

# Customer Safety Perception during a Self-Collection Process at IKEA Warehouse Self-Service



Hairul Rizad Md Sapry, Amirul Ariff Zulfadzalee, Abd Rahman Ahmad

**Abstract:** This study examines the self-service management of IKEA warehouse. IKEA has managed to make its product and service more popular not only on price but by creating a unique shopping experience for the customer. The objective of this research is to investigate the customer perception towards the self-collection process at IKEA warehouse self-service. A quantitative method was adopted targeting the IKEA customer. 196 respondents participated in answering the questionnaire. The result of this study offers a preliminary insight into the safety issue of the warehouse self-service implementation.

**Index Terms:** Warehouse management, Warehouse self-service, Self-collection process, Safety management.

## I. INTRODUCTION

Ikea Johor Bahru is the first IKEA store in Southern Malaysia which also the largest IKEA store in Southeast Asia. The store which offers a wide range of furniture, kitchen appliances, and home accessories is operating based on the self-service concept adopted by IKEA stores around the world. This concept offering shopping freedom to the customer to do whatever they want in the IKEA store, for example, to try the product at the showroom and pick the product by themselves from the warehouse. The implement of this concept evident the commitment of IKEA to listening and recognize their customer needs while enjoying their shopping.

The self-service concept undoubtedly brings a new paradigm to the customer experience which recognizes the customer need during the purchase process. Apart from the benefit realized from the self-service concept, there are safety concerns on the safety of the customer while performing a self-collection process at the IKEA warehouse. In the self-collection process, the customer will locate the location of the product and arrange the handling and delivery to the payment counter by themselves.

This process raises a concern on whether the customer is aware of the safety requirement and risk associated with the self-collection process.

The observation by the researcher during the visit to IKEA revealed the insufficient safety notice inside the warehouse area to be visible to the customer, for example, customer should avoid getting playing on the bottom of rack due to potential fall down an object from the racking system. Other than that, the customer also potentially exposes to injury during lifting the product to trolley if wrongly apply the right technique.

The movement of the customer inside the warehouse is also less monitored by IKEA staff which could potentially increase the probability of injuries or any accident during the customer searching inside the IKEA warehouse. Moreover, IKEA KIOSK system is also not on timely updated resulted customers spend more time inside the warehouse area during the searching process. Other than that, based on the safety attire requirement, the customer must wear a visible and the proper cloth to go inside the warehouse for example like wearing the long sleeve jeans and need to wear the shoes. This is because the warehouse has the rule and regulation on the do & don't that must be followed strictly for those operating inside the warehouse.

Based on the aforementioned issue, this research is warranted to investigate the safety situation faced by the customer while operating inside the IKEA self-service warehouse.

## II. WAREHOUSE SELF-SERVICE

### Management of warehouse self service

Warehouse racking inside the IKEA warehouse is designed high to make it easy for items and products to be stock and restock by using forklift and pallet jacks. Each item has a unique location and item number to make it easy for the customer to find it during the searching process. IKEA has implemented the success self-service because it implements a very effective way to reduce the inventory tactic known as cost-per-touch. The meaning of cost-per-touch is the more people involve or used in the production or movement of goods means that the cost will be transferred to the end-users.

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### Self Service Management

[7] suggested that customers can be categorized into two types of groups that act differently during the purchase process. The first type of customer group is directed to the self-production that is performing the operational activities for the purchase. For example, the customer lists down the product they need and want and makes the decision where to go to the warehouse area to pick the product. On the other hand, the other customer group is collaborating on co-production in which customers participated in the decision concerning the marketing mix.

In IKEA's store, the information of products is available inside the pamphlets that consist of the information of the rack number based on the product and also the layout of the warehouse area for the customer for going inside the warehouse area or showroom. Besides, IKEA will provide pencils for the customers to list the product they want. The pamphlets have space where the customer can write down the product name/article number, price, rack, and section.

Other than that, IKEA also has the layout of the all-area which consists of a showroom, the self-service area inside the warehouse and food court. So it will be easy for the customer to guide and to surround IKEA when a customer just follows the pamphlet that has been given when they came to IKEA. Customers also have a choice to follow the step involve which is just go through inside the IKEA warehouse and pick the product or search first the name and code of product at the showroom before entering the warehouse.

### Self Service Kiosk System

According to [11], kiosks are about the application of IT that provides information provision and also service delivery. Kiosks are computer workstations that are located at public concourses and designed to provide the digital public access in digital information and also e-transaction. The kiosk is often located at homes, offices, stores or shopping mall centers and also in the public environment such as railway stations, airports, and others. Kiosks are innovation in store. Kiosk in-store brings text-based information to life for example with animation, video, and graphics. Customers will get more information about the product such as related products, stock levels, and special offers. In IKEA's store, the self-service kiosk is available at the strategic location to assist the customer in locating the product at the warehouse.

