

Investigation of Cause & Effects for Delay in On Time Delivery of a Footwear Manufacturing Organization

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ABSTRACT

An investigation was carried out at a selected manufacturing organization in Footwear Industry in Sri Lanka in order to find out causes and effects for delay in on-time delivery process in the marketing section of the organization of study. The major reasons for this are cobblers delay, production delay, material delay and poor quality of the products. This research investigated the major causes for being unable to achieve the on time delivery for each and every item by conducting the questionnaires, interviews and telephone conversations with the marketing, planning, supply, production and sub contracting departments. This study presents an investigation of the cause and effects which generates the feasible solutions for delay in on time delivery to customer from the organization by taking into consideration the work performed at the cobbler's production, material supply, footwear production and quality of them.

KEYWORDS: Production, Delivery Time, Cobbler, Order Fulfillment

INTRODUCTION

Currently Sri Lankan footwear market is highly competitive. Some established companies, cobblers, as well as imported products are competing with each other in this market. The selected organization of the study produces a range of products from rubber slippers to shoes. The footwear section of this organization plays a major role in the group with a portfolio of leading footwear brands.

The organization of study is one of the Sri Lanka's leading footwear manufacturers in Sri Lanka and has been established in 1960s. It is one of exporters of footwear and is the first shoe manufacturing plant in Sri Lanka who has been certified with ISO 9001:2000.

Also, this organization represents 38% of the domestic market share. When it is considered the process of this organization, once the customers have placed an order to the marketing section, the marketing section hands over it to the planning section. Then, the planning section plans the order by keeping in contact with supply unit and production unit / sub contracts. After that the production will be carried out. Then, the quality will be checked by the quality department and then packed by the packing department. Finally, the order will be ready to be distributed to the customer.

Currently, the organization faces delay in fulfilling the orders to the customer on time. The major reasons for this delay are because of cobblers' delay, production delay, material delay and poor quality.

Research Objective

The key objective of this study is to investigate causes and effects for delaying order fulfillments and give solutions for this

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problem. In order to meet this ultimate goal, it is necessary to find out the issues which are on time delivery to their customer, sufficient lead time, on time materials supply, etc that the footwear production is currently facing.

LITERATURE REVIEW

When it is considered about the footwear industry in Sri Lanka, there are a lot of problems that are being occurred due to the inability to identify the issues in the footwear market.

However, this industry was able to survive for a long period of time and has successfully catered the local market till the early 90's. But in the recent past, this industry has been seriously affected by dumping of footwear products from East Asian countries, especially from China (Fahad, 2009).

Another reason for the main problem is lack of proper production planning. It is believed that the local footwear industry is capable enough even to explore into the international market as well. Further, it might have a huge potential especially in the western countries as fashion oriented designer-wears have high demand in these countries. However, this industry has not acquired enough attention from these customers. Also, it should be noted that the involvement of engineering know-how in the footwear industry in Sri Lanka is minimal. Hence due to this minimal engineering involvement, the technology transfer to the footwear industry is also negligible compared with the global arena (Bhaiya, 2010).

METHODOLOGY

Out of 9 categories of footwear products of the selected organization, category 02 was selected to carry out this research since it is

the product category which is in No.01 in the footwear market among the products of this organization. Also, this category 02 has become the leader in the market as it is under the ladies wear and the design of them will be changed regularly. The reason for that is, ladies prefer more fashionable than gents.

There are 30 items in category 02 and further each item can be divided in to 6 sizes ranging from size 03 to size 08. Among the production period of this category, the production details were collected from May to August of 2010 since they are the most recent data that could be collected from the marketing section of the organization.

The company has recorded the order and delivery details weekly. Therefore weekly data were used to analyze and identify the reasons for delay in on time delivery.

