

# Break Time: A SWOT Analysis for an Order Management System for Food Court in Universities and Colleges

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**Abstract---** *Food court in universities and colleges, is often the go-to spot for the students and staffs either for meals, quick bites, or even a place to relax. With the increasing number of staffs and students, the food court has quickly become very congested especially during peak hours such as lunch. Occasionally, long queues can still be found even the food court is not at its peak hours. This is not a good sign as it will cause more customers to be impatient, and more challenges arise to the food court. BreakTime is introduced to improve the situation for food court in universities and colleges. The proposed web-based system will be used by three different users; System Administrator, Food Court Stall's Representative and Customers. This paper identifies strengths, weaknesses, opportunities and threats that could potentially impact the success of BreakTime and analyses common situations happening in the universities' or colleges' food court and to identify value added features for BreakTime.*

**Keywords---** *Break Time, Order Management System, SWOT Analysis.*

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## I. INTRODUCTION

The queue is often long for at the food court in universities and colleges, especially when the volume is high during peak hours such as lunch. Time taken to complete the process for purchasing of meals is extremely long. The high amount of time required frustrates the customers and it drastically reduce customer satisfaction which is a disadvantage to the food court.

In the food court, customers are required to queue up for both selecting their meals and paying. The food court provides a huge common area which allows customers to freely sit to enjoy their meal. But prior to that, customers would need to be there physically at the stall to pick their food, and eventually pay for it. This protocol would be applied at any given time, even peak hours. Payment can be done right after customers picked their meal, or after they consumed their meal. Besides, customers would have to pay right after they picked their meal, in a proper order [1]. However, customers would also take up a lot of time while they are struggling to come up with the choice of meal they desired [2]. Moreover, it will be extremely frustrating if customers are being put in queue for a long time. The action of spending extra amount of time just to get to a long-awaited purpose, which is to purchase the meal will cause boredom. Customer's attention will be forced to be focused on a long process and it is always a negative sign when it comes to exhausted individuals at peak meal hours [3].

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Customers will have the tendency to leave a food court if they are being put on wait for a time beyond their acceptance. This condition still exists even businesses came up with strategies such as provide waiting chairs instead of standing, as they do not critically access the issue of long waiting time for customers [4]. In the midst of a working day, where time is precious for both students and staffs, the spare time given for lunch is extremely precious. It could be used to perform extra improvements on their tasks and responsibilities, or just to give them the time to rest for better performances [5]. Slow services in the food court decrease customer's satisfaction, especially when the time taken to deliver a meal outpaced customers' expectation [6].

## **II. SWOT ANALYSIS AND RELATED WORKS**

### **2.1 SWOT Analysis**

SWOT Analysis has been used to analyse the internal situation of food court in universities and colleges. The analysis will study in terms of its strengths, weaknesses, opportunities and threats [7].

#### **2.1.2. Strengths**

The strength of food court in universities is that it is located exactly in the campus. The food court is often labelled as the main food place for the students and staffs in the campus [8]. The strong signature of the location is a strong point for food court in universities and colleges. Almost all students, staffs, or even potential students that are yet to enroll into a university are aware of the presence of the food court. This allows the food court to easily market itself in the university campus as it's already placed at a strategic location. The fact that it is considered as the main place for students and staffs to have meals decreases a lot of burden from the food court in terms of marketing effort needed such as promoting itself.

A specific amount of people flows, or potential customer is often guaranteed as the universities and colleges are always packed with people such as students, lecturers and researchers. It is an essential point to set up business in the university campus where potential customers require minimal to no effort in order to reach the food court. Moreover, most of customers are there for a long time in a working day to perform routines such as studies, research and lecturing [9]. There definitely are in the demand of meals such as breakfast, lunch and tea break. Furthermore, the food court provides a wide range of choice with affordable price as per instruction from most universities is extremely attractive for the customers. The customers can consume meals for a short time with affordable prices. The customers perceived that it is time-effective for them to consume at the food court as well when it is located together with their work or study place.

