

The Issues in Order Picking and Packaging in a Leading Pharmaceutical Company in Malaysia

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Abstract — Picking and packing is the one of the main principle action in a distribution centre. Picking and packing action ensures the right product at the right quantity reaches the right customer. As such, this study is purported to recognize the issues related to picking and packing error and to know how to overcome it. The study was conducted using a semi-structured interview to elicit response concerning picking and packing issues and error. Five respondents were selected to participate in the semi-organized interview and these respondents are from different designations in the picking and packing unit in a distribution centre from a leading pharmaceutical company. There are several issues that relates to picking and packing error, such as multiple items/barcodes in one location, wrong carton label, and employees miscommunication. Findings from this study will explicitly provide solution for better picking and packing approaches to provide solution to picking and packing error. The novelty of this study lies on the issues of order picking and packing in a leading pharmaceutical organization in Malaysia through vigorous investigation.

Keywords— Distribution Centre, Logistics, Order Picking and Packing, Malaysia

1. Introduction

Picking is the process toward identifying the right item from the right location and at the right quantity in order to fulfill customers' order requirement. Order picking can be characterized as the path towards customer order fulfillment which eventually gives clear impact on business consumer satisfaction [14]. As such, it is a fundamental system within supply chain which has a quick impact on consumer loyalty [6]. For instance, if

the picking and packing procedures were handled inappropriately, such as picking of wrong item or slow order picking, then this could affect consumer order cycle time and order fulfillment accuracy. As a result, business customer satisfaction and loyalty will be at stake [6], [12].

Therefore, order picking and packing have been recognized as one of essential logistics procedure in determining the performance and productivity of a distribution center [1], [7]. For example, in the aspect of packaging, there are always attempts to reduce package sizes for a reason to increase transportation efficiency, items customization and easy handling [7], [9]. In view of this circumstance, this study aims to understand the issues that the order picking and packing in a leading pharmaceutical distribution center in Malaysia

2. Literature Review

2.1. Issue of picking and packaging

2.1.1. Multiple items or barcodes in one location

The significant issue in any distribution center is restricted space. In distribution center, space utilization and layout are exceptionally important [3]. Effective space usage and stockroom layout can enhance the operational efficiency in the distribution center [4]. As a result, distribution center could bring positive business and competitive outcome to the overall industry [13]. Unfortunately, due to lack of space, multiple items are stored or placed on one particular location. Although it is possible to set different items

within the same bin rack location this is strongly not recommended for a smart inventory management [20] as it would be easily possible to pick an item of the wrong status, such as selecting an expired item instead of an available item [14].

2.1.2. Stockroom Label

Stockroom labels are critical for effective stock administration and efficient picking procedures. Unfortunately, when wrong labelling happens then wrong containers marking is inevitable [9], [15]. For instance, an orange container has a SKU of ABC100123 while a blue container has a SKU of ABC100223. The two containers are bundled 50 units for every in one bed. However, when the picker picks the items, they assume the items in that one location is the same. When they commit label they marginally influence error by accept one location to have same items. This can be issue to the pickers to perceive and to pick the correct items in stockroom area; thusly it is exceptionally significance to affirm that the stock is mark in the correct way.

Distribution center marking framework is the nearly to keep away from a mix-up in picking process and to guarantee the items isn't hard to be overseen and known amid the conveyance procedure [10]. Exactly when an item is placed in a specific location, it should have a mark immovably appended to it. While amid picking forms and there is some items are not marked in effectively a picker ought to never take a items since it is can issue wrong pick items and a does not have any label, it must be relabeled legitimately and expelled from stock [14], [17].

2.1.3. Employees competency

Distribution center issue can emerge because workers do not get enough training, miscommunication and workaholic behavior hours. Workaholic behavior hours is making employees exhausted, worried and worn because of overwhelming working and extend periods of time spent at work environment [16]. The workers can't focus on the picking and packing task and eventually they may pick wrong items, incorrectly amount, etc. The business need to affirm that the workers have enough information and capacity of picking procedure to do the picking and packing procedure effortlessly. As demonstrated by [10] lack of worker capacity and information spells inconvenience for any organization since it negatively impacts the organization in inside and remotely.

Miscommunication between pickers could bring into pressure and strife. If representatives in the group miscommunication between one another it may not

clear what jobs and duties every picker must accept. This is claiming the representative originates from various foundation, dialect and area in the end meet in same work environment a few errands may prompt disappointment since they don't comprehend the guidance that have been give [10].

