

Article

# Information Technology Impact on Supply Chain Agility

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## I N F O

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## A B S T R A C T

Information Technology has enlightened on some of the discrepancies that were happening in the supply chain like Cargo misplacement, time delay of Cargo or even the loss or damage of the cargo. With the Information Technology in place it has offered advantage to both the company and its clients because they can track and monitor the orders in their fingertips.

And it is seen that goods sent through the supply chain used to take very long periods to reach the desired person, in addition to that there were the manual paperwork which had to be done before the goods were procured was another impending issue. With IT in place now, the process which used to take in excess of a fortnight to be processed in now done in a time span less than that of 20 to 40 minutes. In order to offer customer satisfaction and impact of Information technology.

**Keywords:** Information Technology, Customer Satisfaction, Supply Chain

## Introduction

Logistics has gained much traction in the past few years since it was introduced. Before, it was considered as just a process that had to be done, but with the changing technology and ample methods of Transportation available, it is a challenge to chalk out the perfect logistics plan. To state a case, in fact, a company spends nearly 15% of this entire sales on this sector, should give a fact of how important the sector is.

With the IT coming into the supply chain and being adopted by organizations left and right, it becomes almost a necessity to see whether the hype that IT generated is worth it or is it just another passing wind like solution to the impending problems of the supply chain. IT has shown that given time after its implementation, the company sees an upsurge in its activities and also its sales.

## Literature Review

Kim 2010. This theory tries to patch void in the supply chain

risk management by referring to past data and literature. This research establishes a framework of mitigating supply chain risk based on past literature. Upon conducting this study it was found out that there three common risk alleviating strategies in the supply chain viz. Association and cooperation, info splitting and affability.

The study also brings about the impact of the practices followed in the supply chain, e- procurement and strategic sourcing and supply chain integration. The Research uses the survey methodology to empirically validate the research framework. This research also raises the issues such as supply chain risks for managers and also adds to the literature by empirically validating the conceptual framework of supply chain practices. It also aims to fill the gaps in the literature on the relationship between supply chain risk managements and business environments.

Ngai, Chau, 2011, Time is a factor for everybody to consider, and supply chain is no different. To aid this process, a concept called "Supply Chain Agility" was coined. It

generally means to speed up the supply chain process without compromising on either the quality or the security of the products or services involved.

The Impact of the supply chain agility of the organization has been acknowledged. Here a structural model is developed based on the research view and employ a number of case

The end results of this research show the distinguishing differences between supply chain agility and supply chain competency. This study adds to the literature and the empirical data on supply chain competence which in itself is a complex concept.

Gilaninia, Mousavian, 2011. There have been major advances in the information technology, including that of the faster data transmission in the supply chain. This has increased the efficiency in the supply chain process and has also decreased the delivery times between two places. This is necessary for maintaining a proper relationship with the customers and to survive in the changing business environment. An effective supply chain relationship is key to building and improving relations within and outside.

Degroote, 2012. Through this study, the author hope for the relationship between information technology and supply chain efficiency. The research was conducted on the parameters of how the company responds to changes in the market and the impact it has on the performance given out by the firm.

The research was conducted by using an online survey method and 133 industries were considered, the results of the study were the the supply chain rapidly adapted to the changes in the market in particular areas like adequacy, accuracy, accessibility and timeliness. The study also suggests that companies operating under a variety of circumstances and conditions are likely to benefit from the influx of Information Technology into their sector.

Wu, 2012. As suggested, Radio this study, the use of Radio Frequency Identification (RFID) is very useful in tracking and security of cargo. It is the new and improved to an already existing tracking system which is out of date. RFID has generated a significant amount of interest over the years since it was introduced since it doesn't involve complex installation procedures and is easy to use and understand. It has also generated significant attention from the likes of researchers and practitioners who are looking to study this new method.

Lu, Wei, 2013, Generally the inventory of a company is very well managed but if orders aren't placed on time or if there is a delay in the delivery of goods there will be shortage of goods which may rise to the level of resulting in a stock out, which hinders the reputation of the company and also results in economic losses of the company.

Singhry, 2015. The business environment requires the innovation department to be on their toes ready to adapt to any new technology or method that graces the market. The business as a whole has to be dynamic to adapt to the changes in the business environment.

This study is done to decode two aspects viz. To investigate the effects of the innovation capability and the second is to determine the intervening role of innovation capability in the relationship between supply chain collaboration and supply chain performance.

The finding of this study is that innovation is a full mediator of the relationship between supply chain technology and supply chain performance as well as on supply chain collaboration and supply chain performance.

