

# Internal Coordination Management of Operation Department with Inventory Department through Fishbone and PDCA Method (Case Study of PT. X Alam Sutra Tangerang Inventory)

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**Abstract**— The problem that is being faced by PT. X Alam Sutra Tangerang is an accumulation of goods that occurs as a result of ineffective internal coordination that occurs between the operations department and the inventory department which has an impact on goods damage that has resulted in the company experiencing losses and the coordination process that is not in accordance with company standards. Therefore, this study aims to determine how the internal coordination management process between the operations department and the inventory department on the stockpiling problems that can occur at PT. X Alam Sutra Tangerang. This research is a qualitative descriptive study using a case study. The data obtained from field observations, data collection through interviews with sources from the operations and inventory department. The results showed that the quality problem at PT. X Alam Sutra Tangerang can be minimized by using the PDCA approach and the Fish Bone method, by changing the right to order goods authority which is fully held by the inventory department, namely the buyer's part by making purchases according to company needs. In addition, the number of losses due to property damage from lack of ineffective internal coordination has decreased compared to before the evaluation.

**Index Terms**— Internal Coordination, PDCA, Fishbone, Inventory.

## I. INTRODUCTION

The development of retail is currently experiencing changes very rapidly and is influenced by the times, so it requires companies to be able to compete and operate properly. The role of companies in retailing is motivated by various interests (stake holders), for example: investment, business maintenance, cooperation, profits or certain assets. Sometimes the journey of the retail business does not go smoothly as expected, There are often gaps / problems of interest between various parties, including management, managers, or consumers (users). Here the increasing household consumption, the more products received by outlets so that the flow of goods inventory also increases as well.

Therefore, the role of the company in each department is also required to coordinate operational management well.

Operational management is a series of activities that generate value in the form of goods and services by converting inputs into outputs (Jay Heizer and B. Rander, 2009: 4). Thus the core of operational management is an activity related to the production or manufacture of goods and services, or a combination thereof through the transformation process from product resource inputs to desired outputs. With this, the implementation must be done by increasing the productivity and quality of the company's activities through the development of a coordination system so that the company can run effectively between departments. Because success is ultimately determined by good cooperation and this is where coordination between the departments involved plays an important role in developing better employee performance.

In line with the research conducted by Mita Rohayati with the title "Building an Inventory Data Monitoring Information System at Vio Hotel Indonesia". The results obtained The management of inventory data between branches is managed by each, so that the manager is checking inventory in the Engineering section by coming directly to each Vio Hotel Indonesia branch. The processed data is still poorly organized because it still uses a handwritten gate pass form (from borrowing) for outgoing goods borrowed between Vio Cimanuk, Vio Pasteur and Vio Surapati. As for the reason the researchers chose PT. X because PT. X is a retail company that specializes in home appliances and lifestyle products at competitive prices. At the end of 2018, the company managed a network of 180 retail stores in 34 major cities in Indonesia. With a total shop floor area of more than 336,000 square meters, PT. X is one of the largest modern chains of home and lifestyle retail businesses in Indonesia. PT. X is a franchise holder. In addition, PT. X is one of the retail companies that received the Asean Best Public Companies 2019 award "Best Wealth Creator. However, in the operational process, sometimes there are still internal problems that occur in internal coordination regarding inventory problems, even though PT. X already uses a system that makes it easier for its employees to process inventory administration calculations. This is where the main problem experienced by PT. X after development.

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Figure 1. Warehouse Condition

From Figure 1. above, it can be seen that the increase in the amount of inventory that is not well controlled, which is so fast, makes the risk of damage to inventory items greater, then the inconvenience of working will be disrupted, and there is a possible risk of work accidents due to overflow of cardboard. In addition to the accumulation of goods in the warehouse, the accumulation also occurs in the middle of the outlet store road which makes consumers feel uncomfortable when shopping because the shopping area becomes narrow due to the accumulation of display items. The results obtained from the results of a survey conducted in 2018 are where the value of service, convenience stores is below the standard value.

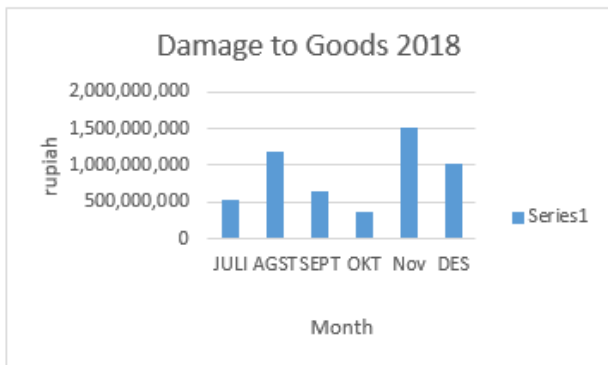


Figure 2. Chart Data on Damage to Goods

Then from the graph above, it can be seen that the amount of damage to goods that occurs due to the accumulation of goods is a problem that must be considered by the company because it results in damage to goods, such as broken, broken, cracked, and others. After various efforts that have been made by PT. X, in maintaining their inventory, still found items that entered the inventory record, but after checking it turned out that the goods were not in the warehouse or in the store. This problem has been going on for a long time and so far the items whose whereabouts are not known are included in the loss recording.

