

# INVENTORY MANAGEMENT IN THAI SUPERMARKET

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## ABSTRACT

Objectives of this research was 1) study inventory management in Thai supermarket 2) guideline the reduce cost in Thai supermarket. The methodology is a mixed method. Interview was used for 17 people in experts, employees, and managers. The questionnaire was distributed to 126 people in Bangkok. The results found that there are 3 main problems of inventory management. They are over stock, expired stock and lack knowledge. The guideline of this research should use lean management and Information Technology for decentralization. These reduced the inventory cost by 2% and increase high performance at 15%.

**Keywords :** Inventory, Supermarket, Lean, Fishbone Diagram

## INTRODUCTION

Managing inventory for maximum efficiency is essential to any business. Warehouse management planning is part of an important work strategy that will help businesses succeed and be able to compete with competitors in business competition. Therefore, having a good inventory management strategy will raise standards in the business process to cope with commercial competition and be able to respond to customer needs. Moreover, it helps build customer confidence and business image, especially the supermarket business. It must adjust its inventory management strategy. Researchers are interested in studying problems and solutions in the currently growing number of supermarkets in Thailand.

## OBJECTIVE

- 1) study inventory management in Thai supermarket
- 2) guideline the reduce cost in Thai supermarket

## LITERATURE REVIEW

Inventory management is considered to be a very important aspect of business administration. Whether it is a business related to products or providing services. The chief operating officer of an agency is responsible for controlling operating costs, which is a very important type of cost. Operations are expenses invested in goods that provide a large amount of inventory, which results in high storage costs. Inventory control is an important aspect that management should pay great attention (Chattrarat, H., Supamit, S. and Shaharudin, M.R. (2020). This is because inventory is the most valuable asset among the current assets of commerce. Problems arising in controlling inventory may be one of the reasons that lead to the failure of the business. In business, if the quantity of products available is insufficient to meet customer demand, it may cause the business to lack credibility and lose customers. But if we have a lot of inventory to prevent there being a shortage of products. If something is out of stock, it need to spend a huge amount of money to hold that inventory. It consists of the inventory price cost and the cost of holding the inventory. Good inventory control requires trying to balance the two objectives of the project so that the inventory is at an optimal level.

The first objective is to study how to manage inventory appropriately for the type of product. The second objective is to create a program to help manage and control inventory quantities. Therefore, good inventory control will bring good results both in terms of increasing efficiency and reducing operating expenses. (Phutthiwat, W. ,2022)

### **2.1 Lean Management**

Inspired by Toyota's production system, Lean Management is a management and work organisation method aimed at improving a company's performance and, more specifically, the quality and profitability of its output. (Phutthiwat, W. ,2022) Lean Management optimises processes by reducing time spent on non-value-added tasks (unnecessary operations or transport, waiting, overproduction, etc.), causes of poor quality and complications. This method is supported by an important managerial dimension to ensure employees work in the best conditions. Ultimately, there are two main objectives: Complete customer satisfaction and the success of each employee.

Formalised by American researchers at the Massachusetts Institute of Technology (MIT), Lean Management is an English expression with a significant key word. "Lean", in effect, means "no frills". This echoes the idea of reducing something to the essential, of removing the unnecessary, which forms the basis of this method (Manutan, 2024)

### **2.2 Fish-bone diagram**

A fishbone diagram is a visualization tool for categorizing the potential causes of a problem. This tool is used in order to identify a problem's root causes. Typically used for root cause analysis, a fishbone diagram combines the practice of brainstorming with a type of mind map template. It should be efficient as a test case technique to determine cause and effect. (Onchim, C.,2020 ) .

A fishbone diagram is useful in product development and troubleshooting processes, typically used to focus a conversation around a problem. After the group has brainstormed all the possible causes for a problem, the facilitator helps the group to rate the potential causes according to their level of importance and diagram a hierarchy. (Chaimunkong, C.,2007).The name comes from the diagram's design, which looks much like a skeleton of a fish. Fishbone diagrams are typically worked right to left, with each large "bone" of the fish branching out to include smaller bones, each containing more detail (Lewis, 2024).

