



## Electronic supply chain management (e- SCM) and its effectiveness in SEZ companies

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### Abstract

*Internet made obligatory transformation in most of business activities. It is significantly influences the business activities, from communication to after-sale services and moves the business activities from suppliers to customers and allow the suppliers, providers, logistics, service providers and customers in the electronic market to search order and sell products and services or effectively communicate between members of supply chain. Supply chain management should be to build a communication channel between target customers, distribution channels, production processes and logistic activities. However, firms should develop new approaches for doing business to access competitive advantage, and to improve efficiency of its supply chain in technology. E-SCM in form of information and material flow is defined as structural and infrastructure processes related to turning material into value added, production and delivery of final products through appropriate channels to customers and market to maximize the value and customer satisfaction. SEZ –Special Economic Zone promotes businesses to set up in the zone, financial policies are introduced. These policies typically regard investing, taxation, trading, quotas, customs and labour regulations. The research concentrates on the E- SCM software's used in SEZ companies and also analysis their effectiveness in the companies. Primary and Secondary both data are collected. Primary data were collected by 10 companies of Pithampur, Indore region and using 5 point Likert scale and Percentage analysis tools are used for Interpretation. Study concluded that the following companies effectively used E- SCM software's in the company and improve its performance towards Logistics, Customer Satisfaction and Supply chain operations.*

**Keywords:** SCM, E- SCM, SEZ, Logistics.

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### 1. Introduction

A firm's strategies, innovations, and well-planned activities will lead to sustainable competitive advantage and hence improve its brand and business performance. As firms strive for ways to achieve competitive advantage, they are looking for new ideas and solutions. In recent years, there have been numerous advances and developments in supply chain techniques and management. One of the reasons is that as trade barriers drop and markets open, competition has become more intense – hence companies need to be more competitive and cost effective.

**1.1 Supply Chain Management (SCM)** - Supply chain management (SCM) is the supervision of materials, information, and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer. Supply chain management involves coordinating and integrating these flows both within and among companies. It is said that the ultimate goal of any effective supply chain management system is to reduce inventory.

SCM defined by different authors as-

"SCM is the management of upstream and downstream relationships in order to deliver superior customer value at less cost to the supply chain as a whole" (Christopher, 1998).

The integral value of the SCM philosophy is that "total performance of the entire supply chain is enhanced when we simultaneously optimise all the links in the chain as compared to the

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resulting total performance when each individual link is separately optimised (Burke and Vakkaria, 2002).

A customer-focused definition is given by Hines (2004): "Supply chain strategies require a total systems view of the links in the chain that work together efficiently to create customer satisfaction at the end point of delivery to the consumer. As a consequence, costs must be lowered throughout the chain by driving out unnecessary expenses, movements, and handling. The main focus is turned to efficiency and added value, or the end-user's perception of value. Efficiency must be increased, and bottlenecks removed. The measurement of performance focuses on total system efficiency and the equitable monetary reward distribution to those within the supply chain. The supply chain system must be responsive to customer requirements."

According to the Council of Supply Chain Management Professionals (CSCMP), supply chain management encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and logistics management. It also includes coordination and collaboration with channel partners, which may be suppliers, intermediaries, third-party service providers, or customers.

### **1.2 e- SCM (Electronic Supply Chain Management)-**

e- SCM will refer to "*The impact that Internet has on the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders*"(Cristina and Helena,2005).

