



"ROLE OF INFORMATION TECHNOLOGY IN OPTIMIZATION OF SUPPLY CHAIN MANAGEMENT"



Introduction:

In today's global era, with specific reference to take the competitive advantage. It is therefore necessary to have your supply chain management (SCM) optimized. It is management of flow of information as well as the material from the point of origin to the point of consumption. So information flow is also vital part of the SCM. It is necessary to have integrated information system as well as the utilization of the various information technology tools in order to have the optimization in the SCM. Traditional tools are not leading to the cost as well as time minimization. So this research paper specifically focus on the role of the IT in the optimization of SCM.

Review of literature:

Dr. Broto Rauth Bhardwaj (2014) studied with the objective of sustainable SCM through ERP. He used resource based theory and analyzed value chain. A sustainable strategy is conceptualized through a model. Main drivers of sustainability were found. Data analysis is done through regression & correlation. The study reveals that the main drivers of SCM include environmental policy and green human resource management by giving them sustainability practices.

Christinan W.Y (2012) studied value of

information integration to SCM. Information integration is influenced by linkages of electronics. This study contingency theory to

evaluate the outcomes of performance of integrating for SCM in firms that processes under any environmental condition,

Roosbel (2007) studied RFID data management with its challenges & opportunities.

Study concludes that RFID assures to revolutionize the way that tracks items in supply chain. It is surveyed the data cleaning literature and some of the deficiencies of the proposed techniques & given suggestions in order to overcome obstacles. It is suggested that using the lineage tracing system to identify back the history of inferences rules in order to find the source of uncertainties.

Leian Liu (2010) studied RFID in SCM. This paper mainly studies the use of RFID technology in SCM. Also its strengths & weaknesses are analyzed. Effective SCM will always lead to competitive advantage. It is the RFID technology after the implementation of which it is possible.

Vishal (2015) studied role of IT in SCM. IT revolution changed the world & all attributes of business activities. SCM can be effectively managed by it. It will lead to take the competitive advantage to the company. IT plays main role in decision making

process. This paper highlights the overview of IT for effective SCM. Software focused SCM characteristics as well as IT tools used in IT enabled SCM. (Bhardwaj, 2014) (Christina W.Y WONG, 2012) (Roozbeh Derakhshan, 2007) (Leian Liu, 2010) (Jadhav, 2015)

Objectives of the Study:

1. To know traditional Supply Chain Management tools.
2. To identify problems associated with traditional Supply Chain Management tools.
3. To suggest various information technology tools for the optimization of the Supply Chain Management.

Scope of the Study:

The scope of the study is as follows:

1. The conceptual scope of the study includes all the aspects of SCM and ICT applications in it.
2. The analytical scope is confined to the comparative study of present SCM and SCM with the IT tools.

Importance of Study:

1. From this research study one can know the optimization problems in the SCM and role of IT in it.
2. Various ICT tools can be implemented in SCM.
3. Thus the optimization is possible in the SCM.
4. Thus due to implementation of it, competitive advantage can be obtained through this ICT tools.

Research Methodology:-

The type of this Research is Descriptive research.

Data Required:-

Secondary data regarding various ICT tools in the SCM is required for the study.

Data Sources:-

Required secondary data can be obtained through the website as well as the reference books.

Data Analysis:

Data analysis is based on the secondary data where role of IT in optimization of the SCM is analyzed. .

1)Radio Frequency Identification-(RFID)

This is one of the vital ICT tool available for optimization of the SCM. Automatic identification and tracking tags which are with the items is the function of it. It is with small radio transponder, instrument which receives and transmit the signal. There are two types of the tags. Passive tags get energy from radio waves. Active tags get energy by a battery and thus have a wide area. Thus RFID is automatic identification and data capturing tool.

2) Enterprise Resource Planning(ERP)-

ERP is the collective management of core business processes, always in real time and supported by software & technology. It is generally termed as the strata of business management software. Company can acquire, store, manage and draw meaningful inference from data from many business activities. It gives an collected and throughout updated view of main business activities using common database done by database

management system. ERP push the flow of the information among all core business activities and & manages connections in the external stakeholders.

3)Electronic Commerce-

It is the activity of purchasing and selling of the products over the internet electronically. It contains the technologies such as mobile commerce, SCM, transfer of funds, marketing on internet, processing of online transaction, electronic data interchange, inventory management systems. Semiconductor plays vital role in the electronic commerce.

4)Digital Signature-

It is a mathematical process for checking the authenticity of the digital transactions. A receiptant can believe that message is created by sender known by him and it is not disturbed in between but the condition is that prerequisite should be satisfied.

5)Secure electronic transaction technology-

Secure electronic transaction is for safeguarding credit card transaction over the internet. It is communication protocol standard. It is also protocol for safeguarding and allow user to have a transactions on the open network. All leading corporations now promotes 3D secure scheme.

6)Extensible markup language-

It is a markup language that decides the set of rules for encoding documents that can be readable by both human as well as machine.It comprise of simple way,ability of generation,ability of use across the internet.

7)Data warehouse & data mining-

Data warehouse is a system used for reporting purpose and also for data analysis.It is also for main component of the business intelligence.It is a central place where data is stored and managed.

Data Mining-It is the process of identifying patterns in large datasets comprising methods with respect to machine learning statistics and database systems.It is integrated between computer science & statistics.

8)Decision Support System-

It is a information system which support company's decision making activities.These support all levels of the organization.It can be with manual system or associated with computerized system.It can be utilized for any support in the decisions towards the complex problems of any business activity.

9)Machine to Machine Technology-

It is utilizing wired and wireless communication with the communication between devices using any communication channel.Level of automation is enhanced and resources are controlled leading to minimize the operational expenses.It also minimizes the response time and enhances the security level.

10)Groupware-

It is a application software created to assist people working on a common activity to achieve their goals.It helps to increase efficiency.Creativity can be stimulated by it.Structure can be provided to workgroups.

Conclusion-

Thus from this research study it can be concluded that the optimization is not possible in case of the utilization of the traditional tools in the SCM.But if ICT tools like RFID,ERP, Electronic Commerce, Digital Signature, Secure electronic transaction technology, Extensible markup language, Data warehouse & data mining, Decision Support System, Machine to Machine Technology, Groupware are utilized then the optimization in terms of the time,cost minimization,flexibility is possible.It will be competitive advantage to any organization.

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