2.2. Effects of Picking and Packing Error

One picking blunder will influence the client's discernment for the whole request. That is the reason it is critical to enhance the picking and packing process before it affects the client. When customers get wrong items, it will influence the fulfillment of the clients and eventually may loss current business customers and in some cases, give negative perception to potential clients [8]. Next is additional conveyance, there are more dispatching expenses than the expense of the arrival subsequently, it is in like manner expecting to consider about the expense of speeding up the correct request. Organization need to deal with the additional transportation cost to send the items to clients and as such organization will spend more to make one amendment for picked wrong items [19]. To get orders conveyed faster, picking and packing must be completed must quicker and with no error.

3. Methodology

This study employs interview as a method to gather information by utilizing purposive sampling. The purposive sampling techniques was preferred because the sampling is limited to specialized individuals who can give the accurate information to meet the objective of this study. In this study, an in-depth interview technique was utilized as the main instrument of primary data collection. Table 1 and Table 2 depicts the characteristics of distribution center and order picking technology/focus.

Table 1. Characteristics of Distribution Centre

Characteristics	Descriptive
Years of Inception	2000
Main Product	Pharmaceutical
Number of Employees	1200
Location	Klang Valley

Table 2. Technology in Distribution Centre

Processes	Technology Descriptive
Order Picking	Automated Order Picking System
Order Processing	Order Filling System
Inventory Tracking and Monitoring	Radio Frequency Identification System
Inventory Security	Distribution center Control System
Inventory Management	Distribution center Management System

Table 3. Respondents Profile

Respondents	Position	Years of Experience
1	Senior Executive	7
2	Executive	3
3	Team Leader	5
4	Line Picker	3
5	Order Fulfil Manager	3

From Table 3, the respondents consist of three (3) male and two (2) female employees of pharmaceutical distribution center. They represented employees from multiple position, such as Senior Executive Distribution center, Executive Distribution center, line picker, Order Fulfil Manager and Team leader. All of them had sound knowledge and experience working at picking and packing area. The respondents were the specialist pickers and packers with vast responsibility dealing with issues related to picking and packaging activities.

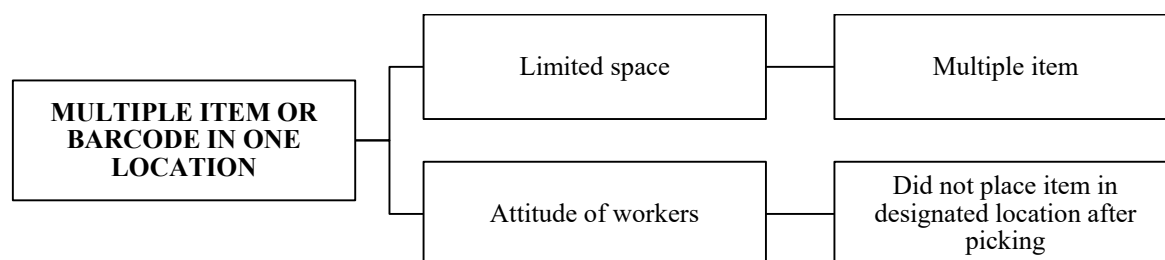
4. Findings and Results

4.1. Picking and packing issues

4.1.1. Multiple items or barcodes in one location

Based on the interview, all five respondents stated that due to insufficient space areas in the distribution they set four to six items in same location. At a similar point if the amount of items is fewer the picker ordinarily will change the items to elsewhere that required little space so the items in one area will blend with other items / items. Senior executive distribution centre expressed that picker picks wrong item considering one area have numerous standardized identifications. Although the picker examines right standardized tag, yet toward the end they pick the wrong items because they have four scanner tags in same area.

After filtering, the picker does not make second checking with the expectation that they picked the right item based on the RFID scanner and pick list. Subsequently, in a different container that has diverse standardized identification to spare the space anyway toward the end amid the second pick process they neglected that the containers contain same item yet extraordinary scanner tag and toward the end they pick the wrong items.

**Figure 1.** Multiple items or barcodes in one location

4.1.2. Wrong carton label

Based on interview, all respondent concurs that wrong carton labelling was the root cause for picking and packing error. Executive distribution center 1 (respondent 1) and Team leader (respondent 3) expressed that wrong cartons label because in principal, which is the items in the cartons did not match with the cartons mark. For example, the detail outside the box is orange but inside is apple and Team leader additionally expressed that occasionally when principal require wanted to save the pallets they combine the balance of carton to other pallets that contain dissimilar item, same runs with carton also.