Electronic supply chain management (e-SCM) is a collaborative use of technology to improve the operations of supply chain activities as well as the management of supply chains (Turban et al., 2012). The main factors that contributed to the transition from SCM to e-SCM are as follows:

- The need for additional reduction in the costs as well as improvements in the processes through the expansion of the tools for modern management in the organizations from the supplier channels to the customer channels.
- The introduction of computerization and digitalization of the internal functions of the organizations with new techniques, tools, and management methods.
- The need for efficiency and agility of the organizations in order that they can respond to the higher demands of the customers whose growing demands and bargaining power continually increases.
- The effort to optimize the organization by having lower inventory levels both in manufacture and distribution by, in parallel, offering supreme quality and service.
- The deserting of vertical integration and functional oriented organizations.
- The tendency for outsourcing of some operational functions that are not the core of the business to other organizations specialized in that field.
- The explosive expansion of global commerce and the opening of new markets that only few years ago were closed.
- The e-business technologies, particularly the internet, have enabled an organization of all sizes to have a network and be closely connected with their partners and conquer and compete for market share which was only possible before for the large corporations (Sudrajat, 2016).

The following are the major infrastructure elements and tools of e-SCM:

- Electronic data interchange (EDI). It is the major tool used by large corporations to facilitate supply chain relationships. Many companies are shifting from traditional EDI to Internet-based EDI.
- Its major purpose is to support inter-organizational communication and collaboration.
- These are the corporate internal networks for communication and collaboration.



- Corporate portals. These provide a gateway for external and internal collaboration, communication, and information search.
- Workflow systems and tools. These are systems that manage the flow of information in organizations.
- Groupware and other collaborative tools. Many tools facilitate collaboration and communication between two parties and among members of small as well as large groups. Various tools, some of which are collectively known as groupware, enable such collaboration. Blogs and wikis are beginning to play an important role. A major purpose of these tools is to provide visibility to all, namely, let people know where items are and when they arrive at certain locations.
- Identification and tracking tools. These tools are designed to identify items and their location along the supply chain (Sudrajat, 2016).

### 1.3 SEZ (Special Economic Zone)-

A special economic zone (SEZ) is a region in which business and trade laws are different from rest of the country. SEZs are located within a country's national borders, and their aims include: increased trade, increased investment, job creation and effective administration. To promote businesses to set up in the zone, financial policies are introduced. These policies typically regard investing, taxation, trading, quotas, customs and labour regulations. Additionally, companies may be offered tax holidays, where upon establishing in a zone they are granted a period of lower taxation. This Regulation tends to contain measure that are conducive to foreign direct investment. Conducting business in a SEZ usually means a company receive tax incentives and the opportunity to pay local tariff.

The SEZ policy in India first came on 1 April 2000. The prime objective was to enhance foreign investment and provide an international competitive market hassle free environment for export.

### 1.4 Different types of E-SCM Software's

SAP Supply chain Management- It is developed by SAP. The SAP Supply Chain Management (SAP SCM) application is software that can help your organization transform a linear supply chain into an adaptive supply chain network, in which communities of customer-centric, demand-driven companies share knowledge, intelligently adapt to changing market conditions, and proactively respond to shorter, less predictable life cycles.

Enterprise Supply Planning – It is developed by JDA Software Group. Helps in Supply chain planning, analysis, optimization and execution software with collaborative workflow capabilities.

Logistically TMS – it is developed by Logistically TMS. It is a Cloud TMS for 3PL's and Brokers. It's incredibly powerful yet amazingly simple. Advanced insights and analytics come standard along with full order lifecycle management - from payment to billing. Integrates with any back-office system using industry standard API's at no extra cost.

Infor SCM- it is developed by Infor. Gives manufacturing, transportation and logistics, and retail companies increased supply chain visibility and control.

Transportation Management- It is developed by Manhattan Associates. Enabling manufacturers, retailers and logistics providers to maximize supply chain efficiency.

Mercury Gate- Mercury Gate is a transportation and supply chain management system (SCM) suitable for businesses of any size in a variety of industries. It can be deployed as either a cloud-based or on-premise solution.

Da Vinci supply Chain Business Suit- Developed by Wolin Design Group (WDG) helps companies of all sizes manage their supply chain by providing products that address the challenges found in today's competitive business environment. With WDG, organizations have access to traditional warehouse, transportation and inventory management systems, as well as web-based interfaces and functionality.