### Basic Safety rules while operating in the warehouse

When it comes to warehouse safety there are basic safety guidelines to help the warehouse safe. The availability of this basic guideline will not risk the customer during the searching process at IKEA's warehouse.

### Ensure Safety Equipment is Used at all Times

In the warehouse operation, it is vital that forklifts or any handling equipment is in good condition and parked at the designated area. The appropriate procedure is to establish to maintain the availability of the equipment should be in places such as a daily checklist, and a preventive maintenance schedule. The safety of this equipment is crucial to minimize workplace injury as it is operating inside the warehouse where the customer is around.

### Eliminate Any Potential Safety Hazards

Ensure all warehousing floors are free of 'slip and trip' hazards. It is important that this safety check is carried out regularly, by all employees, and that the floor is always free of stray cords, liquids, and any other potentially hazardous items. It is also essential that any cracks and pits in the flooring are attended to as these can cause serious injuries to the customer.

### Label Designated Hazardous Zones

Dangerous equipment should be stored away in an area that is clearly labeled and safe walkways should be highlighted through necessary signage. The easiest way to illuminate hazardous zones is by using tape or painting black and white stripes on the floor of the designated area. This enables the customer to be aware of dangerous surroundings and can be useful in avoiding accidents that can cause serious injury.

### Always Use Safe Lifting Techniques

When a load requires transporting, firstly assess what method is the best option for its movement. If lifting is the most suitable method; check the route to ensure no obstacles are in the way and ensure there is enough space for the load at its destination. Safe lifting techniques should always be carried out and the load should not obstruct the view of the lifter. Use all materials handling equipment carefully and follow the proper operating procedures including push rather than pull, whenever possible and lean in the direction that is being traveled. Also, never drive a forklift or use other powered equipment when the customer is around.

### Provide Training and Refresher Courses

Ensure all staff is educated and up to date with knowledge about safe practices within the workplace. This allows for greater adherence to procedures as staff members will be completely aware of the consequences that can emanate from an unsafe workplace. Accidents most commonly occur when corners are cut in an attempt to save time. If staff and management are completely aware of the repercussions that can arise from this fact, procedures may be followed more closely.

### Promote Awareness in your Warehouse

Having a sense of awareness in the workplace is an important safety factor. This can be achieved through continuous communication and awareness of the customer. All staff members should be encouraged to constantly communicate the awareness to the customer around them where they are to ensure the avoidance of accidents.

## III. METHODOLOGY

The research adopts a quantitative method and a set of questionnaire was developed and distributed to the respondents. The target respondents of this study were the IKEA's customer who being approached at the IKEA warehouse area. Of the 384 respondents required to meet the sampling strategy by [12], only 196 respondents completed the survey, resulting in a response rate of 60%.



This rate was regarded as reasonable to move to the next stage of evaluating the data.

IV. RESULTS AND DISCUSSION

Descriptive Analysis

This section discusses descriptive statistics of the data focusing on certain key issues related to respondent profile and finding on the research question.

Respondent profile

The respondent characteristics were categorized into five groups, gender, race, and age, nationally and why they choose IKEA for a destination to purchase equipment. Table 4.1 present the respondent profile. A total of 196 respondents participated in this study. The largest group of respondents identifies themselves as Malay 48.5% followed by Chinese 39.8% and Indian 11.7%. The majority of the respondent indicated that they were male 38.3%, while the remaining 61.7% were female respondents.

In terms of age, most of the respondents are between 18-27 years old that represent 54.6% of the population. It is followed by respondents between 28-37 years olds which represent 25.5%. The remaining age is 38-47 years old and above 48 years which represents 18.4% and 1.5% respectively. This finding indicates a significant contribution to this study since these ages of the group can be suggested as the most active tenant that involves the home decoration which IKEA is a suitable place that offers many varieties of design from assembling furniture to kitchen appliances and accessories.

There are only two categories of nationality identified in this study which Malaysian or a Foreigner. From the finding, 85.2% of the total respondents are Malaysian while only 14.8% of respondents are foreigners which mostly from Singapore that represents the second-largest buyer at IKEA due to different currency values between Malaysia ringgit and Singapore dollar.