Other than that, wrong carton labels mainly due to

negligence of worker in receiving areas who are in charges for cartons label. Order fulfil manager agree that wrong carton label originates from receiving area. It is the obligation to make cartons mark accurately by personnel in receiving area. Team leader likewise said receiving area will get the items from principal and they need to do inspection before they do cartons labelling, but they make inspection haphazardly. Executive distribution center 2 expressed that because of lack of time they do assessment randomly in one pallet and expect the others are perfectly correct. To clarify it is claiming lack of time to do inspection, so they be conceivable to have wrong carton mark and picking blunder.

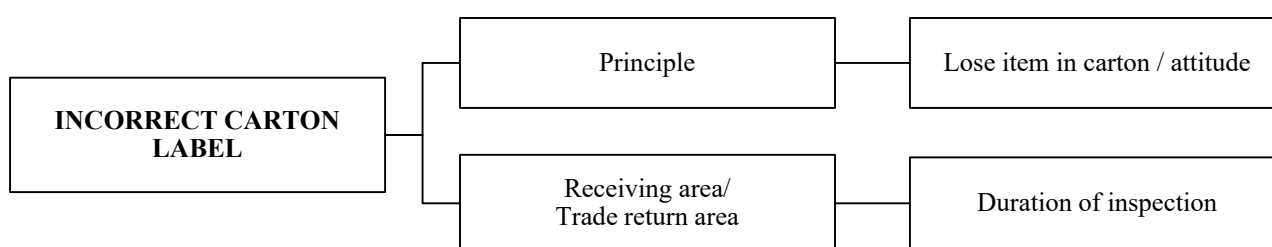


Figure 2. Incorrect carton label

4.1.3. Employees

Lastly, issues related to employees (pickers and packers) performance. All respondent expressed that they are very tired, hence could not focus diligently in their work. This is due to their long working hours to complete the order from clients. They do work at late night to guarantee to complete the order from clients. Order fulfilment manager expressed that they have appropriate job card for pickers however when the order from client increases or modified to rectify the picking mistake, then they have to remain and complete until finish.

Insufficient training could have adverse effect on the performance of employees [2]. Distribution center executive 1 stated that they allocate sufficient training hour for new employees but as they high order from clients, they had to shorten the ideal opportunity for

training. Distribution center executive 2 mentioned current training need further assessment for improvement and perhaps they require additionally training to obtain a better outcome. Line picker expressed that motivation and enough training is imperative to employees' to abstain from doing blunder. Miscommunication among the pickers and packers could also affect the picking and packing result [5], [11]. All respondent expressed that occasionally pickers have misconception on the task given. For example, when manager explains the policies, practices and standard of procedures (SOP) of picking and packing only a few pickers could comprehend. This could be because the pickers, whom originate from different nation with distinctive dialect, do not have the ability to understand local or English language. This resulted to misconception took place and lead to numerous picking and packing error.

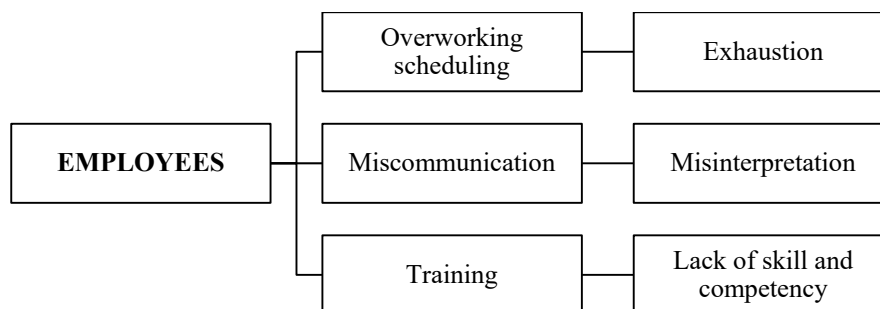


Figure 3. Employees

4.2. Implication of picking and packing error

In view of Figure 4, it demonstrates the implication of picking and packing mistake. During interview, respondents highlighted the significant implication due the picking and packing error. Both distribution centre executive concurred that picking and packing mistakes positively correlates with customer complaint, transportation costs and rework activities. Subsequently, re-send the order to client, other cost

related to complete the order fulfilment cycle and exhausting working hours of employees to re-process the client order. Since in the first part of the day they are exceptionally occupied to fulfil each day order, and they should extra time until during the evening to reprocess for wrong picking order to ensure they can resend the items rapidly. Order fulfilment manager expressed that in the event that they get high rejection or returns from clients due picking and packing error, the effect is picker and packer need to work again for one orders. Subsequently, they need extra time until late night to meet demanding customer requirement.