In order for the food court in universities and colleges to remain on its strengths, it must strive to consistently provide good services and meals to its customers. Moreover, innovative approach such as utilising technology into its business process also allows them to provide better service delivery.

#### **2.1.2. Weaknesses**

The weakness of food courts in universities and colleges is the food court can only target the customers that they are from the university. For examples, students and academic staffs. This is because it's located exactly in the university campus, therefore, outsiders do not often visit the university or college just for the purpose of purchasing

meal from the food court. Hence, the sales and marketing can only be performed to the population of customer in related to a university. This has limited the revenue generation ability of the food court compare to public food and beverages businesses which is accessible by a wider market.

Moreover, the operating days and hours of food court in universities and colleges are constrained as well. For example, public holidays are often known as the peak period for restaurants in public areas such as shopping mall [10]. However, food court in universities and colleges could not earn from that period and even suffer loss because the university will be deserted when no people are present at the campus. Furthermore, dining packages such as supper set meal or holiday offers are limited for the food court in universities and colleges due to the empty situation in the university due to annual breaks and public holidays.

### **2.1.3. Opportunities**

The increase in e-commerce applications in the current society is a huge opportunity that can be grabbed by food courts in universities and colleges [11]. The current food and beverages industry set a good example by utilising e-commerce to enhance businesses. Food court in universities and colleges can utilise some aspects of e-commerce as well to excel its business. This can be executed easily as its potential customers such as students and staffs are familiar with the simple functions of e-commerce such as placing orders and payments. E-commerce platforms allows the food courts to sell meals to customers without requiring them to be present physically at the food court. E-commerce also provides several examples such as online presence and better service perception from customers which will result in better customer satisfaction.

Emerging technologies can be applied to increase the efficiency of the current traditional business process of food courts in universities and colleges [12]. Popular usage of technology such as order management can be applied to the situation of food court in universities and colleges. For example, orders received from customers through digital platform will be disseminated to respective food stalls in an organised manner. Therefore, it allows the customers to place orders earlier without the need of establishing physical contacts with the food stalls. This can help the food courts to improve its operations where less people are needed to be allocated at the food court so that costs are optimised.

### **2.1.4. Threats**

The threat for the food court is identified mainly from the Porter's Five Forces. For instance, the constant threat of substitutes and high bargaining power buyers could form a challenging situation for food court in universities and colleges.

The threat of substitutes increases due to the strategic business location at areas near to a university. There is guaranteed people flow in that area therefore food and beverages businesses chose to set up over there. The close and accessible distance allows the customers from the universities to have a wider range of choices. Moreover, e-commerce parties such as "Food Panda" and "Dah Makan" that provides food delivery services also threatens the position of food court in universities and colleges.

Due to intense competition where a lot of strong substitutes are available, with respective promotional

campaigns such as price discounts, the bargaining power of main customers like students and staffs increases. Food court in universities and colleges have to come up with innovative solutions in order to tackle this situation. For example, increases customer's satisfaction by implementing an effective order management system which will enforce an easier ordering process for its customers to increase customers' convenience and satisfaction. Moreover, the order management system is able to cut internal operations cost for the food courts therefore they can sell meals with a lower price while still contributing profit to the businesses [13].

Fig. 1 summarizes the SWOT analysis for internal situation of food court in universities and colleges.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>▪ Student and staff are always available in the campus</li> <li>▪ Food court facilities are provided the universities/ colleges management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Less customer during semester break period</li> <li>▪ Customer can easily get bored with the menu selections.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>▪ Emerging technologies can be applied to improve efficiency of the current business process.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Off campus eateries easily accessible within 3km radius.</li> <li>▪ Food delivery service.</li> </ul>

Fig. 1: Summary of the SWOT Analysis for Internal Situation of Food Court in Universities and Colleges