In this study, the majority of the respondents revealed that they choose IKEA as a destination for home & decoration term source due to varieties of the products which represent 47.4%. It is followed by quality and designs which scoring 27.0% and 22.4% respectively. The last reason indicated by the respondent was due to the price which is accounted for 3.1% of the total respondent.

Table1. Respondent Profile

Item	Frequency	Percentage (%)
<i>Ethnicity</i>		
Malay	95	48.5
Chinese	78	39.8
Indian	23	11.7
<i>Gender</i>		
Male	75	38.3
Female	121	61.7
<i>Age</i>		
18-27	107	54.6
28-37	50	25.5
38-47	36	18.4
48 and above	3	1.5
<i>Nationality</i>		
Malaysia	167	85.2
Singapore	29	14.8
<i>Why do you choose IKEA for your destination to purchase equipment</i>		
Price	6	3.1
varieties choice	93	47.4
Quality	53	27.0
Design	44	22.4

IKEA Self collection process Implementation

To gain an understanding of the safety implementation at IKEA, respondents were asked to indicate the self-service collection process at the IKEA warehouse. The findings indicate that 54.6% (9.2% strongly disagree, 42.4% Disagree) of the respondents disagree that the IKEA KIOSK system is easy to access and available at the strategies location. It was evident during the answering of this question, where many of the respondents have verbally expressed their disappointment towards the service which translates to this result. However, 42.1% of respondents (28.1% strongly agree, 14.8% agree) satisfied with this aspect. The remaining 2.6% of the respondent opted to be neutral in this question.

The highest number of the respondent around 59.6% (42.3% disagree, 17.3% strongly disagree) felt not satisfied with the features of KIOSK system which perceived as not user-friendly and not easy to access. This is an adverse finding from what the researcher expected which requires further examination because the same application is used for all other IKEA branches worldwide. Only 32.7% (18.4% agree and 14.3% strongly agree) of the respondent felt satisfied with the experience using the IKEA KIOSK system. While the remaining respondent is around 7.7% remain neutral.

Next, most respondents agree that the IKEA staff is available to assist the customer in using the KIOSK system. The finding revealed that 94.4% (64.3% agree, 30.1% strongly agree) of the respondent perceived IKEA staff can help the customer in searching the product at the right location. While the remaining 5.6% neutral selected by the respondent.

Moreover, the majority of the respondent agree around 94.4% (55.1% agree, 39.3% strongly agree) that the IKEA staff is well train on the KIOSK system application and able to guide the customer during the searching process of the item. IKEA staff have the knowledge and experience using the KIOSK system so it will assist the respondent using the KIOSK system. While the remaining 2.6% neutral and 2.0% disagree. While the remaining number of the respondent 1.0% that strongly disagrees. Besides that, the majority of the respondent perceived confident towards the safety implementation at the IKEA warehouse. This perception is translated in the survey result of which 86.8% (48.5% agree and 38.3% strongly agree) of the respondent agree with the safety experience due to clear safety initiatives at the IKEA warehouse that means to protect the customer safety while inside their premises. 9.2% of the respondents perceived neutral and only 4.1% (1.5% strongly disagree, 2.6% disagree) of the respondents did not feel safe while inside the IKEA premises.

Finally, the majority of the respondent which is 89.8% (42.9% agree, 46.9% strongly agree) perceived satisfied about the availability and suitability of handling equipment used at the IKEA warehouse. The use of suitable equipment such as trolley to carry the item is helping the customer implement the safety process while operating at the warehouse.





The remaining respondent which is 10.2% chooses to be neutral.

**Table 2. The Self-Service Warehouse Collection Process at IKEA Warehouse**

Self-service collection process	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Dev.
IKEA KIOSK system easy to access	18 (9.2%)	89 (45.4%)	5 (2.6%)	29 (14.8%)	55 (28.1%)	3.0714	1.44825
the features of IKEA KIOSK system user-friendly	17 (8.7%)	96 (49.0%)	3 (1.5%)	48 (24.5%)	32 (16.3%)	2.9082	1.31724
IKEA staff assist customer using IKEA KIOSK	0 (0.0%)	0 (0.0%)	11 (5.6%)	126 (64.3%)	59 (30.1%)	4.2449	0.54653
IKEA staff well train on KIOSK system	2 (1.0%)	4 (2.0%)	5 (2.6%)	108 (55.1%)	77 (39.3%)	4.2959	0.71194
Safety implementation on IKEA warehouse are very safe	3 (1.5%)	5 (2.6%)	18 (9.2%)	95 (48.5%)	75 (38.3%)	4.1939	0.82472
Suitable handling equipment helping customer to carry item in good condition	0 (0.0%)	0 (0.0%)	20 (10.2%)	84 (42.9%)	92 (46.9%)	4.3673	0.65236

**Safety implementation of warehouse self-service at IKEA**

To gain further insight into the safety implementation of warehouse self-service operation at IKEA, a specific question was developed and included in the distributed questionnaire to extract the customer perception towards the safety implementation at IKEA’s warehouse.