PT. X, as the store manager, revealed that the biggest possibility that caused the loss of its inventory items was the weakness of the internal inventory control system that was implemented.

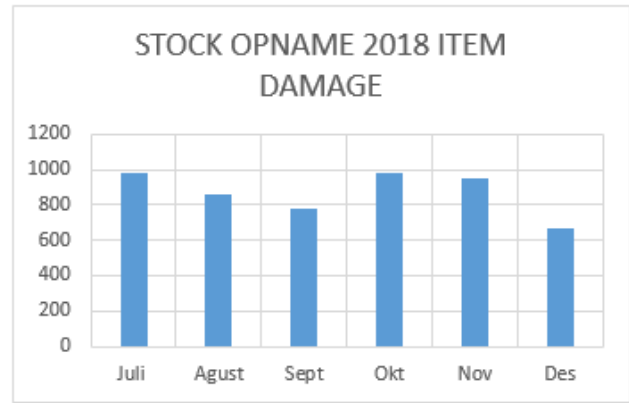


Figure 3. Chart Stock Opname Data

Figure 3. is the result of the Stock Opname data in the field that has fluctuated, therefore PT. X. Based on the description both based on reasons and preliminary studies that have been done by the author. The author is interested in analyzing the company's internal coordination management, in activities related to inventory with the research title "Internal Coordination Management of the Operations Department with the Inventory Department through Fishbone Analysis and PDAC (Case Study of PT. X Alam Sutra Tangerang Inventory).

The identification of the problems of this research is 1. The increase in the amount of inventory so rapidly makes the risk of damage to inventory goods even greater, 2. The pileup of goods becomes messy and the goods are not in accordance with their place, making employees inconvenient at work and the risk of work accidents due to overflowing cardboard boxes of goods, 3. The density of display items on display in the middle of store outlets has an impact on consumer discomfort in shopping, 4. Decreased stock-taking is due to missing items due to piling up inventory.

The research problems are 1. How is the internal coordination management process between the operations department and the inventory department regarding the accumulation of goods that can occur at PT. X Alam Sutra Tangerang? 2. How can management overcome internal coordination problems regarding the accumulation of goods that occur at PT. X Alam Sutra Tangerang?

The purpose of this study is 1. To find out how the internal coordination management process between the operations department and the inventory department on the accumulation of goods that can occur at PT. X Alam Sutra Tangerang, 2. To find out how management overcomes problems of internal coordination regarding the accumulation of goods that occur at PT. X Alam Sutra Tangerang.

## II. LITERATURE REVIEW

### A. Management

According to Ulber Silalahi (2011: 7), management is the process of planning, organizing, managing resources, communicating motivating leaders and controlling the implementation of tasks and using resources to achieve organizational goals effectively and efficiently.

### B. Coordination

According to Ndraha (2003: 290), coordination is defined as the authority to mobilize, harmonize, harmonize, and

balance specific or different activities so that all are directed at certain goals. Meanwhile, functionally, coordination is carried out in order to reduce the negative impact of specialization and to streamline the division of labor.

### C. PDCA

According to Heizer and Render (2005: 257) PDCA is a model for making continuous improvements by planning, doing, checking, and taking action. The PDCA cycle is generally used to test and implement changes to improve the performance of a product, process or a system in the future.

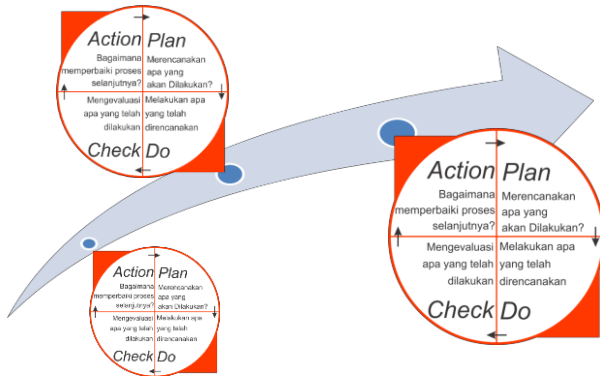


Figure 4. PDCA of PT. X

### D. Analysis Fishbone

Analysis Fishbone is one of the analytical tools that need to be done to analyze the factors that determine quality.

