To Study of Risk Inventory Generation and Control at Future Supply Chain Solution Ltd

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Abstract: *Inventory risk is the potential for a loss due to inventory planning and control failures. I nventory risk is managed with a standard risk management process of identifying, analyzing ,treating and risk that's why the we need to study about the minimization of risk inventory. This research paper is prepared on the overall activities observation of all department of warehouse namely inward, put away, picking, sorter, PTL, outward of Future Supply Chain solution ltd for completion of risk inventory project.During my 3-month project I visited to all department and understand the process of all departments and observe why risk inventory generate and what control measure use to reduce risk inventory generation. For this risk inventory I observed every department and try to find some solution on risk inventory generation. This research aims at to study of risk inventory generation and control. The main objective of this research is study why risk inventory generate and what control measure use to reduce risk inventory generation For this research a interview taken of employee of Future Supply Chain Ltd Nagpur .*

Keywords : *risk inventory, inventory management system,Production-inventory, supply chain, risk management.*

I.   Introduction

Inventory risk is the potential for a loss due to inventory planning and control failures.Inventory risk is managed with a standard risk management process of identifying , analyzing ,treating and risk that's why the we need to study about the minimization of risk inventory.

This research paper is prepared on the overall activities observation of all department of warehouse namely inward, put away, picking, sorter, PTL, outward of Future Supply Chain solution ltd for completion of risk inventory project.

During my 3-month project I visited to all department and understand the process of all departments and observe why risk inventory generate and what control measure use to reduce risk inventory generation.

First weak during induction I understand the process and every department SLA (Service level agreement). Risk inventory generated from every department if department not follow their SLA.FSC have two business season summer – spring, autumn – winter. So as per season future supply chains did rezoning periodically after every six months. I also looked at rezoning project and daily flash the rezoning tracker report and looked at inventory hygiene. In rezoning FSC change shelving and racking zone as per business required lob.

In case of risk inventory generation large no of risk generated to keep watch on overall warehouse risk inventory FSC use aqua software. Risk inventory report (SATARK) daily flash by inventory department from this report every department get to know about total risk inventory generated by every department and from how long it was be generated. Risk inventory is measure issue at FSC though they know Risk inventory generated but they don't have control on it. Risk inventory after so days it become orphan stock as it is not map at location and ultimately business loss.

For this risk inventory I observed every department and try to find some solution on risk inventory generation.

In inward department they have pressure from upper management to unload truck though occupancy of same level is tight so lots of stock come at inward stack on to pallet, GRN done, once GRN done stock on ground for above 48 hrs. then this is risk inventory for inward. There are many reasons for risk inventory generation.

In put away department once GPD (ground pallet destination) done they have to put away at bin or rack before 48 hrs. but because occupancy or other issue they not put away at location this stock so it become risk inventory. After some days stock become orphan and move to Z999 (virtual location).

In PTL department stock they get from picking either excess or short or some time they get mismatch stock from picking team, system error so risk inventory generated.

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In outward department risk inventory generated as they segregate as per store any marry store lane unless they get request from store to send stock they don't send, and stock will be there on ground for long days, sometimes allocation also cancel so risk inventory generate at outward.

This report contains detail of every department risk inventory generation and some suggestions.

II.   Literature Review

This thesis studies inventory control given the risk of major supply chain disruptions,specifically border closures and congestion. We first investigate an inventory system in whichthe probability distributions of order lead times are dependent on the state of an exogenousMarkov process; we will model border disruptions via this exogenous process. We considerstationary, state-dependent base stock policies, which are known to be optimal for the system under study, and develop an expression for the long-run average cost of an arbitrary policyof this form.(Lewis, 2005).

Inventory Management System is software which is helpful for the businesses operate hardware stores, where storeowner keeps the records of sales and purchase. Mismanaged inventory means disappointed customers, too much cash tied up in warehouses and slower sales. This project eliminates the paper work, human faults, manual delay and speed up process. Inventory Management System will have the ability to track sales and available inventory, tells a storeowner when it's time to reorder and how much to purchase.Inventory Management System is a windows application developed for Windows operating systems which focused in the area of Inventory control and generates the various required reports.

(Punam Khobragade*, 2018)

This paper presents a literature review on risk and disruption management in production-inventory and supply chain systems. The review is conducted on the basis of comparing various works published in this research domain, specifically the papers, which considered real-life risk factors, such as imperfect production processes, risk and disruption in production, supply, demand, and transportation, while developing models for production-inventory and supply chain systems. Emphasis is given on the assumptions and the types of problems considered in the published research. We also focus on reviewing the mathematical models and the solution approaches used in solving the models using both hypothetical and real-world problem scenarios. (Sanjoy Kumar Paul, 2016)

Objectives of the study
➢ To understand the process and risk inventory generation reason of all department of FSC.
➢ To minimize risk inventory generation of all department of FSC.

Limitations of the study
1. The time utilized for the study was very limited.
2. Besides that, the detailed study has been conducted taking on future supply chain.
3. The result of the study cannot be generalised to the universe.