## 2. Objectives



The research study tends to follow and achieve specific objectives-

- 1 To study different e- SCM software's used by SEZ companies in Indore Region
- 2 To study the effectiveness of electronic supply chain management Software's used by SEZ companies in Indore Region.

### 3. Research Methodology

#### 3.1 Sample

In this study, a convenient judgment sampling is used for getting convenience sample results. It describes when the more convenient elementary units are chosen from a population for observation; then a judgment sample is obtained according to the discretion of someone who is familiar with the relevant characteristics of the Universe. 10 different companies of SEZ region of Pithampur, Indore are taken into consideration which uses the e- SCM software's. Introduction of the companies which work under sez indore on which this research is conducted mentioned below-

- Glenmark pharmaceuticals
- Lupin ltd.
- Mylan laboraories ltd
- Cipla ltd
- Shriji polymers india ltd
- IPCA laboratories ltd
- ACG associated capsules ltd
- VE commercial vehicle ltd
- Jash engineering ltd
- Cummins technologies ltd

#### 3.2 Data collection:

The present study undertakes primary as well as secondary data.

**Primary data** collected through structured questionnaire contains 5 point Likert Scale (From 'poor' to 'excellent') consisted of 15 questions based on 3parts i.e. Logistics, Customer Relationship Management,Supply Chain Performance.

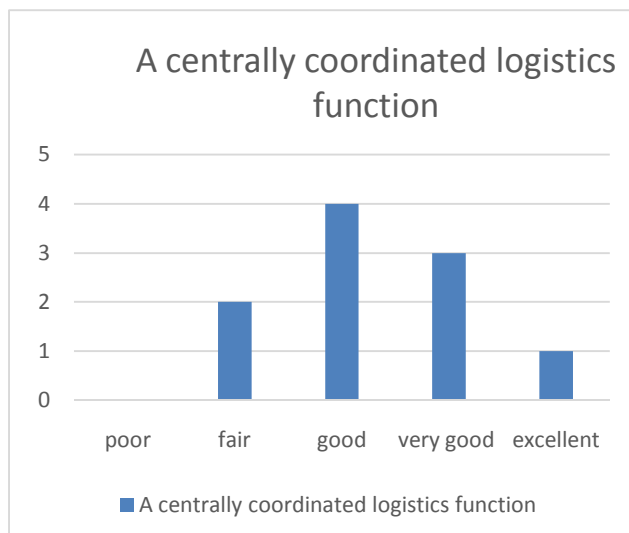
**Secondary data** including work of earlier researchers, archival and online data (website).

