International Journal of Innovative Technology and Exploring Engineering (IJITEE)
ISSN: 2278-3075 (Online), Volume-3 Issue-8, January 2014

A Study of Integrated Supply Chain Model

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Abstract-The purpose of this paper is to present the relationship between firm integration and supply chain orientation and supporting technology as moderating that relationship. The term can be used to describe either functional management or project management- leading technical professionals who are working in the fields of product development, manufacturing, construction, design engineering, industrial engineering, technology, production, or any other field that employs personnel who perform an engineering function. This paper concludes that trust, serious relationships, and good communication between tour operators and other SC members could lead to more efficiency and effectiveness in tourism business.

I. INTRODUCTION

Today, integrated planning is finally possible due to advances in Information Technology (IT), but most companies still have much to learn about implementing new analytical tools needed to achieve it. The primary objectives of SCM are to reduce supply costs, improve product margins, increase manufacturing throughput, and improve Return on Investment (ROI) [1]. In many companies, however, the scope and flexibility of installed ERP systems have been less than expected or desired, and their contribution to integrated supply chain management has yet to be fully realized. Each function in SCM has its own objectives, so they strive to achieve their goals without considering the effect they will have on the other functions and lack an integrated plan for the enterprise [2] In order to practice the knowledge practically, case study need to be done to let theory can be applied. Nowadays, many companies collaborated through a network of production units, so as to provide customer with the desired products. SCM, which are more precisely addressed in this thesis generally refer to a set of networked organizations working together to source, produce and distribute products and service to the customer. The supply chain is often represented as a network similar to the one displayed in Figure 1. The nodes in the network represent facilities, which are connected by links that represent direct transportation connections permitted by the company in managing its supply chain. Although networks are a useful device for depicting and discussing models, keep in mind that the one displayed in Figure 1 provides only a high level view of a supply chain.

Manuscript published on 30 January 2014.
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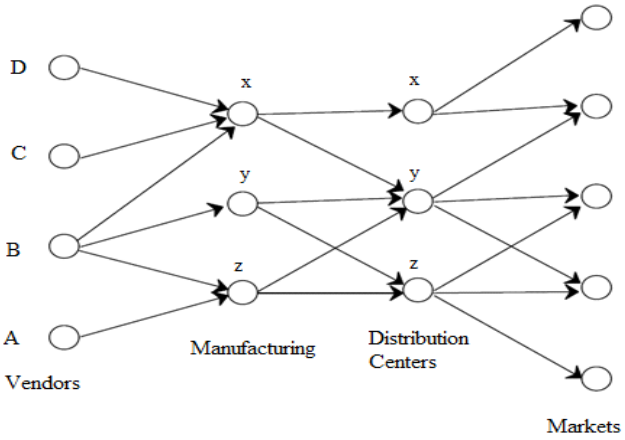

Fig. 1. Supply Chain

This enhances supply chain visibility and decrease information delays. Otherwise, insufficient supply chain visibility makes members indefensible to service level problems from business partners and risks. [4]In an integrated supply chain, information, applications and services are shared among supply chain members and become available for each member. Previous technologies like EDI infrastructures and ERP systems do not support flexible and reusable information sharing and application integration as shown in fig 2.

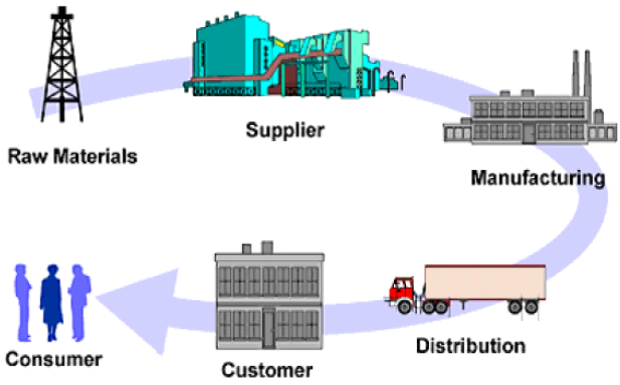

Fig. 2. SCM Roles and Flows

II PROBLEM IDENTIFICATION

In order to fulfill the demand that asks by Production Line, analysis the strength of Logistic need to be not done because of that, the problem occurs:

- Managers do not know what the data in the company's transactional databases imply about how to integrate their activities with the supply chain activities of other managers in the company, and with those of the company's vendors and customers.

