

STUDY OF CAUSES AND REMEDIES OF BULLWHIP EFFECT IN INDUSTRY

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Abstract - Bullwhip impact is a phenomena of increment in variety of interest as one problem of the gracefully in supply chain. Bullwhip impact affects the maintainable development of the ventures. Likewise it might reason for shortcoming of flexibly chain of any industry. In this report the causes & effects of bullwhip effect is determined from Cement Industry. In this report remedies for counter the Bullwhip effect is also given. It can reduce by using ISM technique.

Key Words: Bullwhip Effect, Supply Chain Management, Inventory Management, Variability, ISM

1. INTRODUCTION

The bullwhip impact is one of the most famous and praised ideas in the activities the executives/research field. The term 'bull-whip' was authored to portray the impact by which sluggish buyer request makes enormous swings underway for the providers at the opposite finish of the flexibly chain. This is practically equivalent to the handle of the bullwhip causing an uproarious split at the popper.

The bullwhip impact is now and then alluded to as 'request intensification', 'fluctuation enhancement' or the 'Forrester impact'. This impact becomes critical when the expense from changes underway/requesting exceeds the expense of holding stock. Throughout the long term, proof has recommended that bull-whip costs assume a critical job in certain organizations. Bullwhip expenses can be related with setting up and closing down machines, sitting and extra time in the remaining task at hand, employing and terminating of the workforce, exorbitant upstream stock, trouble in measuring and planning, frameworks anxiety, and helpless provider/client connections, among different results.

2. LITERATURE REVIEW

LIU Hong et al. & WANG et al. Ping the Bullwhip effect is not a newly originated topic but it is an age old phenomenon. In the early 1960s Professor Forrest studied and illustrated the existence of Bullwhip effect by a series of case studies. Professor Sterman of MIT gave his theory on the existence of the Bullwhip effect, in an experiment of "Beer Distribution Game".

Chen et al. Simchi-Levi et al and Shen found that, independent local optimization choices of each manager without global vision, was one of the cause to originate Bullwhip effect. This is one of the most important factor causing Bullwhip effect. Bolton and Katok studied and

analyzed the relationship between the inventory conditions and the inventory or stocks.

Lee et.al (1997) introduced the concept of BWE with an analytical frame. In Lee et.al (1997b), the implications of BWE to managers was elaborated. In an endeavor to key out the substantial grounds of bullwhip effect, this observed phenomenon comprises of two main categories, viz behavioral grounds and operational grounds. The behavioral grounds have chiefly been examined through case studies or tested in laboratory setting. A simulation instrument such as Beer game has been used in laboratory setting for empirical analysis of behavioral grounds. The bullwhip's operational grounds encompass the sixteen main causes, viz. Demand forecasting, order batching, price fluctuation, rationing and shortage gaming

3. CAUSES OF BULLWHIP EFFECT

1. Demand Forecast Updating: Request gauge refreshing is a consequence of the view of chiefs in the chain. Chiefs make a psychological model of the flexibly chain working and the interest designs they watch. This psychological picture impacts their dynamic. At the point when each downstream part submits a request, the upstream part straightens out the interest gauge and afterward puts in a request to the upstream accomplice in the gracefully chain.

2. Order Batching: In a gracefully chain, each flexibly chain part puts orders on an upstream part utilizing some stock renewal instrument. As request exhausts stock, an organization or a flexibly chain element may not structure persistently, however rather will amass stock recharging necessities from its provider. The distributor/retailer doesn't submit a request with the upstream part when he gets data about the exhausting amount of item. He follows his own style of request setting. He may arrange week by week or month to month, rather than requesting oftentimes as required to diminish the expense per request.

3. Price Fluctuation: Wholesalers occasionally have different plans and advancements like discounts and coupons to build client interest for the item. The purchasing behavior of the client during such periods doesn't reflect purchasing needs, however is an occasional condition. This variety in purchasing behavior is a lot higher than the variety in the utilization rate. Advancements can likewise be an impetus for purchasing more than the interest necessities. These advancements bring about some type of value changes, which power the client to purchase more than required or to sit tight at an ideal cost before reordering or purchasing. This yields brief advantages for one part in the flexibly chain, however makes the Bullwhip Effect and expanded costs upstream.

4. REMEDIES OF BULLWHIP EFFECT

1. Reducing Uncertainty – Reducing vulnerability is the significant advance towards diminishing the Bullwhip Effect. Bringing together the interest data can lessen vulnerability generally. This will make the client request and estimated retailer's interest noticeable to all accomplices of the flexibly chain. This decreases estimating mistake. Be that as it may, distinctive purchasing approaches and estimating strategies embraced by various gracefully chain accomplices incites the Bullwhip Effect into the framework.

2. Reducing Variability-Reducing the changeability in the interest can decrease the Bullwhip Effect impressively. Visit variety in item costs brings about a pseudo increment or lessening popular along these lines bringing the variety into the framework. In the event that an item is offered at a steady cost as in EDLP (ordinary low valuing), the Bullwhip Effect can be decreased to an impressive degree.

3. Lead Time Reduction – Lead-time can be separated into request lead-time and data lead-time. Diminishing the two kinds of lead times will decrease a lot of variety in the framework. In measuring, wellbeing stock levels and reorder focuses are an element of lead-time; decrease in lead-time diminishes the variety. Frameworks, for example, cross docking and EDI (Electronic Data Interchange) can decrease both the requesting lead-time and the data lead-time

4. Strategic Partnering and Buying – Strategic joining forces lessens the lead-time by and large. Data partaking in vital collaborating decreases variety in the framework. This can be accomplished by the utilization of an idea called VMI (Vendor Managed Inventory).

5. Advanced Information Technology – Advances in data innovation has made the idea of data readily available conceivable. Online business dispenses with the mediators, for example, the retailer from the framework and gives the retail location request to all the gracefully chain accomplices. Disposal of the mediators, called disintermediation decreases the variety in the framework to a huge degree.

5. CONCLUSIONS

Bullwhip is commonly known phenomenon in any industry. But the presence of this effect can adversely affect the whole industry. The main purpose of this paper is to find out the causes and remedies of that factors which can affect the industry. The factors are taken according importance and effecting tendency. After critically examine the factors are related to each other. Form the research it is clear that updating the demand forecast is major phenomenon beside this batching of order, false order, price fluctuation should also be in consideration to remove the Bullwhip Effect in industry.

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