### III. RELATED WORKS

In Osaka University, "meal cards" were distributed primarily to assist researchers back then to perform research on dietary habits and also the financial awareness of students. The 'meal cards' are utilised by student in a way where students can top up prepaid amount into the card while setting a daily spending limit. Students will have to present the card at the universities' cafeteria to purchase food under their daily spending limit. The prepaid amounts are set to JPY800, JPY1000 and JPY1200 which is equivalent to MYR29.46, MYR36.82 and MYR44.19 respectively according to the exchange rate on 1st December 2018 [14]. This relates to the current situation of food court at universities and colleges where the process of physical payment requires time to perform activities such as gather cash bills and wait for changes. However, the 'meal card' concept is still not fully effective for food court in universities and colleges as it still requires students to have physical motion or contact at the cashier of the food court such as passing the card to be scanned and waiting for receipt in order to perform payment upon getting their meal. Moreover, it might create conflicts among the food court and the management of the university on whether which party should be responsible to bear the costs of producing and distributing the cards to the students. Either way, it would incur a huge amount of costs for the entity that will be producing the meal cards.

Some businesses decided to use electronic tablet-based menus at table is introduced to tackle the hectic issues of serving customers as they arrived at restaurants. It shows that it reduced some processing time however it is not

significant as staffs still need to be allocated to serve the customers and some process such as confirming orders and paying have to be performed again [15]. In Smart Menu that utilized microcontroller ATmega128, orders can be directly delivered to the kitchen in attempting to solve the issue of large crowd. Although it did minimize some processing time, however it is not effective as time taken for the food to be prepared, plated, and served to the customers were still high if there was a high number of customers [16]. The fact that placing physical devices such as smart menu or tablet at common universities' food court is not feasible at all. The cost to implement the devices is high and they do not critically tackle the issue of long queues in the food court for universities and colleges. In peak hours such as lunch, the food court will face an immediate increase in the number of customers where the devices will not be effective in preparing and serving the meal, given whether the staffs will serve the meal to the customers or the customers are the one going to fetch the meal. Besides, the fact that possible device malfunction and maintenance will also bring unwanted troubles to food court in colleges and universities.

The adaption of new technology is essential for businesses from the service industry to enhance its non-financial performances and financial performances. Besides, technology is a great tool to cater sudden increase of customer's demand [17]. Customer's satisfaction is a critical success factor for food courts in universities and colleges, by adopting technology such as e-commerce website, current challenges such as long queues and ineffective promotion can be solved as e-commerce websites support purchase processes for customers and it's a great platform that can be accessed without time constraints. Moreover, it is able to save costs for food court in universities and colleges in a long run as eventually less staffs would have to be assigned during peak hours when the problem of huge crowd is mitigated.

#### IV. ANALYSIS

In order to evaluate the order management system for food court in universities and colleges introduced through the BreakTime, a survey was carried out and received 101 respondents among the students and staffs from the universities and colleges listed in Table 1.

Table 1: Number of respondents from universities/ colleges in Malaysia, Hong Kong and Taiwan

<i>University/ College</i>	<i>Num. of Respondent</i>
Asia Pacific University of Technology & Innovation, Malaysia	69
University Tunku Abdul Rahman, Malaysia	12
City University of Hong Kong	3
Universiti Utara Malaysia	3
Universiti Teknologi Petronas, Malaysia	2
Universiti Malaya, Malaysia	2
Brickfields Asia College, Malaysia	2
Nanhua University, Taiwan	1
Sunway College, Malaysia	1
Ungku Umar Polytechnic, Malaysia	1
UCSI University, Malaysia	1
KDU University College, Malaysia	1
Tunku Abdul Rahman College, Malaysia	1
Hong Kong University of Science & Technology	1
Universiti Malaysia Sarawak, Malaysia	1

The questionnaire survey contains 10 questions. The purpose of the survey is to get better understanding on common situations happening in the university or college food court and to identify value added features for BreakTime. Fig. 2– Fig. 11 shows the survey questions (1 – 10) along the findings.