Firstly, the majority of the respondent which is 86.8% (38.3% agree, 48.5% strongly agree) felt satisfied with the availability of the safety notice installed at the IKEA warehouse. The safety notice was found clear to alert the customer from possible injuries. This will make the customer feel more confident while shopping inside the IKEA warehouse without any safety concerns. Remaining of the respondent (13.3%) perceived neutral.

Next, 56.6% (50.0% disagree and 6.6% strongly disagree) of the respondents felt a lack of guidance and monitoring from IKEA staff while searching and picking the items at the warehouse. This finding probably due to the lack of presence of IKEA staff at the warehouse which the researcher believes the monitoring process of customer movement inside the warehouse is closely monitored using the live CCTV camera. Only 39.3% (23% strongly agree and 16.3% agree) experience proper guidance and monitoring while operating at the warehouse. While remaining respondents (4.1%) perceived neutral.

Finally, the majority of the respondent perceived safe while operating at the warehouse. 89.2% ( 52.0% agree, 37.2% strongly agree) of the respondents indicated this confident. While the remaining number of the respondent which is 10.7% choose neutral

**Table 3. Safety Implementation of Warehouse Self-Service at IKEA**

Safety implementation of warehouse self-service at IKEA	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Dev.
Safety notice is clear to guide the customer	0 (0.0%)	0 (0.0%)	26 (13.3%)	75 (38.3%)	95 (48.5%)	4.3520	0.70423
The movement customer in IKEA warehouse is clearly guided by IKEA team	13 (6.6%)	98 (50.0%)	8 (4.1%)	32 (16.3%)	45 (23.0%)	2.9898	1.36246
Customer fell safe while collecting the item in IKEA warehouse area	0 (0.0%)	0 (0.0%)	21 (10.7%)	102 (52.0%)	73 (37.2%)	4.2653	0.64133

**The level of service quality**

In this question, the respondent was asked their experience towards the level of the service quality while searching and picking the items at the IKEA warehouse. The findings are presented in table 4.

**Table 4. The Level of Service Quality**

Self-service collection process	strongly disagree	disagree	Neutral	Agree	Strongly agree	Mean	Std. Dev.
Time taken by IKEA staff to solve the problem very fast	2 (1.0%)	7 (3.6%)	18 (9.2%)	90 (45.9%)	79 (40.3%)	4.2092	0.83027
Quality IKEA item very good and perfect	0 (0.0%)	0 (0.0%)	38 (19%)	88 (44.9%)	70 (35.7%)	4.1633	0.72598
the ability IKEA staff understand customer need is outstanding	0 (0.0%)	0 (0.0%)	19 (9.7%)	102 (52.0%)	75 (38.3%)	4.2857	0.63246
the product easy to assemble and lift	2 (1.0%)	39 (19.9%)	15 (7.7%)	74 (37.8%)	66 (33.7%)	3.8316	1.13102

**V. CONCLUSION**

Questionnaires were developed to understand customer perception towards the safety implementation of self-service collection process at IKEA’s warehouse. The result revealed that the majority of the respondent was not happy with the performance of the IKEA Kiosk system which perceived by the respondent is not located at the strategic location within the IKEA premises. The respondent also indicates dissatisfaction with the feature of the Kiosk which is not user-friendly despite being the same system use for another IKEA branch worldwide. This finding support suggestion by [8] that customer interaction based on the self-service technologies will create the customer experience about the service that will affect their opinion and also the satisfaction toward the system.



However, the majority of the respondent have acknowledged the benefit of kiosk system that helping in reducing searching and picking a time at the warehouse area and satisfied by the support from IKEA staff to assist the customer in using the IKEA Kiosk system as well as the availability and suitable of handling equipment used at the IKEA warehouse.

In terms of the safe implementation of warehouse self-service, most studies according to the [1] & [3] have concluded that the major problem of the issue about the safety inside the IKEA warehouse is about the movement of the customer inside the warehouse IKEA. This in line with the current research finding where the customer felt a lack of guidance and monitoring from IKEA's staff while searching and picking the items at the warehouse. This finding probably due to the lack of presence of IKEA staff at the warehouse which the researcher believes the monitoring process of customer movement inside the warehouse is closely monitored using the live CCTV camera. This supported the study by [4] that the level of customer confidence in safety will be increased with the presence of the IKEA staff. According to [5, 6, 8], the perception of the level of safety will affect the customer experience at the IKEA warehouse. The level of safety must in the acceptance level to gain confidence from the customer.