### E. Inventory

According to Assauri (2016: 225), inventory is a stock of an item or resource used in an organization company.

### F. Theoretical Framework

Issues that occur in the internal coordination management between the inventory department and the operations department at PT. X in Alam Sutera regarding the provision of piling up goods is a problem that must be able to find a solution so as not to harm the company, then the issue must be processed using the right method in handling it and should not be careless in catching the problem and then making it a work program. The idea is that the company needs to have a team that has the responsibility to do all things related to coordination management both external and internal. The thing that is wanted to be seen in this research is the internal coordination management between departments involving the inventory team and especially the operations team. Where the task of the inventory team is to monitor the minimum and maximum limits of an item, and analyze every item that comes and goes. In connection with the research, the authors formulated a framework of departmental coordination at PT. X as follows:

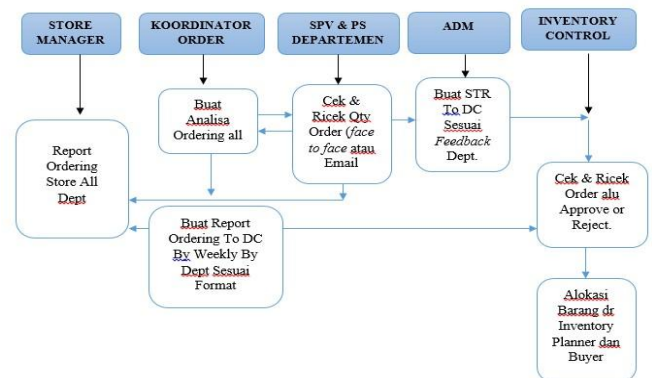


Figure 5. Departmental Internal Coordination Management Framework  
 Inventory of Goods (Case Study PT. X)

## III. METHODOLOGY

This research was conducted by PT. X Alam Sutera Tangerang, which during the research period, namely from July 2018-July 2019. This research uses qualitative research methods which can be interpreted as a research method based on constructive philosophy. The paradigm used by the author is a constructivist paradigm. The paradigm used in this research is the constructivist paradigm. Constructivist paradigm, which is a paradigm which is almost the antithesis of an understanding that places observation and objectivity in discovering a reality or science. Where in the research it is said that the constructivist paradigm is due to the internal coordination process that occurs within PT. X Alam Sutera is able to shape, change and manage their social behavior in making decisions on the needs of target goods needed in sales. The method of collecting data by means of observation carried out in this study is by observing the internal coordination management of the operational department with the fishbone method inventory department and PDCA (PT. X's inventory case study). In addition, researchers made observations and recorded the output data of PT. X Alam Sutera Tangerang. Observations were also carried out to find out which departments are involved which often coordinate as an aspect of internal information for managers seen from the frequency of inventory of goods that are used as research informants, collect documentation and conduct interviews to support the data that has been collected..

## IV. RESULTS AND DISCUSSION

### A. Results

In carrying out the process of coordinating the inventory of goods, a process that is not easy is needed so that the quality of the stored goods is maintained, the company makes operational standards and acceptable product deviation limits to determine whether a product is declared feasible or not for resale. However, in an effort to achieve and maintain market needs, companies are always faced with problems. The problems faced by the company are related to the products stored by the company, which in fact are always different from the operational standards that have been set and there are misdruk (damage) which tends to be high and even exceeds the predetermined tolerance limits for misdruk. Therefore, to overcome this, there are several factors that

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need to be considered by the company so that the products stored are in accordance with the room capacity set by the company.

## B. Penjarangan information department inventory and operations in Inventory PT. X Alam Sutra Tangerang.

Penjarangan information in inventory of PT. X can be viewed in depth with preloaded management to find out the internal coordination of the inventory and operational departments. In this case describes the data in the form of information obtained from interviews to discuss how the informants managing PT. X, which in his comments was later formulated into an inventory of PT. X Alam Sutra Tangerang. The data used in the study are primary data based on interviewees who were successfully interviewed intensively, amounting to four people with the names using the initials TM, TD, TO and TL.

Internal coordination here should always be carried out by the purchasing department to the goods planning department, and to the operational department who knows exactly the conditions in the field. Less maximal in the distribution of goods that has occurred so far, only from the purchasing department and to allocate goods without looking at other things in the field. The store manager in one store is headed by a store manager in terms of ordering goods, on the other hand there is a person in charge of inventory of store goods who has an obligation every week to process data on which items must be ordered and how much quantity is needed in this case. done by the inventory control department. After processing the data, then the data is submitted to the supervisor of each department to see physically whether the goods and quantities are in accordance with the needs to be ordered. Multiple determination coefficient analysis is an analysis used to find out how much influence the EDMS and organizational commitment and job satisfaction together on Employee Performance.

