

Uncertain Supply Chain Management

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Food safety management and food quality in hospitality industry during covid-19 pandemic

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ABSTRACT

During the pandemic, many hotels have lost their source of income. The sources of hotel revenue that usually come from the sales of rooms, food and beverages, or other services have suddenly disrupted. This study was conducted to examine whether the food quality and food safety that are implemented in hotels during the social distancing period can increase customer satisfaction and increase revenue from food products made in hotels. This research was conducted by conducting observations and case studies at a hotel in Jakarta. Population and samples were taken from guests who came and bought food products at this hotel since the hotel started operating again in June 2020. This research was conducted in a descriptive quantitative manner. The analysis technique, namely path analysis, was carried out to show whether the factors of food quality, food safety, customer satisfaction have a direct or indirect effect on hotel revenue from food products. The results found that food quality, food safety and customer satisfaction had a direct impact on increasing revenue at the company.

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1. Introduction

The world economy from year to year continues to experience improvement, including in Indonesia. Indonesia itself has experienced industrial development and continues to experience improvement, both in the form of services and goods, in 2019 the economy in Indonesia grew by 5.02 percent (Widjanarko, 2020). This economic development affected the business in the food sector, it was noted that this industry was one of the manufacturing sectors that was able to grow positively in the second quarter of 2020 after being severely depressed due to the impact of the Covid-19 pandemic. Based on data from the Central Statistics Agency (BPS), in the second quarter of 2020, the food and beverage industry grew by 0.22 percent on an annual basis (Akbar, 2020). The food industry, which plays a role in meeting the needs of society and produces some food products, is required to apply good processing methods and food safety management systems, starting from the selection of raw materials, processing, packaging, and distribution of trade. It is very important to give confidence that the food sold is safe for the body and the health of consumers. Companies must pay attention to the food quality of the food products offered to the public. Food quality is a characteristic of food that can be accepted by consumers, such as size, shape, color, consistency, texture and taste. Delicious and fresh food plays an important role in the effort to outperform competitors. Therefore, it is important for business owners to maintain food quality stability in order to increase revenue in the business (Ryu, Lee, & Kim, 2012). During the pandemic, many hotels have lost their source of income. The sources of hotel revenue that usually come from the sale of rooms, food and beverages, or other services have suddenly stopped. Since the government imposed social distancing regulations in society to drive the economy, the community has returned to actively carrying out various activities required by implementing health protocols. Referring to this, the hotel has also made various improvements in their efforts to increase their income. The most basic thing they do from food product services, is to carry out rigorous activities in preparing their food products. This study was conducted to examine whether the food quality and food safety that are implemented in hotels during the social distancing period can increase customer satisfaction and increase revenue from food products made in hotels. This study aims to analyze the effect of food quality on customer

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satisfaction in the hospitality industry in Jakarta. The study also analyzed the effect of food service on customer satisfaction, the effect of customer satisfaction on revenue, the effect of food quality on revenue, the effect of food service on revenue, the effect of food quality and customer satisfaction and the effect of food service and customer satisfaction on revenue.