## **METHODOLOGY**

### **3.1 Research tools**

Fishbone diagram or causal diagram

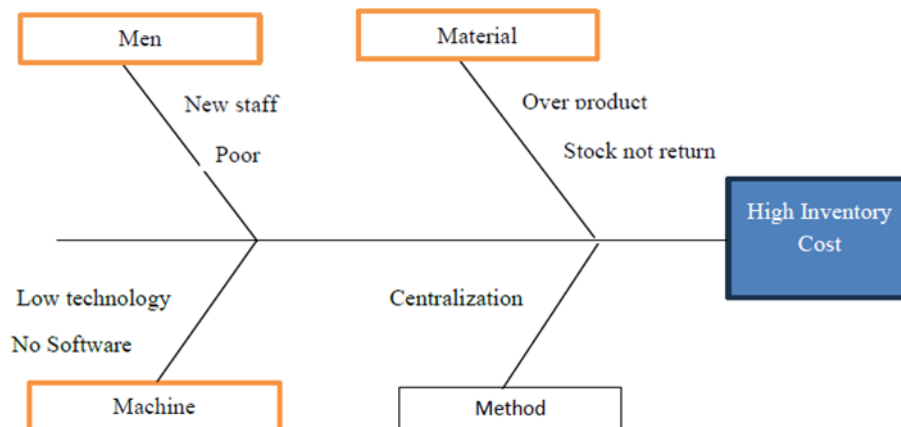
### **3.2 Collection of information**

Primary Data: The researcher obtained field visits to actual work locations and studied warehouse management and collected data by observation and interviews business owners, employees and experts at 17 people. Secondary Data: The research team obtained Review various related research studies.

## **RESULTS**

### **4.1 Results of the preliminary data study**

It was found that the important reasons why employees incorrect time spent storing products. This is the main reason why it takes a long time to search for products.The researcher has shown the cause of the problem that using a diagram showing cause and effect which can be explained as follows.



**Figure 1:** Fish Bone Diagram

The high inventory cost includes 4 Ms. They are men, material, machine and method. It found that the 3 main problems are from technology and staffs. Most supermarkets still use centralization for ordering, but the data is not real-time process. That makes fluctuated demand. Moreover, they are not collaborating with suppliers. When supermarket manager would like to do campaign or promotion, supplier cannot supply products on time. In terms of poor data, forecasting is correct. These is the high inventory cost in supermarket. The researcher applies lean management and decentralization in 2 supermarkets. They support software and equipment. The inventory cost was reduced 2% when they used the new software. The high performance increased 15% after they used multi skill and changed layout in warehouse.

#### 4.2 The knowledge of Inventory Problem in Supermarket

From the questionnaire, the researcher can be summarized in the table 1. These are the results of inventory problem and suggestion.

**Table1:** Inventory Problem in Supermarket

Question	Yes	No	N/A	Remark
1. Do you know the problem in supermarket?	116	10	0	
2. Can you think of a problem that you had lately?	84	32	0	
3. Do you solve the problem in your tasks?	69	50	7	
4. Do these policies and procedures support inventory control?	84	42	0	
5. Are inventory records reconciled to advantage reports on regular basis?	36	40	50	
6. Does the manager use IT software to control inventory?	45	81	0	
7. Is inventory released from storeroom only requisitions?	97	29	0	
8. Do you use centralization for inventory planning?	56	36	34	
9. Do you submit sales and requirements to Head Office?	106	20	0	
10. Have you ever use Lean in the supermarket?	12	94	20	

The respondents were staffs who works in supermarket, Thailand. They are employees in this supermarket. The questionnaire has 10 questions. Most encountered inventory problems and they want to solve the problems. Most of them suggest that they want the new software to improve the correct order and use decentralization in some cases. Lean management is the new guideline to reduce costs and increase the skill of staffs.

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