**Tools for Analysis-** Percentage Analysis tools are used for analysis.

### 4. Analysis & Interpretation

#### Section A: Logistics

1. e- SCM provides Centrally Coordinated logistic function



Scale	Fair	Good	Very Good	Excellent
Number Of Company	2	4	3	1

### Interpretation

4 Out of 10 companies found E-SCM is effective and efficient with respect to **centrally** coordinated logistic function

### 2. Provide On Time Delivery to Customer

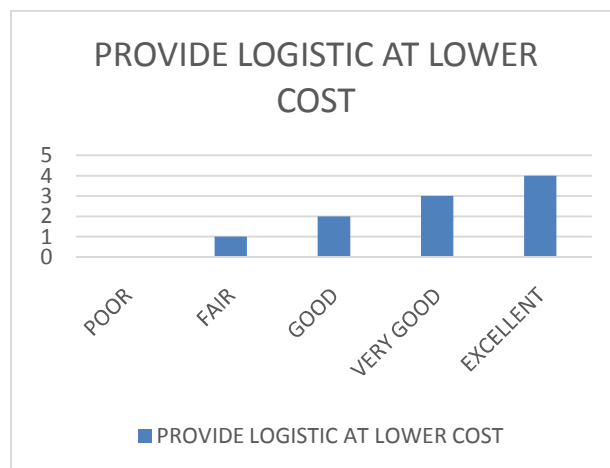


Scale	Fair	Good	Very Good	Excellent
Number Of Company	2	2	3	3

### Interpretation

3 Out of 10 companies found E-SCM is effective and efficient with respect to PROVIDE ON Time Delivery to Customer

### 3. Provide Logistic at Lower Cost

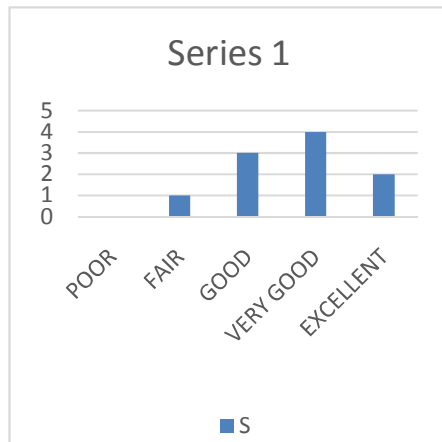


Scale	Fair	Good	Very Good	Excellent
Number Of Company	1	2	3	4

### Interpretation

4 Out of 10 companies found E-SCM is effective and efficient with respect to Provide Logistic at Lower Cost.

### 4. Just-In-Time Delivery



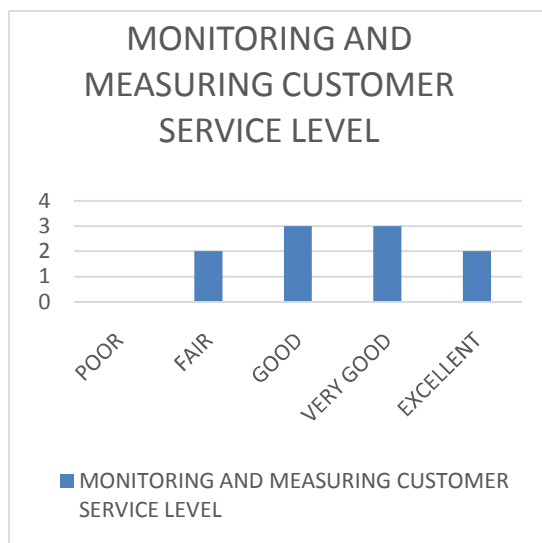
Scale	Fair	Good	Very Good	Excellent
Number Of Company	1	3	4	2

### Interpretation

4 Out of 10 companies found E-SCM is effective and efficient with respect to JUST-IN-TIME DELIVERY

### Section B: Customer Relationship Management

#### 5. Monitoring & Measuring Customer Service Level



Scale	Fair	Good	Very Good	Excellent
Number Of Company	2	3	3	2

### Interpretation

3 Out Of 10 Companies Found E-SCM Is Effective and Efficient With Respect to Monitoring & Measuring Customer Service Level

#### 6. Effective Management Of Customer Complaints

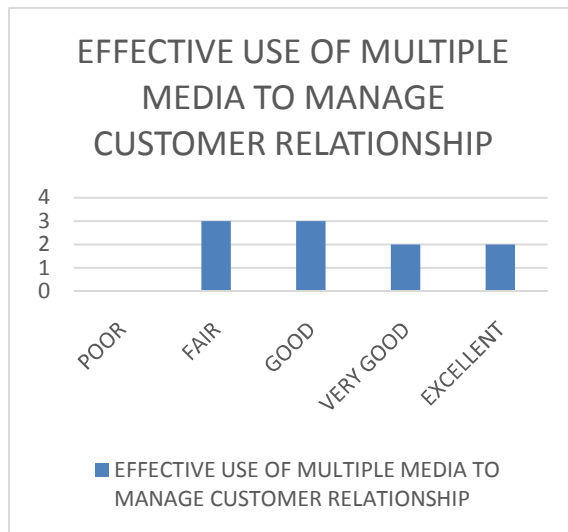
Scale	Fair	Good	Very Good	Excellent
Number Of Company	4	2	2	2