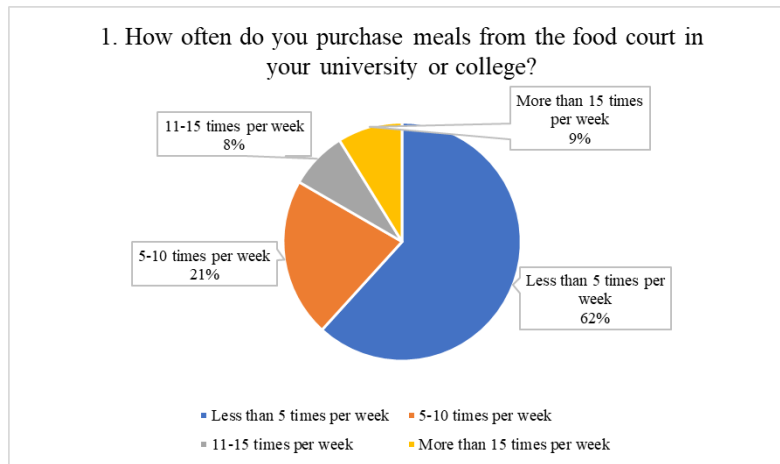


Fig. 2: How often the Respondent Purchase Meals for the Food Court in the University or College

Fig. 2 shows 62% of the customers purchase meals less than 5 times per week from their respective food court. The result of this question is related to the length of staffs' working hours and how often are classes held in the university. The longer the time spent, the higher the opportunity that the customer will visit the food court. However, the main reason that contributes to the low visits to the food court is the strong competition formed by substitutes, which is the wide range of choices available in terms of food premises available in near distance to the university campuses.

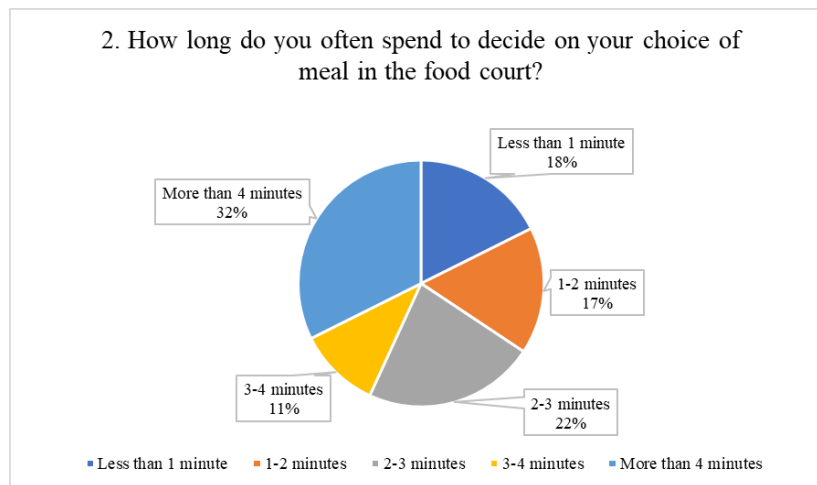


Fig. 3: Time Spent to Decide the Meal at the Food Court

Fig.3 shows 32% respondent says it takes more than 4 minutes to decide their meal choices at the food court. It proves that time taken for customers to decide on meal choices are long therefore it is one of the significant contribution to the crowded situation and long queues in food court. An e-commerce platform such as BreakTime, where it allows the customers to browse through digital menu, will allow the customers to make decisions on which

meal to purchase before they arrive at the food court. The digital menu is often attached with pictures, food descriptions and prices, therefore the customers will have the sufficient information to speed up their decision-making process in terms of the meals.