Other than that, the majority of the respondent satisfied with the availability of the safety notice installed at the IKEA warehouse. The safety notice was found clear to alert the customer from the potential hazard could harm the customer during operating inside the warehouse. The proper safety notice will provide useful information that will protect people and equipment. According to the [2] & [9] the warehouse, safety is associated with the preparedness that focuses on identification, monitoring and also the safeguarding of warehouse against the hazard toward safety. Other, the level of warehouse safety dealing with consequences of specific hazards. The availability of safety notice in the warehouse is important to protect the customer and IKEA staff from the injury. Other, warehouse safety signage not only just provide information on safety but also to motivate and encourage the customer to act with safety in manner.

This study constitutes and offers preliminary findings for a future study on the implementation of warehouse self-service management. According to the [10] & [13], whether IKEA's self-checkout kiosks were difficult to use as a result of user-error, company-error or manufacturer design-error was a topic of consideration for further improvement. Based on the result the majority of the respondent agreed that the IKEA Kiosk system needs further improvement as expressed in the survey result.

Others, according to [1] the major problem of the issue about safety inside the IKEA warehouse is about the movement of the customer inside the IKEA warehouse is exposed to the possibility of injuries or accidents when having nobody to guide. This in line with the research finding where respondents felt a lack of guidance and monitoring from IKEA staff while searching and picking the items at the warehouse.

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## REFERENCES

1. Alexis McWilliams, Customer versus employee perceptions: A review of safety inside the warehouse IKEA, ( 2016).
2. Andrzej Szymonik, Security and safety engineering of logistic systems in supply chains, Project Log, 2016.
3. A. Gunasekaran, H.B. Marri, F. Menci, "Improving the effectiveness of warehousing operations: a case study", *Industrial Management & Data Systems*, Vol. 99, Issue: 8, pp.328-339,1999, <https://doi.org/10.1108/02635579910291975>
4. Bahadır Birim, M. Meral Animal, Ismet Anitsal, Perceived Value, Satisfaction, Brand Equity, and Behavioral Intentions: Scale Development for Sports Spectatorship in US College Football, *Electronic Business Journal* Volume 15, Issue 1, 2016.
5. Ekinci, Yuksel & Riley, Michael, An investigation of self-concept: Actual and ideal self-congruence compared in the context of service evaluation. *Journal of Retailing and Consumer Services*, (2003) 10. 201-214. 10.1016/S0969-6989(02)00008-5.
6. Etgar, M. (2008) A Descriptive Model of the Consumer Co-Production Process. *Journal of the Academy of Marketing Science*, 36, 97-108. <http://link.springer.com/article/10.1007%2Fs11747-007-0061-1> <http://dx.doi.org/10.1007/s11747-007-0061-1>.
7. Marie-Anne Dujarier, The three sociological types of consumer work, *Journal of Consumer Culture*, vol. 16, 2: pp. 555-571. , First Published April 8, 2014.
8. Maria Åkesson Bo Edvardsson Bård Tronvoll , "Customer experience from a self-service system perspective", *Journal of Service Management*, Vol. 25 Iss 5 pp. 677 – 698.Permanent link to this document:<http://dx.doi.org/10.1108/JOSM-01-2013-0016>, 2014
9. Matthew L. Meuter, Amy L. Ostrom, Robert I. Roundtree, Mary Jo Bitner, Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing*: July 2000, Vol. 64, No. 3, pp. 50-64.
10. Natalie Gagliardi, IKEA Safety Notice, 2016, <https://www.retailcustomerexperience.com/articles/ikea-checks-out-of-self-service/>
11. Rowley, J. and Slack, Frances, Kiosks in retailing: the quiet revolution. *International journal of retail and distribution management*, 31 (6), 329-339, 2003.
12. Robert.V. Krejcie & Daryle W. Morgan, Educational and psychological measurement, 1970, 30, 607-610.
13. Smriti Chad (2018)(Warehousing: function, benefit and types of warehousing),2018,[https://www.academia.edu/36530119/Warehousing\\_Management\\_Systems\\_and\\_Sales\\_of\\_Maize\\_in\\_Abia\\_State\\_Nigeria](https://www.academia.edu/36530119/Warehousing_Management_Systems_and_Sales_of_Maize_in_Abia_State_Nigeria).

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