A review on the relation between the Information Technology Alignment, Information Sharing and the Operational Performance of the Supply Chain in industrial companies of Khorasan-e-Razavi

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ABSTRACT
This paper aims to investigate the effects of Information Technology (IT) alignment and information sharing on operational performance in the context of supply chain which determines the capability of Information Technology in supply chain. The population includes all employees working in the companies of Khorasan Razavi Town who were 203 among whom 132 ones have been selected through Stratified random sampling. The method applied in this study is descriptive, the correlational type. To evaluate the variables the questionnaire presented in Yi Ve Wong (2013) has been taken in use. To make the analysis in order to investigate the hypotheses and the fitting of the model the structural equation modeling has been used along with Lisrel 8.80 software. The results have revealed that the positive and significant effect of the Information Technology alignment is confirmed by information sharing between the partners in supply chain. However, the positive effect of IT alignment is not confirmed by the efficiency of the expenses. And also the positive effect of IT alignment is confirmed due to responding the customer and the effective and significance of the sharing level of the information between the partners of the supply chain is confirmed due to the efficiency of the expenses. Also, the effective and significant level of information sharing between the partners of the supply chain is confirmed via responding the customers.

Keywords: alignment of the Information Technology, Sharing Information, The function of the Supply Chain.

Introduction

INTRODUCTION
In this paper the relation between IT alignment, information sharing and the operation of the supply chain concerned with the Industrial Companies in Golestan have been taken into consideration. In this study the capabilities of supply chain play a mid-role between the of IT alignment and the operation of the supply chain. Regarding the operation of the supply chain the two variables of the operation including the marketing and the financial operations are examined. Sharing information is of the vital and fundamental issues concerning the falsification of information (Shore et al, 2003). Therefore, the following questions are implied: 1. How the IT alignment and the Information sharing influence the operational performance of the supply chain? 2. How the producers can enhance the information sharing along with cooperation of the supply chain through IT? Therefore, the main issue in the present paper is considered as whether there is a significant relation between the IT alignment, information sharing and the operation of supply chain? To answer this question, there have been objectives and necessities intensifying the importance of this paper.

The Theories

The IT alignment is a concept being propounded since 1970. This issue has always been of the most crucial concerns among the business managers of the organizations, and currently is considered as the most critical challenge of the business managers as well as IT managers. It seems, while the organizations are trying to make IT and business related, considering the dynamic strategies of the business and the quick and consistent growth of IT, it will grow in terms of importance, however, reaching alignment aside, maintaining this alignment is taken as highly crucial.

The relation between the information technology alignment, cost efficiency and the customer responsiveness
The researchers have focused on the operational performance of the companies; the cost efficiency and customer responsiveness are the two main elements in supply chain and in this paper it is assumed that the IT enhances the operation of the
companies before being profitable. In addition, the operational effects of information technology is occasionally pursued in the information system literature (Kannan 1998,38). The IT alignment between the partners in the supply chain has led to the improvements in the efficiency of the coordination (Sunders 2005). Moreover, the alignment of the IT can raise the effectiveness of the customer responsiveness (Fryzer et al 2009). With the IT systems the company will be capable of saving and restoring the old information to support the business which eventually will contribute to the progress in customer responsiveness. On the basis of the explanations above the first and the second hypotheses were formed (Srinivasan et al 1995, 63).

**The first hypothesis:** the increase in the level of IT alignment will lead to raise the cost efficiency.

**The second hypothesis:** the increase in the level of IT alignment will contribute to the increase in customer responsiveness.

**Information sharing**
Sharing data will reduce the coordination and the storage costs. Information sharing will lead to high levels of integration in the supply chain (Tuvil 2013, 18). And that will have a positive effect on the customer satisfaction and the quality of the partnership through empowering the organizations in terms of reliable delivering of the goods and the quick presentation of the product in the market and sharing qualitative information (J.Lee, Y.Kim 1999,26). Sharing information affects the operation of supply chain in terms of both the quality and services offered (X.Zhao 2002).

**Information sharing in supply chain**
The members of the supply chain mostly have different personal information which lead to an instinctive informational asymmetry in the supply chain. For instance, the retailers have better information than the producers about the customers' demand and, on the other side, the producers have possess better information about the product, the delivery delay and the production capacity (Kim et al 2006). The shared information has, on the one hand, provided a common informational and decision making bias for the partners of the supply chain, on the other hand the product current of the shared information will lead the supply chain to be revealed and quickly will contribute to corrective proceedings needed in relation with the raw material, the manufactures goods as well as the services (Cao M. 2007, 18).

In fact the data has been improved in the application program as connective channels (Parker and Axtell 2001). The third hypothesis is formed on the basis of the mentioned explanations.

**The third hypothesis:** the increase in the level of IT alignment in the supply chain will lead to a rise in information sharing.