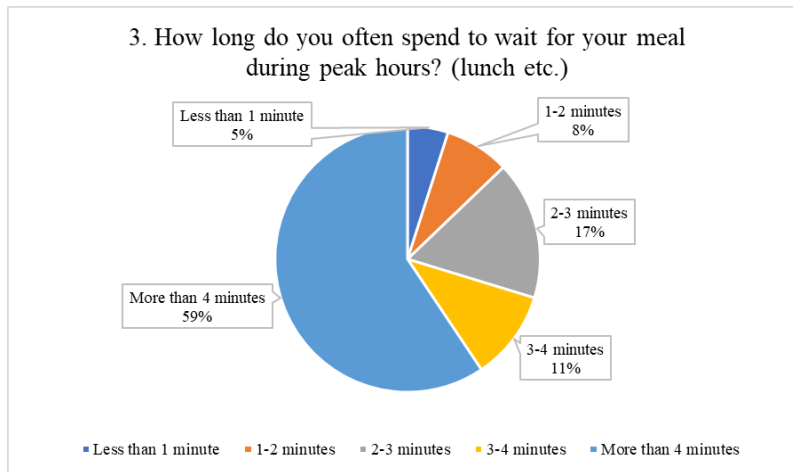


Fig. 4: Time Spent to Wait for the Meal during Peak Hour at the Food Court

Fig. 4 proves that the customers are constantly being put into long queues where 59% of the respondents expressed that the waiting time is often more than 4 minutes. In the environment of universities and colleges where staffs and students have important obligations such as work, lectures, classes, assignments, research and other activities, it is important that their time is optimised throughout the day. During lunch hours, where the customers either aim to rest and enjoy their meal or wish to have a meal quickly to return to work, the time wasted on waiting for food is not effective at all.

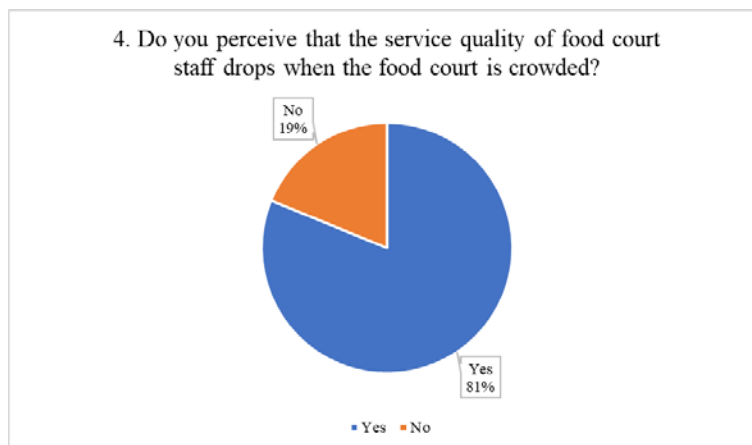


Fig. 5: Service Quality Perception when the Food Court is Crowded

A one-sided response is received from the respondents where 81% from the 101 respondents in Fig.5 claimed that they perceive that the service quality of food court staffs has dropped during crowded situation or long queues in the food court. This may be caused by the challenges faced during crowded situations such as staffs' fatigue due to heavy workload and inefficient business process such as payment and meal preparation. These issues be solved by

the food court as customer satisfaction will drop drastically when they perceive that the food court is not providing good service quality.