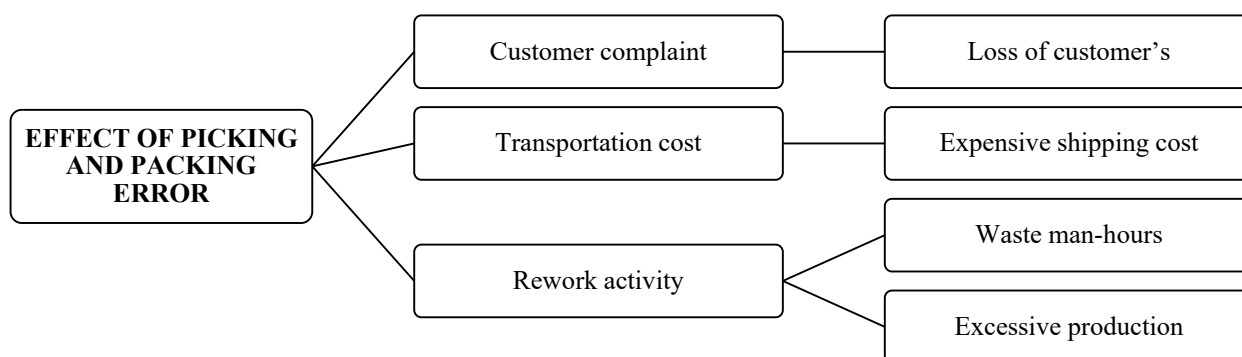


Figure 4. Effect of picking and packing error

4.3. Solution to reduce picking and packing error

Based on Figure 5, it outlines the solution to reduce picking and packing error. During interview all respondent expressed that the repercussion of frequent picking and packing such as employee suspension from duty until investigation is completed or will be change to other division in which we will ask to carry out another responsibility. Penalty is exceptionally viable because the employees are apprehensive. From Asian viewpoint, financial penalty is a vital measure to

curb picking and packing error and to limit further blunders.

A part from the above measures, the organization should also be proactive in utilizing new system and technology that will assistance pickers and packers in their processes. Technology and system for instance RF (radio frequency) scanner, robotics picking and packing solution, augmented reality, pharmaceutical packing system and other gear could help in making this procedure more mistake proof [18], [21]. Furthermore, to limit mistake during picking and

packing, Distribution center Management System (WMS) could also help the picker to pick the correct items from compartment area to their tote. Eventually,

reduce the travel time in the picking process and it can stage popular or difficult-to-pick SKUs (stock keeping unit) at or near the packing area [22].

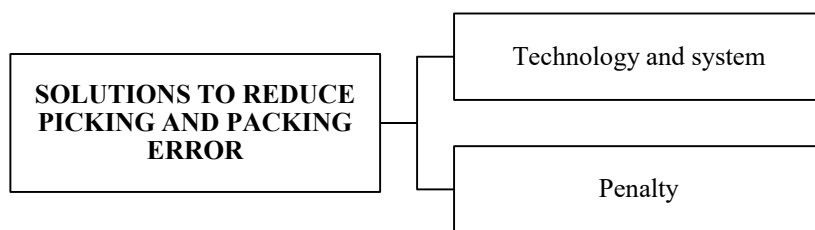


Figure 5. Solution to reduce picking and packing error

5. Discussion

This study identified the issues related to the picking and packing error. The main source of error is the placement of multiple items or barcodes in one location and these are closely related to employees' attitude and limited space. Some pickers or packers do not place the returned items or balance items to the correct location as they prefer to choose the location which convenient to them so that it is closer to them when they want to pick again the same item. The researcher also discovered that employees or people is one of the reasons that affect the picking and packing mistake. The organization have foreign employees from various countries and background. These leads to miscommunication among them. Based on the interview session, they also have overworking scheduling which made the employees overly exhausted.

Distribution centre should improve storage strategies by optimize its layout. How and where the items to be keep will influence the picking efficiency and effectiveness. In capacity management strategy the items will be ordered into areas of interest, but the items will be assigned haphazardly this will ease traffic inside the distribution centre and will accelerate the procedure. Second, a picker should refrain from taking items that does not have right label. If the items does not have the right label, then it should be removed from the location and relabelled appropriately. Finally, for employees the organization should management training on the wellsprings of worker's mistake. For organization to understand the issues, encompassing of error made by the picker and packer is a pivotal point to teach them through course and workshops. Training ought to be carry out by qualified proficient while in long term.

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