Next, the department supervisor will also physically look at the validity of the order form that will be sent, when it has been approved and it has been agreed that the inventory control store or the ordering department will provide the data to the store manager to ensure that the goods to be ordered have been ordered. as needed, after checking and approved then the store manager will sign the file after it is given to the administration department, the administration department is the party who will help to make order documents besides that there is also a regional inventory person in charge where the order document has been created in a system will be sent to the inventory control area..

Then look at the conditions in the store's needs, whether the goods match the needs and class of the store or not because sometimes a problem often occurs where the goods are not included in the store's group or category but still orders are carried out or goods that should not require ordering because the system can in the booking it is ordered, so often the items ordered do not match the needs of the shop order. The inventory control area division has the responsibility to filter the last time each request for the item, after which the document is sent by system to the warehouse

for ordering goods.

Here, after seeing that the document is checked according to the calculated procedure, then there is one more part that will see the document, namely the inventory planner section. The inventory planner will later in a system see that the item was ordered by store A or store B and validate again the truth of whether the item will be sent or not, then besides the inventory planner, there is also a buyer's section in the inventory department.

The buyer has the authority to make a decision on the quantity of each item to be ordered by the company because the buyer has authorization rights to be able to open order access so they often make allocations for goods that the store needs without having to check the goods again, when the goods have been determined with the quantity already specified. it is agreed, sometimes the purchasing department or the buyer allocates the quantity to be two times, three times even four times the initial order, which in the end the shop's expectations that only orders according to need will come to be doubled, tripled or even quadrupled. that often makes stock items become overloaded.

After being entered into the system within three days, it continues with a data processing and preparation of goods for delivery which is carried out at the central warehouse section, in the Jakarta area delivery to be sent to the Alam Sutera area usually takes three days to the shop. When the goods arrive at the shop it will be received by the operational person, namely by the receiving party, at the time of receiving the goods the receiving section will ask for the document of the goods to make it easier to check the number of goods based on the document then adjusted for the goods that came and are calculated according to the system, Furthermore, when the goods are in accordance with the document, the goods will be received and signed by the receiving. The delivery department will return to the warehouse.

Here the role of the recipient of the goods who will receive the goods must check both the physical goods and the quantity then after it is appropriate, then it is signed again and the documents are submitted to the respective departments according to the goods ordered. So, after the goods are received by the shop, they will usually be submitted to the supervisor of the respective department to ensure the quantity and goods ordered are in accordance with the order, if they are appropriate then distributed to the place for display and storage of the goods already coming, usually done every day before 12 noon from there the flow every week the inventory control area will make a report to the store manager who will control it to see the number of goods that are ordered each week, then which departments place orders, how come the quantity and how much the rupiah will be from there will be evaluated periodically.

From the results of interviews and observations obtained that the inventory of goods at the company PT. X Alam Sutra Tangerang is deliberately stacking goods, this is done to stock goods in order to facilitate the turnover of goods, besides that, when inventory is applied, ordering, receiving inventory and releasing inventory is expected to be accurate and precise to prevent company losses due to loss of inventory. However, on the other hand, there was also a lack of good internal

coordination in making too many decisions in ordering goods so that it had an impact on the number of goods in stock that became overloaded by PT. X, resulting in a large number of damaged goods, overcrowding of the storage warehouse due to piling up of goods in the warehouse, causing some of the goods to be placed in outlets on each side of the road under the shelves of goods, piling up of goods has resulted in consumer inconvenience in walking so that some consumers have a lot who complained about his discomfort in shopping at PT. X.

From the results of interviews in the field can conclude that the inventory of goods at PT. X Alam Sutra Tangerang, the purchasing department only carries out the plan for the allocation of goods without considering the availability of space for placing the goods when they are sold, and space for storing goods. The purchasing department and the planning department of the goods transaction always lack coordination of the operational department regarding the needs and needs that must be prepared, so that it will be very unproductive in the management of these goods.

### C. Barriers to Implementation of coordination management at PT. X Alam Sutra.

In the implementation of a business or activity there are certain obstacles or obstacles even though these obstacles do not really affect PT. X Alam Sutra in running management coordination between departments, there are several obstacles that more or less affect the smooth implementation of inventory management. However, if these obstacles do not get attention, then the problem will get bigger. Therefore it is necessary to think about solutions to overcome the obstacles that occur. It can be said that there are several obstacles in the implementation of the department's internal coordination management that affect the smooth running of sales activities and employee performance at PT.X Alam Sutra. Based on the data and information collected by researchers, there are several obstacles in the implementation of inventory management, namely as follows: should in the process of coordinating ordering goods and supplying goods, they must follow existing procedures according to the needs determined by each store area, however on the other hand, there is still a lack of good coordination between departments, especially the inventory department and the operational department, where the order of goods should be made according to the needs by checking and controlling goods, but on the other hand, the inventory department is on the part of the buyer who has the right of authorization or authority in the use of the access system for ordering actually enters the quantity of goods in more than the goods that have been ordered according to the needs of the goods in each store.