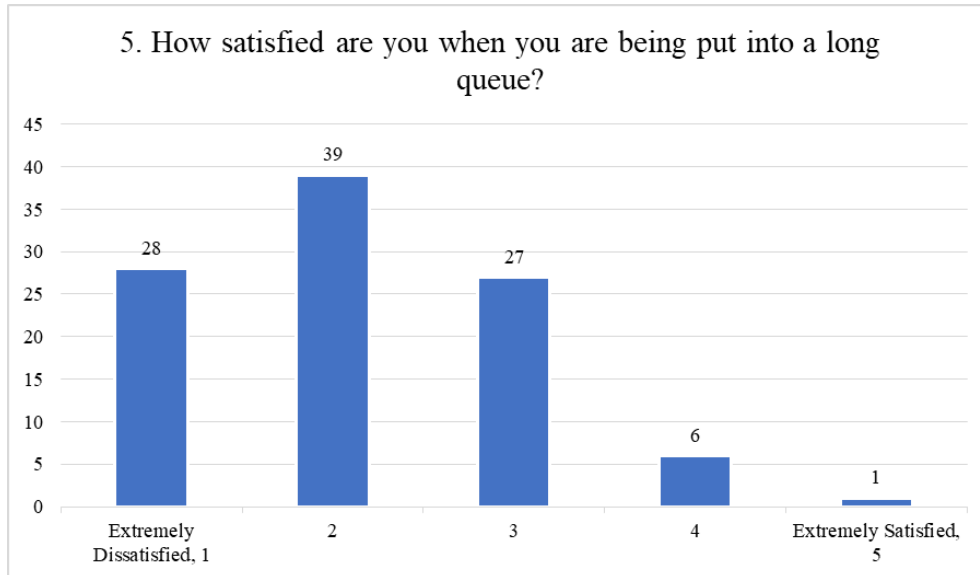


Fig. 6: Feelings during Long Queue at the Food Court

Fig. 6 shows near to 67% of the respondents expressed that they are dissatisfied when they are being put into long queues. It is proven that long queues will decrease customer satisfaction and it will eventually result in loss of customers in terms of the food court. Therefore, the issues of queues must be tackled effectively. For instance, online-ordering system such as BreakTime, will minimise the queues in the food court. Ultimately, it will increase the number of loyal and satisfied customers for food court in universities and colleges.

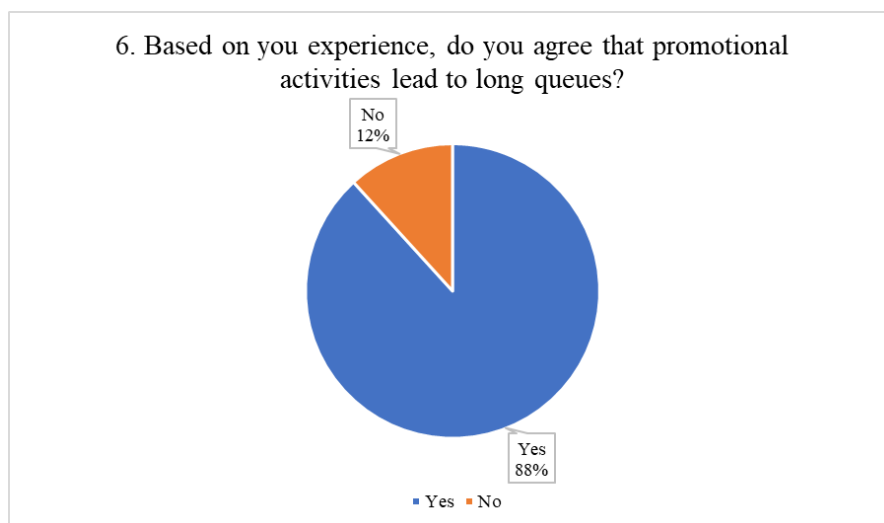


Fig. 7: Promotional Activities Lead to Long Queues at the Food Court

Fig. 7 shows 88% of respondents agree that promotional activities lead to long queues in the food court. This is not a good sign for food court in universities and colleges as it is proven that it will lead to customers' dissatisfaction.



The main goal of promotional activities is to attract more customers and foster customers' satisfaction. Therefore, long queue is a drawback produced from promotional activities. If the queue issue is solved by online ordering services such as BreakTime, it allows the food court to maximise the positive effect of promotional activities.