2. Literature Review

2.1. Food Quality, customer satisfaction, and revenue

According to Ryu and Han (2010), food quality is the most important attribute of overall service quality and has a positive relationship with customer satisfaction and loyalty (Ryu et al., 2012). Qin et al. (2009) stated that product quality in the field of food and beverage has 4 dimensions which are derived from the results of research conducted by Johns and Howard (1998) and Kivela et al. (1999). First, freshness of food is usually defined as a fresh statement of food associated with the texture, taste and aroma of food. Second, the presentation of food is a way of presenting food to consumers to eat as a whole which contains a composition that has been arranged and adjusted to the color game which is arranged in an interesting manner in order to increase appetite. The third is well cooked, food to be served or served to consumers should be cooked or processed properly and hygienically so that it is safe for consumption by consumers or customers. The fourth is the variety of food. Food diversity in a restaurant describes the number of different menu items offered by restaurants to customers. Soriano (2002) suggests that quality of food and quality of service are the main attributes that affect customer satisfaction. Food quality is generally accepted as one of the fundamental elements of the overall consumer experience in restaurants. Food quality is all predetermined conditions related to food quality characteristics that are necessary to satisfy consumer wants and expectations (Alli, 2004). The form of good and correct food management is by paying attention to food hygiene and sanitation (Aurelia et al., 2018). This is important to do in order to create food safety. Food safety is an indicator of food quality and is currently the main consideration for consumers in choosing food. Consumers make cleanliness of food management the first factor in consuming food in hotels or restaurants (Wani et al., 2019). Food safety hygiene is also related to the application of hygiene, which includes many things such as personal hygiene, cleanliness of work areas and work equipment. All items and equipment that will be touched by food must be clean. This needs to be considered to minimize the risk of contamination, and foodstuffs must be placed in a clean place so that the air circulation that takes place is free from bacterial contamination (Islamy et al., 2018). The importance of food safety measures is one of the efforts to avoid pollution to production results and can affect the quality of the food itself and as a whole will increase consumer satisfaction with company products, and increase sales volume thereby increasing company revenue (Williams & Naumann, 2011).

H₁. *Food quality has a significant effect on customer satisfaction.*

H₂. *Food Quality and customer satisfaction has a significant effect on revenue.*

2.2. Food Safety, customer satisfaction, and revenue

Food safety is a condition and effort required to prevent food from possible contamination of biological, chemical and other objects that can disturb, harm and endanger human health and is safe for consumption. (Soetanto, 2019). Food safety is food that has been properly processed, including washing, storing and cooking perfectly, and carried out in ideal conditions and optimal hygiene (Waluyo & Kusuma, 2017). The requirements for healthy food must meet three aspects, namely healthy, safe and hygienic. Food hygiene is one of the most important factors when choosing food, because food that is clean and free from contaminants is the expectation of every consumer. Failure of food hygiene can lead to contamination, which in turn can lead to the spread of disease (Soekresno, 2000). The food safety indicators would be healthy, safe, hygiene, clean and free from contaminants. Customer satisfaction is the feeling of an individual who is happy or disappointed based on the results of comparing the results obtained with previous expectations. The purpose of all quality services and products is to meet the needs and expectations of consumers. The feelings of consumers play an important role in determining the choice to eat at the restaurant. Consumers who feel comfortable and feel good will spend more to buy something (Grace & O'Cass, 2004). Factors that affect customer satisfaction in food product service according to Canny include food quality, customer service orientation, and physical environment. Followed by the next statement which states that customer satisfaction has an effect on repurchase intention so that it can increase revenue (Canny, 2014).

H₃. *Food safety has a significant effect on customer satisfaction.*

H₄. *Food safety and customer satisfaction has a significant effect on revenue.*

2.3. Customer Satisfaction and Revenue

Satisfaction has the meaning of an effort to fulfill something. Consumer satisfaction according to Zeithaml (2006) in outline includes fulfillment, pleasure, and ambivalence (Zeithaml & Bitner, 2006). Moreover, the company's revenue will always determine the level of financial success of a company. Financial success often hinges on marketing abilities. Financial, accounting operations and other business functions are meaningless if there is not enough demand for products and services, so that the company makes a profit. There must be income so that profits can be obtained. Increasing income and profits

can be done by understanding three indicators related to human relations (Hesselschwerdt, 2015), including proactive attitude. This is an attitude of anticipating customer needs and taking concrete action in finding solutions to consumer problems. It is also related to the effort to get the real need in which companies do not focus solely on technical problems that are obvious to consumers and suppliers, identify and solve problems that are not visible, but often prevent people from solving problems completely and permanently Third, it is related to reaching a balanced outcome on consumer demand. Flexibility to consumer demands can make good cooperation and reach the solution that all parties want.