This causes a lot of piling up of goods due to orders for goods that are too overloaded, even though the decision was made to stock up the goods so that there was no empty goods when needed, the buyer should be able to coordinate with other departments, namely operations so that there are no errors in coordination due to messages and items received do not match the original request. Lack of methods in planning as a company certainly has to predict customer interest in the product. Various variables must be

considered in planning, sometimes errors in forecasting this make inventory inefficient, planning must be unified so that future inventory problems do not occur. Good inventory management will have a big impact on the company, therefore planning must be considered carefully.

### D. Discussion

From the research results, it is necessary to identify the problems that occur by looking at the causes and effects of the internal coordination process that occurs at PT. X Alam Sutra. The method used to determine the root of the problem that occurs to the effect obtained in this research is by using a cause and effect diagram is one of the tools used to determine the factors that cause the accumulation and the consequences of the accumulation. Causal diagrams or what are commonly called fishbone diagrams are useful for showing the main factors that are the source of the accumulation which results in defects or damage to goods.

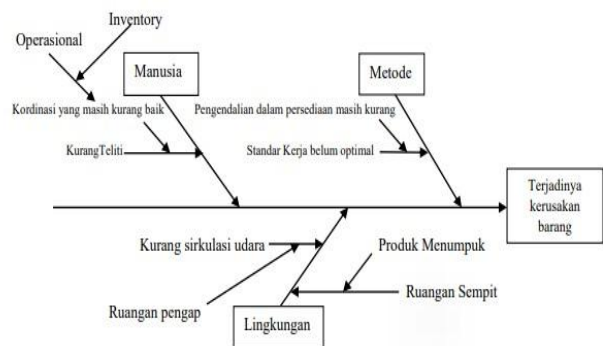


Figure 6. FishBone Internal Coordination and the Causes of Damage to goods

From Figure 6. fishbone, it can be seen that the accumulation of goods occurs due to a lack of good coordination between the inventory department and the operational department and there are still employees in the purchasing department who are not careful in predicting ordering goods that should be done with the needs needed but in the inventory department, namely in the section the buyer adds the quantity of goods to be ordered so that an accumulation of goods occurs which results in damage to the goods.

Table 1. Corrective Action Plan at PT. X Alam Sutra Tangerang

No	Causes of Damage to Goods	Corrective Action Plan
1.	Lack of good coordination management between the inventory department and operations in calculating the integrity of the goods needed by the company.	Carrying out coordination meetings to improve flow in determining the target of ordering goods that are tailored to the duties and responsibilities of each department so that there is no mistake in determining the number of goods.
2.	Work standards have not been maximized so that employees often make mistakes during the inventory process	Designing work standards in controlling inventory and employee quality through appropriate methods.
3.	There are still employees who are less careful and sensitive to storage of goods	Supervising employees while carrying out the process of placing goods, can be in the form of direct supervision or adding CCTV in warehouses or stores, and giving warnings if employees make mistakes.
4.	The large pile of items makes the room cramped and stuffy so that employees are not maximal at work and make consumers uncomfortable in shopping	Adding facilities in the storage room to reduce stuffy room conditions by adding an exhaust in the warehouse and tidy up the items that have piled up in the room arrange the items according to the shelves each one so that it is neatly arranged then empty the display items that are displayed in the middle of the outlet so that the area becomes large and provides consumer comfort in shopping.
5.	Lack of regular checks in checking incoming and outgoing goods.	Check the readiness of the room and the target item needs of each store before ordering goods which results in an accumulation of goods.

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The results of these activities concluded that there were causes that had a major influence on the appearance of damage to goods due to the accumulation, namely coordination between departments that had not been running well and optimally, there were still many who worked not using applicable SOPs (operational standards) so there were many differences in the appointment of officers to tidy up the goods. , the control in the supply of goods is still lacking, employees work less carefully with predictions of ordering goods and are aware of existing goods, products are not neatly and well arranged so that the storage area for these goods becomes narrow and stuffy due to lack of air circulation entering the room, making the products that are stored many are damaged, torn, broken, dented and even broken.

In facing increasingly fierce competition, companies are required to be able to provide high quality products, in accordance with the standards set by the company and consumer demand. Therefore, the company must carry out quality control activities continuously on the products it produces.

Most of the business people who fail to manage the stock of goods or inventory are due to not frequently checking the stock of goods that keep changing. In fact, to manage a business's stock of goods effectively, it means that business people must track how often they sell the product as a whole.