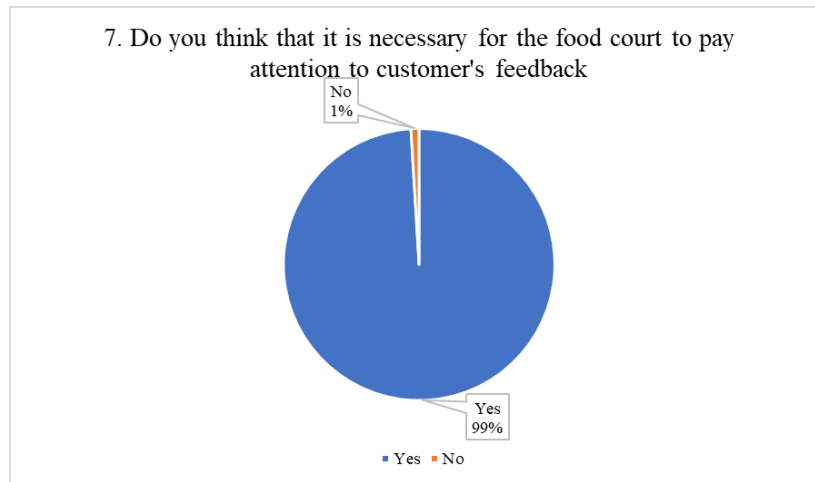


Fig. 8: Important of Customer Feedback

Majority of the respondents in Fig. 8 agreed that food court must pay attention to customer's feedback. Therefore, food court in universities and colleges must eliminate the challenges faced while communicating feedback with customers. For instance, launch an online feedback page to gather feedback from the customers will enforce a more effective and accurate communication process. When customer's feedback are respected, it will reflect to increased customer's loyalty and satisfaction.

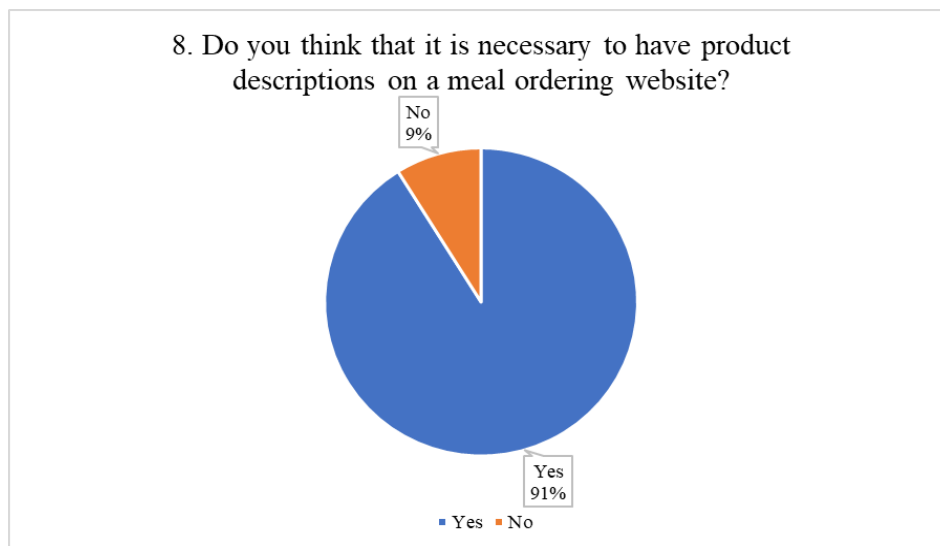


Fig. 9: Product Description in Meal Ordering Website

91% of the respondents in Fig. 9 expressed that it is necessary to include product descriptions into a meal ordering website. Therefore, product descriptions of the meals and drinks have to be included into the development of BreakTime.

