to comprehend than plan. While, the firms which were best in class in the key metrics had uniformly higher levels of plan practices in place.

- Also, this study as many others that can be discovered in the literature, confirms that supply chain management can contribute significantly to service level improvement as well as cost optimization which is closely linked to the financial performance of the company and is therefore seen as a key driver of long term competitiveness of the companies. Given the association among financial performance and mature supply chain practices, the companies were also asked how much they expect to increase their development level in the next two years. Participants expect to proceed only about 0.6 stages of maturity over the next two years. These expectations reflect their perceptive of the challenges included in increasing new supply chain capabilities and practices.

Key Components of Successful Supply Chain Management

As discussed earlier, the level of supply chain maturity drives both financial performance and supply chain. Companies, however, must choose supply chain practices that are most aligned with their supply chain strategy and overall business. “Blind adoption of generic supply chain best practices may allow a company to catch up with its industry peers, but it won’t create a basis for competitive advantage. The question is how to develop necessary supply chain capabilities and select the critical best practices, those that will drive a company’s strategic objectives forward. To be able to do that,
PRTM has developed the framework for successful supply chain management based on five core disciplines” (Cohen, 2004, p. 12). The framework takes into account a broader perspective of SCM, extending it beyond processes only (as they are defined in SCOR model). It is in a way also a logical answer to research conducted by Lambert, where the strategic aspect in the SCOR model itself is not that explicit, as it is based more on tactics and cost reduction focus. Those core disciplines are:

- “To view supply chain as a strategic asset (designed around a defined basis of competition to enable overall business strategy).
- To develop end-to-end procedures and systems to interface efficiently with the rest of the organization.
- To design organization and necessary skills required.
- To build the right collaborative model based on core competences and selection of the right partners, to maximize focus and profitability.
- To use metrics to measure the health of the processes and identify problem areas”.

**Design of Supply Chain Organization**

Integration is the essence of supply chain management. This means that if the company wants to provide effective supply chain management core supply chain processes as defined by SCOR model should be integrated in one organization, under one senior manager. The challenge is to determine the structure of organization, roles and responsibilities, as well as finding the right people with the right skills. Supply chain organization, as any other organization, evolves constantly. Depending on changed business requirements or identified improvement initiatives; the roles and responsibilities might change, as well as goals and priorities. This also means that new competences need to be developed while some of them may be obsolete.

Effective supply chain organization must have the following characteristics (Cohen, 2004, p. 108): a) supports overall business strategy, b) provides skills and core competences – either internally or through strategic partnerships – needed to execute all supply chain processes, c) has metrics in place to measure performance, and d) Follows a set of practical design principles.

The structure and processes in organization needs to be reviewed periodically to ensure that strategic business development is supported and that people assigned to different roles have the technical and managerial skills to execute their defined responsibilities effectively. Over time, organization has evolved significantly. From functional supply chain organization, where order management and purchasing were separated from. Operations, in the 1980s and 1990s companies began the transition to an integrated management of functions critically related to the core supply chain, and purchasing became part of operations as well. Supply chain management emerged in 1990s. In an integrated supply chain organization, the supply chain manager has full responsibility for all supply chain processes from order management to order fulfillment, manufacturing, and purchasing (Cohen, 2004). There is no unique way to design an effective supply chain organization; however these four guiding principles can be used:

1. Form should follow function – organization should mirror the processes.
2. For every process, an assigned accountable (function or individual).
3. Know, grow, and keep core capabilities.
4. Organize around the skills needed and not around the skills available.

Internal capabilities can be considered as core when they are defined as a competitive advantage or are otherwise essential for achieving the company’s strategic objectives. When something is defined as a core competence, its quality should be at a high level. The activity can be defined as core competence if it is critical to competitive advantage, business growth, customer service, and superior offerings (Cohen, 2004).