H₅. *Customer Satisfaction has a significant effect on revenue.*

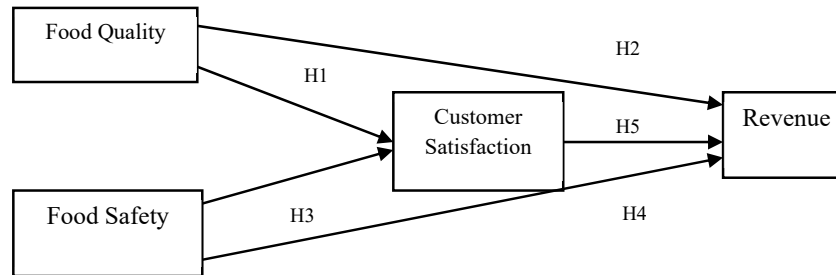


Fig. 1. Research Framework

3. Research Method

This type of research is causal research and is quantitative in nature. This research is included in causal research because this study aims to obtain evidence of a cause-and-effect relationship or the effect of the research variables. Quantitative in nature, because this study analyzes research data in the form of quantitative numerals (Malhotra & Wills, 2012). In this case, it will be proven that the direct and indirect influence between food quality, food safety, through customer satisfaction with the increase in revenue at the Dharmawangsa Restaurant, Dharmawangsa Hotel, Jakarta. The population in this study were male or female consumers with a minimum age of 17 years who were consumers at the restaurant with a minimum arrival frequency of 1 time. This study uses a sampling technique from Hair et al., Because the population of consumers who come to the restaurant has no exact and unlimited number. This study uses non-probability sampling techniques, where not all parts of the population have the same opportunity to be sampled (Malhotra & Wills, 2012). Respondents were selected based on the decision of the researcher, while the technique used was judgmental technique sampling, in which the sample unit was selected based on the criteria of the researcher. In the study, primary data were obtained by distributing questionnaires to The via Google Form, with due observance of health protocols which are strictly implemented at Hotel. To determine the number of samples, the writer used the formula = $n \times \text{per-variable observation}$ (Hair, Black, Babin, Anderson, & Tatham, 2006). The number of statement items is 15 statement items used to measure 4 variables, so that the number of respondents used is 13 statement items multiplied by 4 equals to 60 respondents, and rounded to 100 respondents.

4. Result and Discussion

4.1. Validity and Reliability

The validity test conducted on each indicator of the food quality, food safety, customer satisfaction and revenue variables is valid. With the value of $t_{\text{count}} > t_{\text{table}}$, and a probability of 0.05, and a t_{table} value of 0.677. The t value of all indicators is above the t_{table} value. So that the items to be processed are valid and can be used as accurate data (Sekaran, 2011). Reliability test conducted on each variable indicator of food quality, food safety, customer satisfaction and revenue is obtained reliably. With a Cronbach alpha value > 0.6 , it can be ascertained that the entire question instrument in this study is consistent (Sugiyono, 2014).

4.2. Path Analysis

To test the existing hypothesis, a path analysis was carried out with Table 1.

Table 1
Testing of Model 1 (food quality, food safety, customer satisfaction)

Model	B-Unstandardized	Std. Error	Beta	t	Sig.
(Constant)	3.329	1.272		2.617	.010
Food Quality	.263	.063	.329	4.162	.000
Food Safety	.260	.041	.495	6.269	.000

Dependent: satisfaction Predictors: (Constant), food quality, food safety, Revenue R = 0.653 R-Square = 0.427 Adjusted R-Square = 0.415

Table 1 shows that food quality (X₁) has a coefficient value of 0.329, t-value of 4.162 and probability value of 0.000 ($< 0,005$). This means that the food quality significantly affects customer satisfaction (Y). Based on this, H₁ is accepted.

Moreover, the food safety variable (X2) has a coefficient value of 0,495, t-value of 6.269 and probability value of 0.000 (<0.005). This means that food safety significantly affects customer satisfaction (Y). Based on this, H_2 is accepted. The value of R-Square is 0.653, which means that the influence of variables X1 and X2 on Y is 65.3%, with for the value of $e1 = \sqrt{1-0.653} = 0.589$ (Fig. 2).