III.   Research Methodology

1.1 Research Method
The quantitative research method is used for the present study.

1.2 Data collection
Both the primary and secondary method of data collection are used for the present study. Under the primary data collection method, Questionnaire, observation and in-depth interview methods are used for data collection. The secondary data for the present data includes the online research papers, websites, etc.

1.3 Sampling Framework
 i. **Population Definition:** The population for the research includes employee of Future Supply Chain Limited Nagpur
ii. **Sample Size:** Keeping into consideration the limitation of time, the researcher has taken as per the requirements of data.
iii. **Sampling technique:** By keeping in view the limitations of time, resources,population researcher has decided to apply convenience sampling technique for the purpose of collecting experimental material.

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1.4 Questionnaire Design
The questionnaire is carefully designed to meet the requirements of the research. The questions are taken on factors affecting towards risk inventory system the research more. The questions are self structured to cover the diversity of research problems.The questionnaire also consists of questions in terms of demography.

2. Data Analysis and Interpretation
The data analysis and interpretation mainly concerns primary data collected in the form of interview of employee and self-observation

1. IDENTIFY THREATS
The first step in Risk Analysis is to identify the existing and possible threats that you might face. These can come from many different sources. For instance, they could be:

- Human – Illness, death, injury, or other loss of a key individual.
- Operational – Disruption to supplies and operations, loss of access to essential assets, or failures in distribution.
- Reputational – Loss of customer or employee confidence, or damage to market reputation.
- Procedural – Failures of accountability, internal systems, or controls, or from fraud.
- Project – Going over budget, taking too long on key tasks, or experiencing issues with product or service quality.
- Financial – Business failure, stock market fluctuations, interest rate changes, or non-availability of funding.
- Technical – Advances in technology, or from technical failure.
- Natural – Weather, natural disasters, or disease.
- Political – Changes in tax, public opinion, government policy, or foreign influence.
- Structural – Dangerous chemicals, poor lighting, falling boxes, or any situation where staff, products, or technology can be harmed.

You can use a number of different approaches to carry out a thorough analysis:

- Run through a list such as the one above to see if any of these threats are relevant.
- Think about the systems, processes, or structures that you use, and analyze risks to any part of these. What vulnerabilities can you spot within them?
- Ask others who might have different perspectives. If you're leading a team, ask for input from your people, and consult others in your organization, or those who have run similar projects.

Tools such as **SWOT Analysis** and **Failure Mode and Effects Analysis** can also help you uncover threats, while **Scenario Analysis** helps you explore possible future threats.

2. ESTIMATE RISK
Once you've identified the threats you're facing, you need to calculate out both the likelihood of these threats being realized, and their possible impact.
One way of doing this is to make your best estimate of the probability of the event occurring, and then to multiply this by the amount it will cost you to set things right if it happens. This gives you a value for the risk:

Risk Value = Probability of Event x Cost of Event
As a simple example, imagine that you've identified a risk that your rent may increase substantially.
You think that there's an 80 percent chance of this happening within the next year, because your landlord has recently increased rents for other businesses. If this happens, it will cost your business an extra $500,000 over the next year.
So the risk value of the rent increase is:
0.80 (Probability of Event) x $500,000 (Cost of Event) = $400,000 (Risk Value)
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IV. Conclusions

After understanding process of every department and I have analyze risk inventory generation reason and try to give some suggestion to control risk inventory to all department so that every department can reduce some percentage of risk inventory.And I also audit put away department to control risk inventory and council with worker toresolve their mistake, I suggest them to do assisted put away only so that no need to do separate zone hygiene to inventory team.

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Recommendations

Managing risks across supply chain activities and entities became significant requirement for the organizations to compete regionally and globally. One of those entities is the warehouse that provide the chain with value-added through availability of goods at right time and right place. This study reveals the risks associated with warehousing in different industrial sectors in order to propose an efficient and effective response to eliminate and mitigation their impact on the chain performance. In addition to, the study provide the practitioners with proactive actions to eliminate the probability of risks and mitigates their impacts. Eight case studies were used to assess the risks associated with warehouse in real–life context. The findings shows risks vary from one product to another according to the nature of the product itself. Whereas, it is clear that damage of goods, accidents and fire are common significant across the industrial sectors. Therefore, the researchers recommended the following proactive actions in order to eliminate and mitigate the impact of those risks:

➢ The warehouse manager shall establish, implement and maintain a procedure to handle the goods inside the warehouses effectively and efficiently to eliminate the probability of risks.
➢ The warehouse manager shall periodically review and audit the environmental conditions of the warehouses to eliminate the probability of fire and goods damage.
➢ The warehouse manager shall periodically review and audit the environmental conditions of the warehouses to eliminate the probability of fire and goods damage.
➢ The warehouse manager shall equip the warehouse with security devices.
➢ The warehouse manager shall equip the warehouse with effective firefighting system and team in addition to creating insurance contract.

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