Well-trained, knowledgeable people are the key to developing core competences. State-of-the-art systems are no replacement for human beings. They can provide a much higher degree of decision support, but they demand sophisticated users. In other words, technologies do not deliver the result, people do. Effective organization requires the right skills and capabilities. After defining the
Most Common Benefits & Barriers of KM Practice to Successful SCM

The supply chain management initiatives contribute significantly to the result of the company, therefore implementation of those practices is crucial for the companies today. On the other hand, the implementation of those practices is also a very complicated process and requires a high degree of management commitment. As Domenica (2002) states, the process of developing a logistics strategy along the supply chain is a complex task, particularly in large, international organizations. Proposals for implementation of the strategy are likely to include changes in the organization structure of the company, in the physical infrastructure used to store and move the company’s products, and in the IT systems used to manage the quotation-to-invoice business processes. The process of implementation is even more difficult, because it is concerned with making changes to the way people work, their reporting lines, and the systems they use to undertake their changed roles within the organization. Domenica suggests companies to follow six basic implementation rules. Following them, however, should minimize the impact of difficulties encountered during the process. After all, developing a strategy is a wasteful exercise if it is not successfully implemented. These six rules for successful implementation of a logistic strategy can also be applied to implementation of supply chain management principles. They are (Domenica, 2002):

- The commitment of all members of the senior management team prior to project start up should be obtained.
- Logistic performance measurement early in the implementation phase of the project should be introduced.
- The required level of implementation resources prior to the start of the project should be identified and obtained.
- Communication is key driver to success.
- IT systems should not be an excuse for not proceeding on other areas.
- Line management, not the project team, must be responsible for implementation.

The Centre of Advanced Purchasing Studies (Fawcett, 2003, p. 10) made a research of what the most common benefits, barriers, and bridges when implementing advanced supply chain practices are. The research was based on 52 interviews with carefully selected companies perceived by academia as the ones who do SCM well. The result of the survey shows that most common benefits are related to increased responsiveness of the companies (external and internal), lower cost, better quality, and closer relationships with key partners.

Table 1. Top ten Benefits and Barriers to SCM

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<th>Benefits</th>
<th>Barriers</th>
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<tr>
<td>1. Increase customer responsiveness</td>
<td>1. Inadequate information sharing</td>
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<tr>
<td>2. More consistent on-time delivery</td>
<td>2. Poor/conflicting measurement</td>
</tr>
<tr>
<td>3. Shorter order fulfilment lead times</td>
<td>3. Inconsistent operating goals</td>
</tr>
<tr>
<td>4. Reduced inventory costs</td>
<td>4. Organizational culture &amp; structure</td>
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<td>5. Better asset utilization</td>
<td>5. Resistance to change – lack of trust</td>
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<tr>
<td>6. Lower costs of purchased items</td>
<td>6. Poor alliance management practices</td>
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<tr>
<td>8. Ability to handle unexpected events</td>
<td>8. Lack of managerial commitment</td>
</tr>
<tr>
<td>10. Preferred &amp; Tailored relationships</td>
<td>10. No employee passion/empowerment</td>
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Source: Fawcett, 2003, p.12

The main barriers presented in the above table can be summarized into management and organizational issues within the organization and with external partners. The most common bridges that can help overcome barriers are: senior and functional management support, open and honest
information sharing, good measurement systems, process documentation, education and training, use of supply chain advisory council.

As explained in this part, there are numerous issues that need to be addressed in the company, before successful implementation of supply chain principles can take place. They span from choosing the right strategies aligned with business requirements to defining the critical processes that are needed for the execution of the strategy. Nothing can be implemented without the right people with the competences that are supporting development and execution of supply chain processes. An effective measurement system is also a prerequisite, because it provides good support for monitoring the operational performance. Last but not least, without open and honest collaboration between the parties in supply chain the benefits in terms of better cost, flexibility, and service level are difficult to achieve. Due to all that, the execution of the supply chain management is a very difficult task. It requires very professional management of the organizations in supply chain and associations between the partners in the supply chain. To be able to manage the complex changes related to implementation of advanced supply chain management principles in the supply chain, use of external advisory councils is often crucial to overcome all the barriers of the implementation.