### Objectives of the Study

- To know the association between Information Technology and Customer satisfaction
- To analyze the information technology impact on supply chain agility

### Methodology

- **Population:** All major clients of Poornima Logistics, Bangalore
- Descriptive research is used here because it shows the impact the Information Technology. Since a lot of respondents are involved the research involved is descriptive
- **Sampling Design:** Non- Probability and convenience sampling of the spokespersons and representatives of the company who are clients to Poornima Logistics. Data collection instrument used is questionnaire and 15 questions were designed, it consists of open ended, close ended, dichotomous and other questions which are used to extract information from the respondents

### Hypothesis

- $H_0$ : There is no relationship between impact of Information Technology services on overall satisfaction
- $H_1$ : There is a relationship between impact of Information Technology services on overall satisfaction

**Table 1. Price for the Service Provided**

| Options   | Number | Percentage |
|-----------|--------|------------|
| SDA       | 1      | 1.67%      |
| SWDA      | 2      | 3.33%      |
| NA nor DA | 22     | 36.67%     |
| SWA       | 24     | 40.00%     |
| SA        | 11     | 18.33%     |
| Total     | 60     | 100.00%    |

## Data Analysis

Collected data was analyzed to determine how the sample of the research responds to the items under investigation. Annova methods were employed to analyze the collected data. This study mainly based on primary data originating from a survey.

### Interpretation

The price taken for the service provided is very much appreciated by the customers. The company should continue to the same pricing model so as to bring in more customers who will be attracted by the low price USP.

**Table 2.Delay in Delivery of Receipts**

| Options   | Number | Percentage |
|-----------|--------|------------|
| SDA       | 3      | 5.00%      |
| SWDA      | 17     | 28.33%     |
| NA nor DA | 29     | 48.33%     |
| SWA       | 11     | 18.33%     |
| SA        | 0      | 0          |
| Total     | 60     | 100        |

### Interpretation

The company usually delivers the receipts for the original documents received in most cases, but in some rare cases there have been instances where the company has experienced a delay in the delivery of the receipts, this sometimes leads to unrest among the clients. The company should find out which are such instances and look into correcting them.

**Table 3.Response Time**

| Options   | Number | Percentage |
|-----------|--------|------------|
| SDA       | 3      | 5.00%      |
| SWDA      | 14     | 23.33%     |
| NA nor DA | 32     | 53.33%     |
| SWA       | 11     | 18.33%     |
| SA        | 0      | 0          |
| Total     | 60     | 100        |

**Table 4.Quality of Service of the Company**

| Options   | Number | Percentage |
|-----------|--------|------------|
| SDA       | 1      | 1.67%      |
| SWDA      | 3      | 5.00%      |
| NA nor DA | 18     | 30.00%     |
| SWA       | 28     | 46.67%     |
| SA        | 10     | 16.67%     |
| Total     | 60     | 100.00%    |

## Interpretation

The company has a proper response time as of now, but some customers feel that there is still some room left for improvement, the company should find out how to decrease the response time to solve the client's issue as quickly as possible.

### Interpretation

The Quality of the service that the company is giving is at its best currently, because of that the clients are happy that they are associated with a quality service provider. The company needs to follow up to this and see that the quality doesn't dissipate in the future activities conducted by the company.

**Table 5.Overall Opinion about Delivery**

| Options   | Number | Percentage |
|-----------|--------|------------|
| SDA       | 3      | 5.00%      |
| SWDA      | 20     | 33.33%     |
| NA nor DA | 20     | 33.33%     |
| SWA       | 17     | 28.33%     |
| SA        | 0      | 0          |
| Total     | 60     | 100        |

### Interpretation

The shipment status, delivery is currently mediocre according to the response of the clients, the company must do what is necessary to increase the numbers and see that there is timely updating of shipment status.

## Annova

Conclusion of Regression: Significant value (p-value) is less than 0.05, hence we reject null hypothesis and accept alternative hypothesis. There is significant impact of Information Technology service opinion on overall satisfaction.

**Table 6.Impact of IT on Satisfaction Level of Customers**

| Model      | Sum of Squares | df | Mean Square | F      | Sig.              |
|------------|----------------|----|-------------|--------|-------------------|
| Regression | 12.144         | 3  | 3.020       | 24.088 | .000 <sup>b</sup> |
| 1 Residual | 6.423          | 55 | .120        |        |                   |
| Total      | 18.567         | 58 |             |        |                   |

## Findings

The client will opt for service because it is priced low and also the Image of the company is good in the market. Percentage of impact on the client generally falls in the 50 percent to 80 percent range. The company had experienced the success in promotional activities in the TV ads segment.

Through the findings of the hypothesis it is clear that there is a significant impact of IT on the overall satisfaction of services provided by the company.

### Suggestion

- The company has seen a rise because of the strong brand presence and Advertising Influence
- Major clients are from automotive and electrical sector because the company will apply customer satisfaction relating to information technology, company should concentrate on other sectors to opt for their services in supply chain
- Company should take corrective steps towards enhancing the promotional activities in order to generate more revenue to the company in the form of client acquisition, retention
- A productive strategy has to adopted in order to cut down the cost and make a smooth transition from manual to information technology
- New promotional strategy has to be enforced to increase brand of the company

### Conclusion

From the research conducted it can be interpreted that information technology make a lot of impact on the functioning of the supply chain, here it can be inferred that conventional process will consume more time, effort and we need to look at the efficiency that has to be enhanced so keeping that in mind information technology will come up, we can say that information technology will enhance the overall performance of supply chain when we compare with the manual one.

At the end we can say that information technology is a need of a hour for every organization because it is very critical to keep a track of supply chain activities.

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