In order to achieve the objective of the study primary and secondary data were used. Primary data were collected using direct methods such as Personal Interviews, Telephone Interviews, Questionnaires, and Observations. Majority of them were collected through the questionnaire and rest were collected through Personal Interviews, Telephone Interviews and Observations. Data from the cobblers were collected by distributing the questionnaire and others were collected from the responsible persons in each relevant department. The secondary Data, were gathered from Annual Reports, Company System (IFS), and Books, Magazines and Company Web Sites. Since the company has been used computerized system to handle their work which is called IFS (Industrial Financial System). Cobbler's details, order details and some past details of relevant departments were gathered from the IFS system.

DATA COLLECTION AND ANALISIS

Here, the methods used to gather the relevant data will be discussed. When data are concerned, they were obtained in two basic methods.

There were 92 items that have been ordered from the organization during the period of study. But the organization was failed to meet deadlines of 30 items. That means the organization have been failed to deliver considerable amount of items during that period.

Table 1 shows the major reasons to delay in on time delivery and contribution percentage of each major factor

Table 1: Reasons for Delay in Delivery

Reason Code	Reason	Percentage (%)
A	Production Delay	13.33
B	Cobbler Delay	60.00
C	Material Delay	6.66
D	Poor Quality	20.00

From the facts given in Table 1, cobblers contributed their co-operation for the production of ladies footwear during the period of study and it was more than 85%. But for the delay in on time delivery, the highest percentage value was recorded by the Cobblers, which is 60%. From these details it was proved that the delays in on time delivery were mainly happened due to the cobblers' delay. Since the cobblers' delay was the major reason for failure in delivery, it was decided to collect details of them distributing a questionnaire. Then, ten out of 19 were selected to distribute this questionnaire.

From the answers collected from cobblers, major causes and sub causes that affected to their delay and the ratio that have been

occurred were analyzed and shown in Table 02. From these details it was approved that the major problem that was faced by the cobblers was the insufficient lead time, lack of quality instructions. Finally they have to tackle with both poor material supply and poor supervision equally.

Table 2: Reasons for Cobblers' Delay

Reason	Strength of impact to Delay		
	High (%)	Average (%)	Low (%)
1. Material Supply	40	40	20
2. Sample Availability	0	40	60
3. Quality Instruction	50	30	20
4. Supervision	40	20	40
5. Payments	0	20	80
6. Lead Time	80	20	0

The reasons for other three major causes [as per Table 1] and the ratio of affection to poor on time delivery have listed in Table 3.

Table 3: Major and Sub Causes

Major Cause	Sub Causes	(%)
Poor Quality	Poor Printing	50
	Fitting Mistakes	33.33
	Dust	16.66
	Damages	16.66
Production Delay	Special Orders	25
	Machinery	25
	Breakdown	25
	Power Failure	25
Material Delay	Transport Delay	100

DISCUSSION AND CONCLUSION

The main objective of the research is to investigate the causes with delay in fulfilling customer's orders on time. The analysis was able to find the causes that were centered to the high percentage of cobbler's delay due to the insufficient lead time, Poor quality instructions, Material supply and Poor supervision. Therefore on time delivery can improve if the organization can control the lead time, providing proper quality instructions, supplying materials on time and providing proper supervisions for cobblers.

However, while carrying out this research, the following problems were encountered such as, there are some restrictions in collecting data. Thus item details were considered instead of size wise details. Also, since the cobblers were from various parts of the country, it was difficult to contact and collect data from all

As the conclusion of this study, following comparative analysis can be considered for minimizing cobblers' delay.

- Increase the number of reliable and consistent cobblers. There are some barriers for hiring more cobblers. However, it is difficult to find suitable cobblers such as loyal, efficient and sustainable.
- Increase the capacity of internal production. The objective of hiring cobblers to the organization is to minimize the production cost as well increase the production. Therefore this alternative solution is impossible to implement.
- Improve the capabilities of current cobblers.

As listed under alternative solutions the organization should correctly and closely supervise the production process of cobblers and provide materials on time. So that t they

can improve the quality of the internal and external activities with cobblers up to a standardize process.

Finally this study propose that minimizing the cobblers' delay is most applicable and cost effective and feasible solution in order to solve the problem of delay in fulfilling orders sent by the customers on time.

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