The Role of People in the Organization

In the context of KM, the human performs the central role with creation, gaining, saving, identification, transfer, structuring, and knowledge assessment. “The most important competitive assets for most enterprises are the skills, expertise, and experience of their people, and it’s incumbent upon them to offer people the facilities they need to better gain, retain, use, and convey their knowledge” (Pillania, 2008, p. 3). Additionally, base on Ritcher’s (2008) claim “the knowledge in the heads of employees in an organization is the most important factor in an organization. The challenge of KM is the use of this kind of knowledge. If the human is not considered enough in the strategy of KM, barriers will come up and the success of every KM initiative is in risk” (p.79). Mainly, the influences or reasons on these points are laying in the approaches of the organizations knowledge sharing capabilities and are therefore part of the knowledge sharing culture or the possible prohibitions.

In nature, people may be knowledge sharers, while there are competing incentives among loyalty to the team, loyalty to the organization, and loyalty to one’s career in organizations. In 2002, Figallo & Rhine demonstrated that “there are many various contexts for collaboration depending on the structure of the organization and the task at hand. There are cultural issues, professional issues, and there can be technical competence issues” (p.31). As mentioned before the working way includes the people within the organization. In this case “working collaboratively is essential to organizational success and for successful problem solving” (Hart & Warne, 2008).

In the organization, can determine various kinds of people with various kinds of motivations that can be identified in following individuals’ needed driven by politics and power. But Moshabbaki & Jahanyan (2009) defined that “by contrast, the most people enjoy the teams working experience towards shared goals and, provided with the right environment and means (KM systems or technological information) that are based on their real needs, through effective requirements analysis for example, will willingly engage in sharing their information and knowledge resources to solve organizational problems and give effect to their work” (p.110).

The possible barriers, through looking at the human and all related influences, were defined by Richter (2008) as following, “cultural influences especially the not invented here syndrome, which is based on the composition of lack of knowledge or ignorance, uncertainty, distrust, vanity and the overestimation of one's own capabilities to develop own solutions” (pp.79-84). Richter (2008) describes further that “a typical behavior in this context is that knowledge isn’t usually accepted coming from lower instances in the hierarchy” (p.80).

Likewise, the fear of losing power is another sample. Richter (2008, p. 80) brings up the term head monopoly and the related attitude to work with knowledge. The view on this term is explained by the opportunity of someone, who has a specific knowledge and is able to use it to influence something in
the organization. The other person is not given the opportunity as the knowledge is detained (Probst, 2006, p.91).

Uncertainty and personal fears is another reason defined by Richter, where he states the instance of somebody adapting the knowledge from somebody else for the own benefit to attain the personal goals. On the other hand “inexperienced employees could feel this uncertainty by questioning their own knowledge towards usefulness”(Richter, 2008).

Another influence factor is inadequate motivation, which is stated as one of the most important and most comprehensive barriers to KM (Phan, 2003, as cited in Richter, 2008). The quality and the work quantity of an employee are affected by essentially two major factors: the individual skills and willingness to use them. It, hence, should be in interest of each organization to inspire both of them through motivation in particular. “The motivation can be differentiate in two kinds of motivation namely the intrinsic and extrinsic motivation. The intrinsic motivation is following the activity directly as it is used as challenging and satisfying while the extrinsic motivation is used to satisfy indirect needs, which in a work environment can be related to the compensation” (Phan, 2003 as cited in Richter, 2008).

METHODS AND MATERIALS

Based on the major key of this study, the approach of this study was survey strategy form the quantitative approach. Frequently, it is one in which the inquirer makes knowledge claims based mainly on advocacy particular outlooks or constructivist perspectives or both. Quantitative approach is systematic scientific assessment of data and also associations among them. The quantitative research intention is to enhance and operate mathematical models/theories and hypotheses belonging to ordinary phenomenon. Robbins & Coulter (2009) mentioned that study on customers provides data with which competitive improved strategies will be prepared and higher level of success will be adapted in conjunction with demands.