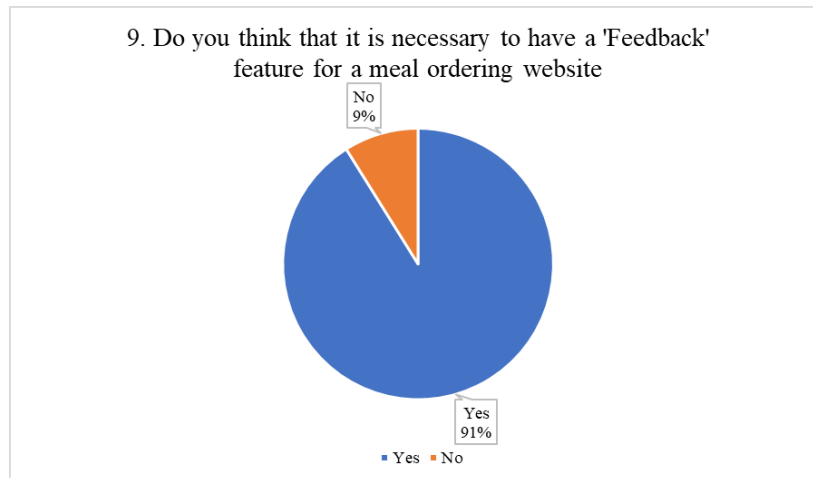


Fig. 10: Feedback Feature in Meal Ordering Website

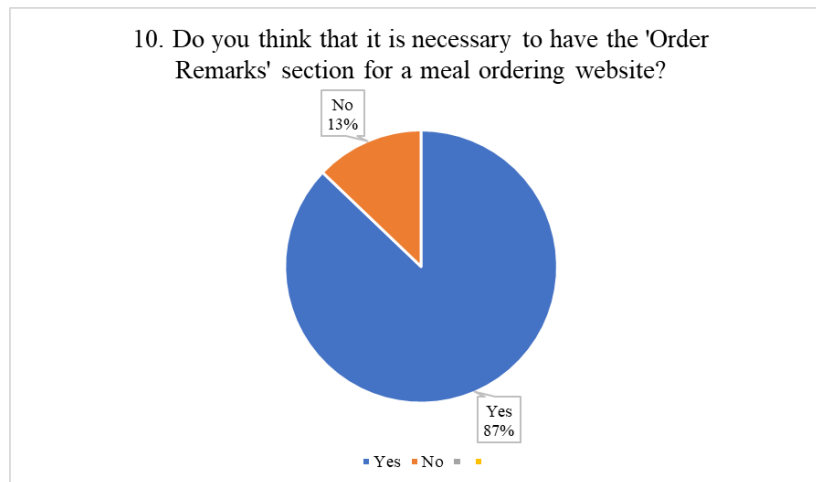


Fig. 11: Order Remarks in Meal Ordering Website

Majority of the respondents expressed that it is important to have “Feedback” and “Order Remarks” section for the meal ordering website. Therefore, both section will be added into the checkout page while customers are purchasing meals from of BreakTime.

## V. DISCUSSION

An order management system can facilitate purchasing process for the food court on website platform accessed by users [21]. Pre-orders are orders placed by customers before the products are prepared to be sold and handover to the customers [22]. The order management system that allows pre-ordering can be implemented for universities and colleges on campus food court as it is the best available solution for the current situation. The main reason that caused the queue is that there are too many people in the food court routine which is to pick their meal, waiting as it's getting prepared, as well as paying. The order management system can solve all picking, preparing and payment factors that caused the queues by allowing customers to place orders even before they visit the food court. The pre-order concept will work effectively in the environment of food court in universities and colleges as the customers

can reach the food court easily. Besides, it is extremely beneficial to the food court in universities campuses as they can grab the opportunity to sell more products online to cater different preferences as they have the time advantage. They also can monitor and analyse the crowd condition better and establish a better schedule for its staffs and it will result in better customer service. Excellent customer service and low waiting times will result in remarkable increase in customers' satisfaction.

## VI. CONCLUSIONS

As proven in the business case analysis, food court in universities and colleges are facing constant threats from various substitutes. By incorporating a speedy purchasing process for the food courts, it may lead them to recapture the market of customers where time is gold for them during lunch hours. Digital platform opens new opportunities for the food court as well. For instance, they may now track the popularity of the product and eventually the stalls can decide on the ingredient stock they need from the suppliers. This may reduce the situation of warehouse or stock crisis. It is important to pay attention to this factor as well when an increase demand is expected after BreakTime is launched. Customer's feedbacks and opinions are always important for the food court to improve themselves. High satisfaction and support from the customers will translate into higher sales, which is extremely great for food court as a business entity.

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