**Interpretation**

4 Out Of 10 Companies Found E-SCM Is Effective And Efficient With Respect To Effective Management Of Customer Complaints

**7. Effective Use Of Multiple Media To Manage Business Customer Relationship**



Scale	Fair	Good	Very Good	Excellent
Number Of Company	3	3	2	2

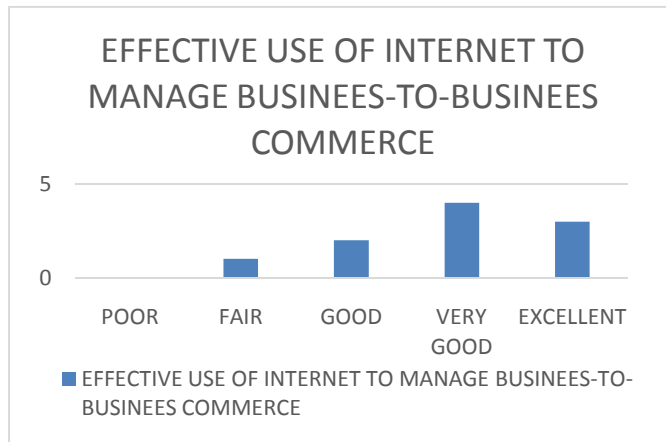
**Interpretation**

3 Out of 10 companies found E-SCM is effective and efficient with respect to Effective Use of Multiple Media to Manage Business Customer Relationship

Information System & Technology

**8. Effective Use Of Internet To Manage Business-To-Business Commerce**

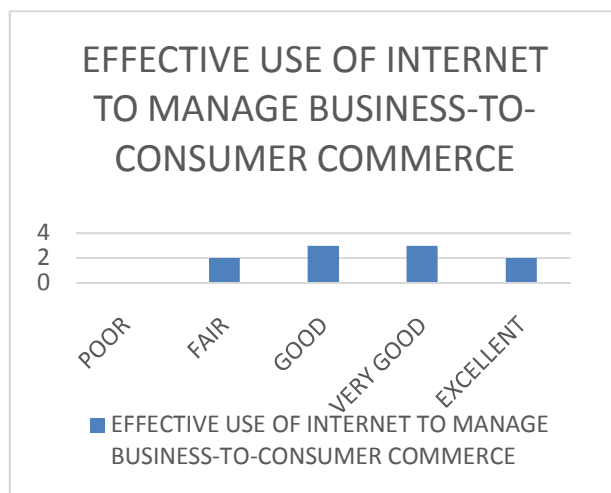
Scale	Fair	Good	Very Good	Excellent
Number Of Company	1	2	4	3



**Interpretation**

4 Out of 10 companies found E-SCM is effective and efficient with respect to Effective Use of Internet to Manage Business-To-Business Commerce

**9. Effective Use Of Internet To Manage Business-To-Consumer Commerce**



Scale	Fair	Good	Very Good	Excellent
Number Of Company	2	3	3	2

**Interpretation**

3 Out of 10 companies found E-SCM is effective and efficient with respect to Effective use of Internet To Manage Business-To-Consumer Commerce