The method of sampling which is applied in this research is convenience sampling. The research setting is conducted in Iran. The population of this study will be the total number of manager who had worked in private business companies in, Iran. The samples were chosen randomly among the Iranian managers who work at the private companies in different areas and industries. The total 120 questionnaires were collected among the respondents after omitting missing values and outliers.

The survey consisted of the knowledge management practice questionnaire that was developed in the year 2003. The first questionnaire was probing into the “know-how” on the respondents by addressing the problem in five principle areas. The questions of survey extracted according to the other relevant studies of knowledge management as well as the critical concerns for success in supply chain management.

RESULTS

The study concentrates on knowledge management practice on supply chain performance. The study indicated deviations in how knowledge is being promoted in organization/firms. The three sets of questions were pursued to comprehend the organizational infrastructure in the firm as perceived by the employees. The respondents were asked to self-rank their level of organizational characteristics from very low to very high.

The three factors of organizational infrastructure is namely “top management”, “employee collaboration”, and “employee freedom”. The correlations among three factors were explored through a Pearson Product Moment Correlation analysis. As shown in Table 4.3, this, depicts the organizational infrastructure factors correlation matrix. Each variable is positively related to each other as indicated by the high scores on one variable, which were related with the high scores on the second variable. The r-values vary widely, with the coefficients ranging from .781 (the strongest) to .322 (the weakest).

There are positive relationships between “Top Management” and “Employee Collaboration” (r=.413, p<.01), between “Top Management” and “Employee Freedom” (r=.322, p<.01), “Employee Collaboration” and “Employee Freedom” (r=.376, p<.01). Moreover, these three factors also have a
high and positive relationship with organizational infrastructure. The $r$-value among the organizational infrastructure and Top Management is $(r=.743, p<.01)$, organizational infrastructure and Employee Collaboration $(r=.781, p<.01)$, and organizational infrastructure and Employee Freedom $(r=.760, p<.01)$. In accord with this result, therefore, the first hypothesis is supported.

**Table 2.** Relationship among Factors and Organizational Infrastructure (n=120)

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<th>Top Management</th>
<th>Employee Collaboration</th>
<th>Employee Freedom</th>
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<tbody>
<tr>
<td>Top Management</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Employee Collaboration Employee Collaboration</td>
<td>.413**</td>
<td>.376**</td>
<td></td>
</tr>
<tr>
<td>Freedom</td>
<td>.322**</td>
<td>.781**</td>
<td>.760**</td>
</tr>
<tr>
<td>Organizational Infrastructure</td>
<td>.743**</td>
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</table>

**Correlation is significant at the .01 level (2-tailed)**

**CONCLUSION**

Information administration has been increasing raising interest from the practitioners and academia. But, the prevailing reports on handling information across organizational infrastructure limits are extras in volume and confined in scope. The current examine presents one of many first large-scale scientific initiatives to carefully study the complicated information administration methods in offer cycle context. It tried to judge and solution the questions.

The estimated studies with this examine from the good connection discovered between three areas of understanding administration methods in addition to organizational faculties on source cycle performance. The reasonable impacts of KMPs were shown for different areas of SCP. Instead of, adopting an additional energetic attendance guided to talk with stakeholders such as for example offering services and products, giving customer support, talking and etc., may be more advantageous. The studies certify Amit and Zott's (2001) study, which shown the brand new situations for wealth formation shown by present sequence performance.

Therefore, KMP is not only regarding techniques, it can also be regarding attitudes of men and women and institutional. In that position, the team must experience rearrangement and learn how to spread or participate beneficially in information trade among people who had performed the projects before and people who received new missions.

**REFERENCES**