One of the values concerning the information sharing is the cost reduction. In other words, information sharing will reduce the operation of the producer while product planning and product designing, as a result, it will let more needs form the customers to be met (Cachon & Fisher 2000,68). The tight connections between the partners of the external supply chain of the company will present opportunities to improve demands and as a result reduce the termination of the inventory (Ahmad & Schroeder 2001, 39). On this basis the fourth and the fifth hypothesis is implemented.

**The fourth hypothesis:** the increase in the information sharing level between the partners of the supply chain will draw on the rise in the cost efficiency.

**The fifth hypothesis:** the increase in the level of information sharing between the partners of the supply chain will lead to more customer responsiveness.

**The methodologies**
This study is an application paper. The objective of the application researches is to develop the application knowledge in an specific field (Sarmad et al, 2005). On the basis of the data collection method the research is of descriptive-analysis kind. In such a research the relation between the variables is analyzed on the basis of the objective concerning the research. The tools to collect data is a standard questionnaire (Wung questionnaire) which has been applied to determine the agrees or disagrees using new patterns. All industrial companies of Khorasan-e-Razavi are 203 companies located inside the industrial towns. The sample size for the mentioned society with 203 companies is 132 companies using Cochran formula. The method applied is the stratified random sampling. The place for the research is the food industries of Khorasan-e-Razavi. The time interval is the second half of the year 2013. To analyze the data the structural equation modeling was used along with Lisrel software.

**Data Analysis**
The data analysis plays a vital role in proving the correctness of the data collected. Today in most researches which rely on the data collected from the subject of the research, the data analysis is considered as the most crucial steps of the research. To test the hypotheses, considering the network structure of the issue the Structural Equation Modeling (SEM), fitting has been taken in use. For calculations Lisrel software has been used.
The model presented along the studies of Yi & Wong (2013) and Darandeh (2013) demonstrate that information sharing is to a great extent affected by empowering the IT alignment. This shows the importance of strong communication with the partners of the chain and trying to improve them. Although IT is enough for physical attachment to the processes of the chain, without a foundation consisting of inter-organizational relation, no attempt will be successful in managing the current of information or the material in the supply chain. To change the price rate is of the factors directly being effective in partnership and the rate of sharing information. The results of this paper show that there is a significant and direct relation between the IT alignment and information sharing with the partners of supply chain, which is similar and comparable to the findings of Yi and Wong.

**Suggestions**

1. According to the results from the first hypothesis it is suggested that, human resources trained for IT alignment is of the most important factors in supply chain success. To make the best use of the human resources the necessary trainings must be provided and there must be unity and sympathy among employees to align their objectives along the objectives of the company. In this regard, the organization must enhance the efficiency of the employees via making a collaborative environment, notifying the objectives of the organization to the employees and the way to achieve them and also setting evaluation meetings and leading them along with taking advantage of pay for performance systems. In such a system the people feel more belonged to the organization and the satisfactory operation of the employees will contribute to the improvement of the organization. Therefore, there will be a mutual commitment between the organization and the employees which will result not except the enhancement in the operation of the organization. However, to continue the training, the update technology necessitates all employees related to supply chain, to be consistently trained about IT to keep themselves updated, so that at the time to take use of this tool they can make the most efficiency in the way to realize the objectives of the organization. In this case, the organization can go toward absorbing the customer in a better way along with earning more and naturally will pay better bonuses and facilities to the employees.
2. According to the results coming from the second hypothesis the followings are suggested:

- Offering an information sharing system on the basis of IT systems in small industries, separately.
- Offering an operation evaluating system in order to evaluate the models and the information sharing systems.

3. According to the results from the third hypothesis it is suggested that the ability of each organization to coordinate the internal and external activities of the organization depends on their success to effectively apply the information. Of the necessities related to the organizations seeking to achieve the competitive advantage via presenting products and services by focusing on supply chain strategies, is to use information systems proper to give information related to the kind of the product, customer demand, etc. Hence, to make plans in the informational systems the organization has to support the objectives of the supply chain along with supporting long-term plans.

4. According to the fourth and the fifth hypothesis the followings are suggested:

a) Constituting Steering Committees including senior executives of the organizations which are the members of the supply chain in order to codify the general goals and the strategies of the supply chain on the basis of social benefits and having agreements about implementing SCM principles including the coordination between the members and sharing active information between he members as the only way to success in the present markets.

b) Designing incentive mechanisms to share high quality information (such as profit sharing mechanisms) implying the issue that benefits of information sharing is not the same for all the members of the system.

c) Commitment toward IT and system security

d) Providing the operation evaluating system as more efficient, the way that the employee finds a positive relation between learning/ applying the new technology and receiving remunerations and benefits.

e) Providing databases consisting of the background of the cooperation with the partners to identify the reliable and committed partners, to make efforts in order to keep the partnership and preventing to develop cooperation with improper suppliers to scrounge the observational costs as well as reducing the risks to be taken.

f) To determine the exact informational needs for each member to present related information via partners and also to prevent making issues derived from additional information.

g) Specifying the information which each partner has to share with other partners.

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