**Section C: Supply Chain Performance**

**10. Delivery in Full & on Time to Customer**

Scale	Fair	Good	Very Good	Excellent
Number Of Company	2	2	4	2





**Interpretation**

4 Out of 10 companies found E-SCM is effective and efficient with respect to Delivery in Full & on Time to Customer

11. Customer are very Satisfied with your Supply Chain Capabilities



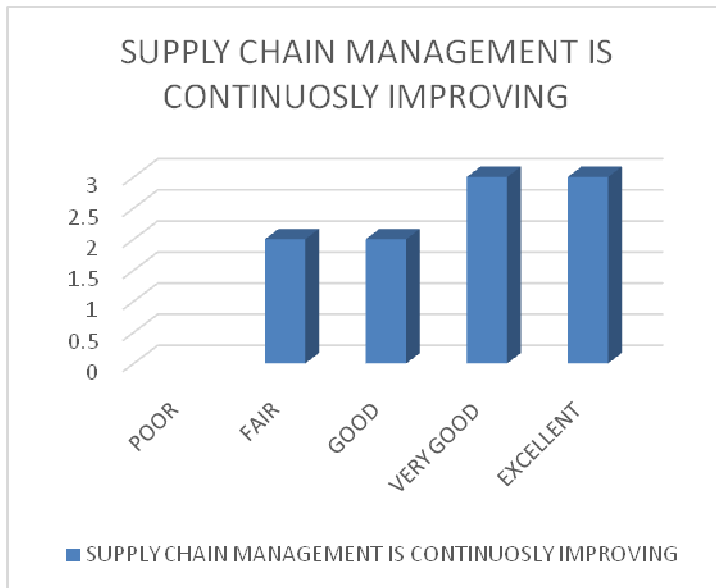
Scale	Fair	Good	Very Good	Excellent
Number Of Company	1	3	3	3

**Interpretation**

3 Out of 10 companies found E-SCM is effective and efficient with respect to Customer Are Very Satisfied with your Supply Chain Capabilities

12. Supply Chain Management Is Continuously Improving

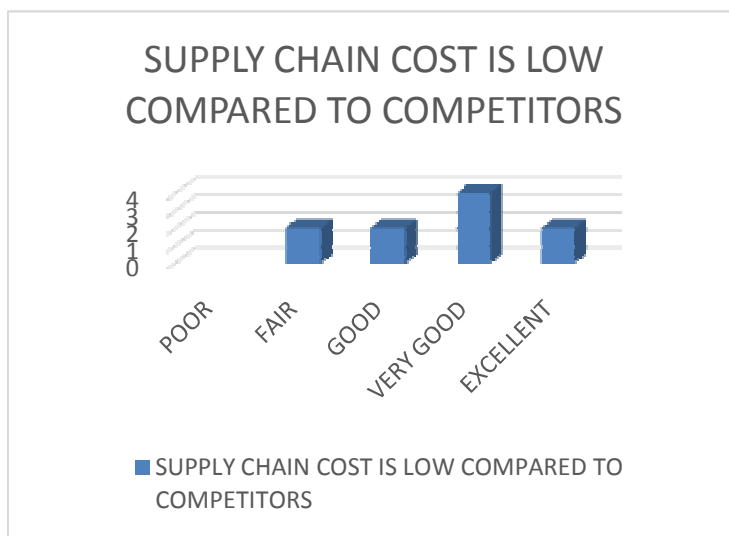
Scale	Fair	Good	Very Good	Excellent
Number Of Company	2	2	3	3



**Interpretation**

3 Out of 10 company found E-SCM is effective and efficient with respect to Supply Chain Management Is Continuously Improving