Inappropriate stock management of goods will make it difficult for business people to maintain a budget for the business efficiently. It is true that managing stock inventory is not always easy. Although it may seem easy at first glance, actually achieving valid results requires detailed and careful calculations. One of the consequences of poor stock management is the occurrence of Out-of-Stock (OOS).

The problem of managing stock items will not only have an adverse effect on business profits. But it will also cause major customer dissatisfaction. Based on data, at least 30% of customers feel that an Out-of-Stock product can actually create a painful impression on their shopping experience.

Table2. The Damage Occurring At PT. X Alam Sutra Tangerang

No	Mode Damage	Damage Effect	Cause of Damage	Detection process
1.	Broken	Broken lampposts resulting in a detrimental effect on the company	<ul style="list-style-type: none"> <li>Inadequate coordination in the process of ordering goods so that the inventory of goods is overloaded, resulting in an accumulation of goods</li> <li>Small storage space</li> <li>Employees are not careful in making checks</li> </ul>	Detection is carried out by checking several stages of the ordering process and storing goods with monitoring randomly (sample)
2.	Cracked	Causes breakage in lamps and glassware, causing losses to the company	<ul style="list-style-type: none"> <li>Poor coordination in the process of ordering goods so that the inventory of goods is overloaded, causing an accumulation of goods</li> <li>Narrow storage space</li> <li>Employees are not careful in conducting checks</li> </ul>	Detection is carried out by checking several stages of the ordering process and storing goods with monitoring randomly (sample)
3.	Torn	Make products made of cloth torn which cause losses to the company	<ul style="list-style-type: none"> <li>Inadequate coordination in the process of ordering goods so that the inventory of goods is overloaded, causing an accumulation of goods</li> <li>Narrow storage space</li> <li>Employees are not careful in conducting checks</li> </ul>	Detection is carried out by checking several stages of the ordering and storing process of goods with random monitoring (sample)
4.	Dent	Making products made from iron, stainless, such as cabinets experiencing dented damage that can cause loss to the	<ul style="list-style-type: none"> <li>Poor coordination in the process of ordering goods so that the inventory of goods is overloaded, resulting in an accumulation of goods</li> <li>Narrow storage space</li> <li>Employees are not careful in conducting checks</li> </ul>	Detection is carried out by checking several stages of the ordering and storing process of goods with random monitoring (sample)

Companies need a way of assessing the management system as a whole, in the sense of how the system affects each process and every employee and extends to each order flow of goods to service. Process control is a sign for the improvement of good internal corporate coordination processes, but it depends on the health and vitality of the organization, the company and its systems. The PDCA concept is a guideline for every manager for the improvement process, continuously without stopping but improving to a better state, and is carried out throughout the organization.

The identification of the problem to be solved and the search for its causes and the determination of its corrective action must always be based on facts. This is intended to avoid an element of subjectivity and too fast decision making as well as decisions that are emotional in nature. In addition, to facilitate identification of problems to be solved and as a benchmark for further improvement, the company must establish its own operating standards.

This quality is no longer interpreted as a meaning that is only understood as the fulfillment of a requirement, but is associated as something that can satisfy consumers and advance an organization or company. When an organization or company is built, various stages or processes must be passed, such as planning (planning), implementing or doing (do), controlling (check), and monitoring (action), not escaping from a guard in order to produce optimal output.

The stages in keeping it at the predetermined standard are the most important emphasis in the survival of a management or organization. These stages include planning where a planning procedure is needed, the implementation stage is needed with a guarantee, the next stage of evaluation is needed a control and the last stage is the maintenance and development.

PDCA is very suitable to be used for continuous improvement in the work cycle, eliminating waste in the workplace, and also productivity. In terms of implementing PDCA, the key to whether an activity is carried out or not lies in the authority and responsibility, because this is where the activity planning function will be carried out which is a description of the work and tasks that will be carried out by people who occupy positions in the department.

Authorities and responsibilities need to be recorded in document form to make it easier to identify activities that have been carried out. Of course, the authorities and responsibilities of each department are not the same, each one according to its position, that's why it is necessary to consider properly in formulating it. This means that the powers and responsibilities are not just a collection of all activities that must be carried out but still need to be harmonized or balanced. Do not let this authority and responsibility be too heavy to carry out or cannot be carried out, because it is not in accordance with their function.

#### E. PLAN

Internal coordination, which should link internal departmental parties in the company, should be carried out by the purchasing department and the goods planning department, and involves the operational division to be able to know exactly the conditions that will occur. The first action in the improvement plan at PT. X Alam Sutra Tangerang is collecting sample data in the form of numbers goods available, and the number of damaged goods due to damage to PT. X Alam Sutra Tangerang.