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- Logistic Department can't guarantee to supply the demand that ask by Production Line if the demand is increasing suddenly in any number.
- Logistic Department does not have its capability data on supply trim part to Production Line.
- Logistic Department have problem to identify the correct number of man and machine.

III. METHODOLOGY

In many applications, however, the modeling practitioner is faced with the reality that although some data is not yet as accurate as it might be, using approximate data is better than abandoning the analysis. New products require the investment in raw materials and consume other change-over costs. Financial managers have to be aware of the increased demand for capital to finance the production plan. Likewise, the delivery of finish products generate financial income, so the forecast demand can be used to calculate/forecast the accounts payable and receivable in the future. The above description means that production, finance and marketing decisions cannot be made independently as shown in fig 3 .

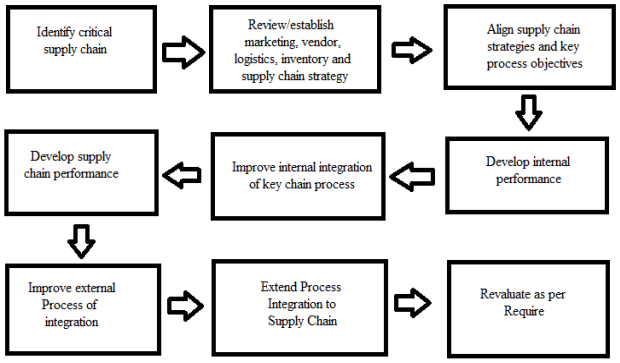

Fig. 3. Supply Chain of integration Model

Supply chain managers should also realize that the development of accurate descriptive models is necessary but not sufficient for realizing effective decision-making. The opportunity loss incurred by applying a mediocre modeling system is not simply one of mathematical or scientific purity. Although a mediocre system may identify plans that improve a company's supply chain operations, a superior system will often identify much better plans, as measured by improvements to the company's bottom line. For a company with annual sales in the hundreds of millions, rigorous analysis with a superior modeling system can add tens of millions dollars to the company's net revenue, while analysis with a mediocre system may identify only a small portion of this amount. To emphasize this point, the strategy discuss briefly the following disciplines from the perspective of supply chain management and models

- Strategy formation and the theory of the firm
- Logistics, production and inventory management
- Management accounting
- Demand forecasting and marketing science
- Operations research

The reason that backlogging assumption is important because the state space for the dynamic program can be collapsed in to a single state (that represents the system stock) rather than having a vector of T + 1 variables which represent how much was delivery is expected in the next T periods in addition to the current inventory level.

Table 1 Time Taken Chart

Manufacturing Industries	L	P	I	MA	F	V
X	M	H	Lo	Lo	M	Lo
Y	H	H	Lo	Lo	Lo	Lo
Z	Lo	H	M	M	M	Lo

It is also concerned with mathematical methods, called algorithms, for optimizing the numerical systems that result when data is used to populate models.This generality creates opportunities and challenges. A major opportunity is that many supply chain problems can be analyzed using optimization models and algorithms taken more or less "off-the-shelf" and quickly adapted for use.