**13. Supply Chain Cost Is Low Compared To Competitors**



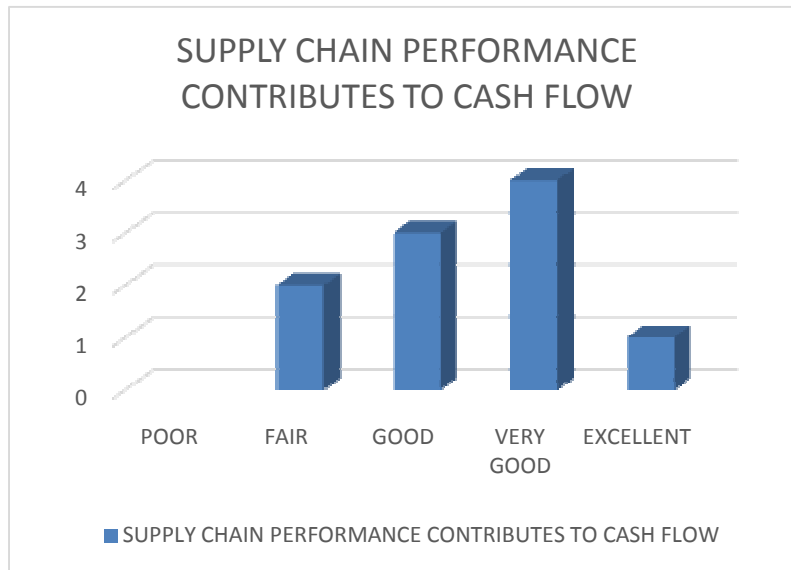
Scale	Fair	Good	Very Good	Excellent
Number Of Company	2	2	4	2

**Interpretation**

4 Out of 10 company found E-SCM is effective and efficient with respect to Supply Chain Cost is Low Compared to Competitors.

**14. Supply Chain Performance Contributes to Cash Flow**

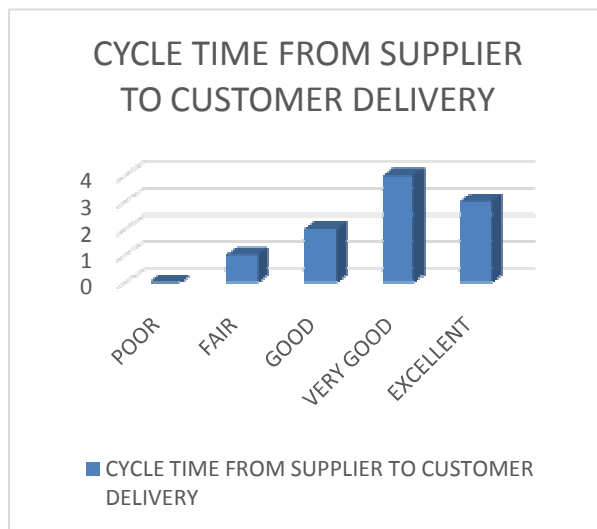
Scale	Fair	Good	Very Good	Excellent
Number of Company	2	3	4	1



**Interpretation**

4 Out of 10 companies found E-SCM is effective and efficient with respect to Supply Chain Performance Contributes To Cash Flow

15. Cycle Time From Supplier To Customer Delivery



Scale	Fair	Good	Very Good	Excellent
Number Of Company	1	2	4	3

**Interpretation**

4 Out of 10 companies found E-SCM is effective and efficient with respect to Cycle Time From Supplier To Customer Delivery

**Research Findings**

After assessing the companies' scenario what came in picture was as follow.

Most of SEZ companies using SAP software.

SAP focuses on best practices methodologies for driving its software process which are categories into three core functional areas.

1 logistics

2 financial

3 human resources



- Enterprise resource planning is software that allows organization to use a system of integrated application.
- Using of technology helps supply chain management in product flow, information flow, financial flow etc.

## Conclusion

Internet, IT technology, and electronic communication, not merely endow with a competitive business environment, but moreover have made considerable changes in business performance. Conclusion analyzed the data collected from the selected companies and respondents and interpreted the data in relation to the research issues. The Research concluded that there are differences in soft wares at high technology companies. The selection of the critical supply chain depends on whether a company is a traditional 'old style' manufacturing company or a progressive manufacturing company. The Research also concluded that an external focus on electronic supply chain management and activity (such as customer relationships, information systems to manage their customers, and outsourcing) gives better business results. Finally, the opportunities in performance derived from traditional methodology are different from those deployed from customer needs. As a consequence, on the one side, E-SCM enlarges the ability of suppliers' business and promotes their business by opening e-shops. On the other side, E-SCM amplifies the competition level among e-suppliers, and decreases the command of their e-suppliers.

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