In every implementation, the operational department has actually controlled, but due to lack of response in the purchasing and distribution of goods, the internal evaluation input from each division is not carried out properly which results in plans not in accordance with the interests and needs of each division or department.

Excessive implementation of the distribution of these goods, basically, must be responded to and evaluated for repairs to the number of items, damaged goods and internal coordination that has not been running properly so far. With the hope that the implementation of retail company activities can run smoothly.

Data collection aims to determine several causes that can cause problems. The initial step of data collection was carried out by observing the operational process in receiving goods which consisted of several processes: The process of receiving goods at PT. X Alam Sutra Tangerang consists of several stages, namely the stage of purchasing goods, the stage of receiving goods and the next stage, namely the stage of storing goods.

The initial stage carried out during data collection was related to the problem of accumulating inventory using brainstorming techniques and field observations. Brain storming involves developing a systematic structure of possible ideas based on the creative thinking of a group of people (Rampersad 2001). Brain storming technique is an activity where every member is free to express his opinion.

The theme of brain storming is to determine the factors causing the large stock of goods that have piled up in the warehouses and outlets of PT. X. All the factors resulting

from the brainstorming that have a big or small chance of the accumulation of occurring are recorded as causal points which will be made in the form of a cause and effect diagram. This was done as a first step because the required data was not yet fully available.

#### F. DO

After planning improvements to internal coordination between inventory departments and operations that occur at PT. X Alam Sutra Tangerang, then the next step is to carry out and implement the proposed improvements to the checking process until the receipt of goods at PT. X Alam Sutra Tangerang. Corrective action taken by PT. X Alam Sutra Tangerang, among others, provides by checking first what items are needed, what is the quantity and checking whether the goods match the required store category or not, in the process, the purchasing department of the Bataui buyer who is under the inventory department should coordinate in advance with the inventory control section of each area and operational department to increase the quantity of goods so that the goods ordered and received are in accordance with the needs required by each store so that the ordered goods do not become overloaded and become pile up in the warehouse and stores although the buyer has strong authority in authority over the addition of goods to the system, it still has to go through the approval and coordination in a feed back manner to the parties concerned, especially the operational department as the recipient of the goods. In predicting orders for goods that aim to stock goods so that a vacancy does not occur, it is not wrong, but if the stock of goods is abundant and piling up, it will have an impact on the occurrence of damage to goods. Guidance and direction regarding inventory control is needed so that there is no accumulation that can harm the company. In addition to direction and guidance, he also needs periodic evaluation to see how many quantities of goods are needed each week, which departments place orders and how many rupiahs are issued every week or month. In addition, the addition of CCTV, checking, selecting, and arranging goods and adding exhaust are also things that must be done so that the placement of goods in warehouses and in stores can be maintained properly because for proper management to minimize damage, order prediction errors, or loss of items stored.

Managing stock items effectively should be done with a structured mechanism as well as an effective application. You can choose to use accounting software that can accommodate all your inventory control needs. Whether from projections, inventory management, calculating COGS, to stock control in the form of reports and analysis charts. The use of special software for stock management of your business goods will provide many benefits. Among them are as follows: Can detect and display prices automatically using barcodes, can reduce stock automatically, every time an item is sold, a sales report will be generated automatically without the need to recapitulate manually, purchase reports to each supplier can be generated automatically

#### G. Check

After taking some corrective actions at the DO stage, the next step is to re-examine whether these corrective actions can reduce the amount of product inventory at PT. X Alam

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(Case Study of PT. X Alam Sutra Tangerang Inventory)**

Sutra Tangerang. Every operational implementation has actually been controlled, but due to the lack of response from the department of purchase and the department of distribution of goods, the evaluation input from each division is not carried out properly, resulting in plans according to the interests and needs of each division. The implementation of excessive distribution basically has to be responded and evaluated by the operational dept for repairs with a lot of goods, damaged goods.

**H. ACT**

After several corrective actions were taken in the process of supplying goods in July - December 2018 and checking again on the results of the repairs during the period January - June 2019, it can be seen that the problems with the supply of goods resulted in damage that occurred at PT. X Alam Sutra has been minimized. The next step that must be done is maintain the results of control of goods that have been achieved to prevent the recurrence of the same problem and further minimize the level of damage to the next item by setting standards for the company after making repairs. Namely, by placing orders according to the needs of each department store and for the inventory department, especially buyers, do not have full authority in making decisions to determine and predict the order of goods. So that there is a change in the flow of ordering goods where the buyer has no more authority in the decision on the quantity of goods. The following is the flow of the supply of goods at PT. X Alam Sutra after the changes:

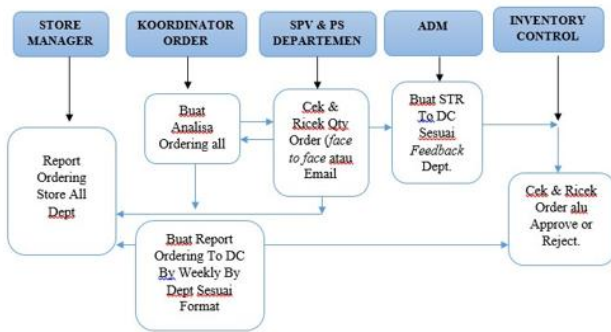


Figure 7. FishBone Internal Coordination and the Causes of Damage to goods

Table 3. The standardization of the process of supplying goods at PT. X

No	Factor	Cause	Normal Standard	Company Standards After Make improvements
1.	Man	Lack of good coordination and inadequacy in working because there are still misses in orders so that many items pile up making it difficult to check goods.	Employees must be disciplined in their work and not neglect work SOPs.	The head of the operations section must conduct more routine surveillance both directly and from the CCTV that has been installed.
2.	Environment	The room is stuffy due to lack of air circulation due to the accumulation of goods, besides that the shop space becomes narrow so that it makes consumers uncomfortable when shopping.	In accordance with the health requirements of the work environment set by the government (Indonesian ministry), the temperature is around 21-30 °C & humidity is around 65%-95%. In addition, the placement of goods must be adjusted to the shelves that have been determined by type goods and specifications	Checking the exhaust that has been installed in the warehouse and adding more ventilation if necessary to maintain room temperature in the warehouse according to applicable standards, then for the placement of goods in the store must be adjusted to each storage rack so that air circulation in the shop is good so that provide convenience to consumers in shopping
3.	Method	Work standards have not been maximized and there is no means or method of controlling the supply of goods.	Company work standards and tools or methods of controlling goods must be able to keep the percentage of product damage rate below 20% per month.	Establish company work standards and clear methods of controlling goods in the inventory process and monitor the application of established work standards and method tools.

In the purchasing section, ordering the minimal according to the target of selling goods for two months, then the goods planning section must allocate goods and recap the store's needs according to the required needs, and in the planogram or item arrangement section, calculate each section of display, and the warehouse in the store to get how much is needed to avoid overloading.

Then the coordination is carried out regularly every week, namely once a week and even once a month as an evaluation of what needs to be improved in controlling goods. Coordination must be carried out across departments so that there is no miss-communication in the coordination process in the company, so it will be easier to find out what problems have occurred, and the solutions to these problems can make the achievement of work results more maximally. In carrying out the receipt of goods and displaying / arranging goods must be neatly arranged, not just stacked, so that it looks good and good so that consumers who come to the store will be comfortable in shopping.

The next step that must be taken is to expand the area for placing the goods so that there is no overlaying and selecting which items can survive for storage processes for quality control that has been achieved to prevent recurrence of the same problem and further minimize the level of further product damage by setting standards for companies in the supply of goods.

In managing inventory at PT. X Alam Sutra Tangerang. Arrangement of goods is very important to maximize this function for the company. Generally a placestore inventory that does not add value to goods, but has an important function for the company. The previous warehouse which was at PT. X Alam Sutra Tangerang has an area 6300 meters with a length of 3000 meters and a width of 2100



meters. Items placed in the warehouse are as follows:

1. Tooling item rack
2. Electronic shelf
3. Racks of furniture items
4. The finished goods of PT. X
5. Automotive goods
6. Semi-finished goods in the form of modules, and
7. The remaining goods.

## V. CONCLUSIONS

Based on the results of the discussion in the previous chapter, it can be concluded as follows:

1. Tidy up the goods and immediately move the items that have piled up in the outlet area to the warehouse so that the outlet area does not feel cramped and consumers are comfortable shopping.
2. Checking goods more frequently at critical stages that cause a lot of damaged products to occur to minimize the occurrence of further damage.
3. Improve management coordination between departments in accordance with the agreed duties and authorities so that control activities of the supply of goods can be monitored and can be done quickly and precisely so that damage to goods at PT. X can be minimized again.

Based on the conclusions above, the author tries to convey some suggestions for further research.

1. Preferably, PT. X assigns duties and authority to each employee by focusing more on SOPs to make it easier to take responsibility for inventory.
2. In order for management not to experience a miss communication on inventory issues like in previous years, based on the results of the study it is known that the planning and purchasing department must coordinate with the operational department.
3. For the next researcher, the writer realizes that this research has its limitations, it is suggested for future researchers who want to examine the variables contained in this study, namely the management of internal coordination of operational departments with the fishbone method and PDCA to be able to develop this research or by increasing the amount of data, adding variables and others so that more references can be used in conducting further research.

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