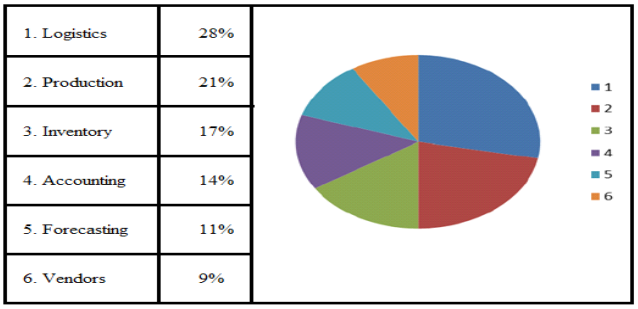

Fig. 4. Times Taken By Element

IV. RESULT AND DISCUSSION

Conversely, supply chain modeling systems are critically needed to help management extract effective plans from these transactional databases. To emphasize the need for modeling systems, highlight two serious problems involving data currently faced by managers. As per discussed several times in this thesis, integrated supply chain planning will not occur magically once systems for managing transactional data are in place. Implicit is the need to implement supply chain decision databases feeding these modeling systems that are consistent and coherent in their descriptions of products, markets, vendors, facility activities, transportation activities, and a host of other factors. Moreover, supply chain decisions suggested by the various models must be consistent and coherent in their treatment of strategic, tactical and operational plans. Simply stated, the company must commit to routine application of the modeling tools where the cycle time for their use depends on the type of analysis they perform. Strategic planning may be performed once a year, tactical planning once a quarter or once a month, and operational planning once a week or once a day.

Table 2 Innovation of Integrated SCM

After apply integrated SCM		
Vendors	**Firms**	**Logistic**
• Place orders • Follow these orders • Receive orders from end users • Receive orders from other firms (bank sales) • Operate the return process • Operate the warranty process	• Request an offer • Place an order • Follow the order records • See the reserves • Plan its own reserves	• Plan the route plan • Organize the SC • True mapping between SC and Lead Time • Follow the MODEL • Create and present reports of reduction

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Creating such incentive schemes is not easy because the success or failure of global supply chain optimization in a company may involve many aspects of the company's performance that are beyond the control of the individual manager. As a result, the manager may feel that after implementation of the above methodology lead time may be get down as shown in table 3.

Table 3. Reduced Lead Time

Manufacturing Industries	L	P	I	MA	F	V
X	M	M	M	Lo	Lo	Lo
Y	M	M	Lo	Lo	Lo	Lo
Z	Lo	Lo	Lo	Lo	Lo	Lo

V. MANAGEMENT ADAPTATION

Although myopic improvements in supply chain management can be achieved by elimination of obvious, inefficient, non-value adding activities, our interest here is in promoting the much larger improvements that can be realized when managers use modeling systems to achieve true integrated planning. Once a company's management understands them, it can begin to adapt its business processes to allow insights provided by modeling systems to be exploited as shown in fig 5.1. The most frequently cited reason for firms to engage in supply chain activities is in response to threats and overtures from competitors, both domestic and global. High levels of supply chain performance occur when the strategies at each of the firms fit well with overall supply chain strategies.

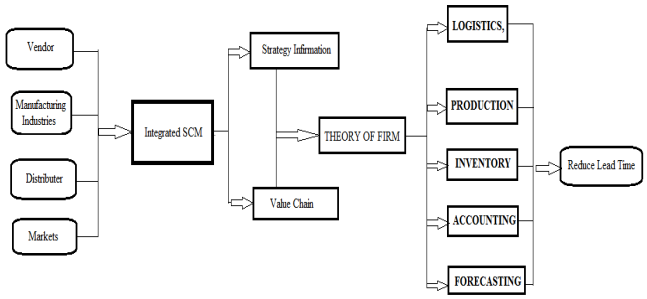

Fig. 5. Integrated Supply Chain Model

The range benefits that can accrue to companies that are able effectively manage and work in their supply chains includes:

- § Reduced SCM costs
- § Decreased order cycle/fulfillment time
- § Increased asset and capital utilization
- § Improved delivery performance
- § Flexibility in meeting/responding to customer requirements
- § Improved return on assets and sales

VI. CONCLUSION

Capturing market uncertainty through discrete scenarios is a familiar mechanism that simplifies the required user. Reduce the complexity of such decisions renders the subjective selection of optimal or even near-optimal plans extremely difficult or impossible. Integrated SCM coordination plays an important role for reducing lead time to achieve their goals and objectives.The conclude further work and directions in ability to test and plan future process improvements in SCM by SCOR Model which eliminate problematic management processes in standard process reference model form improves competitive advantage, communication, dimensions, management, control and alter to a specific purpose among the supply chain management processes.

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