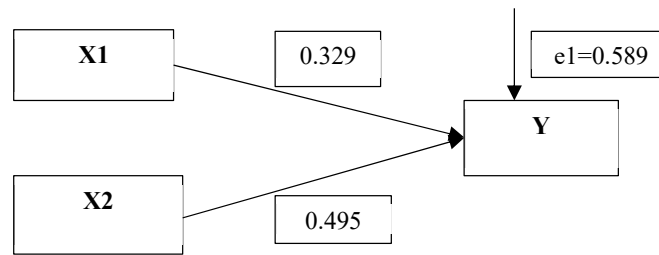


Fig. 2. The Path Diagram Structure-Model 1

Table 2
Testing of Model 2

Model	B-Unstandardized	Std. Error	Beta	t	Sig.
(Constant)	.632	1.286		.491	.624
food quality	.304	.067	.312	4.532	.000
food safety	.523	.048	.819	10.912	.000
satisfaction	.323	.099	.265	3.251	.002

Dependent: revenue

R = 0.797 R-Square = 0.635 Adjusted R-Square = 0.624 Std Error of the Estimate = 0.95648

Table 2 shows that the food quality (X1) has a coefficient value of 0.312, t-value of 4.532, and probability value of 0.000. The food safety variable (X2) has a coefficient value of 0.819, t-value of 10.912 and probability value is 0.000. The customer satisfaction (Y) has a coefficient value of 0.265, t-value of 3.251, and the probability value is 0.002 (<0.005). This means H_3 is accepted. H_4 & H_5 are also accepted. The value of R-Square is 0.797, which means that the influence of variables X1, X2 and Y to Z is 79.7% with the value of $e2 = \sqrt{1-0.797} = 0.450$. (Fig. 3).

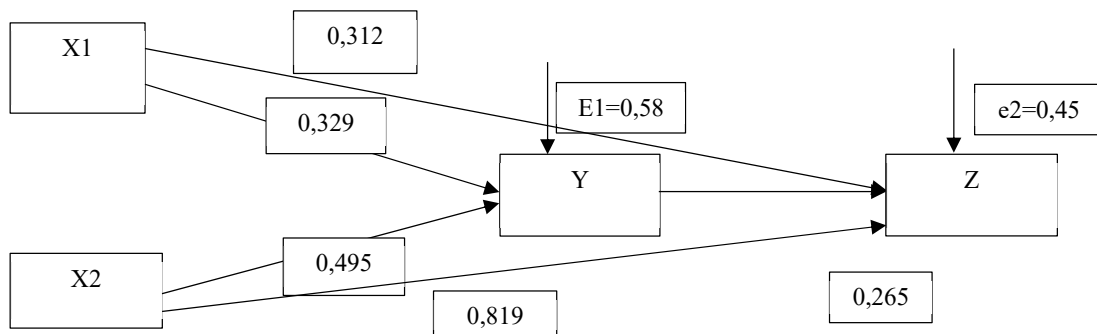


Fig. 3. The Path Diagram Structure Model 2

Regarding the impact of food quality (X1) through customer satisfaction (Y) on revenue (Z), Fig. 3 showed that the direct effect of X1 on Y is 0.329. Meanwhile, the indirect effect of X1 through Y on Z is $0.329 \times 0.265 = 0.008$. Then, the total effect given by X1 to Z is the total of the direct effect plus the indirect effect, which is $0.329 + 0.008 = 0.337$. Based on the results of these calculations, it is known that the value of the direct effect is 0.329 and the indirect effect is 0.008. This means that the value of the direct effect is greater than the value of the indirect effect. Thus, it can be concluded that X1 through Y directly has a direct effect on Z. In terms of the effects of Food Safety (X2) through Customer Satisfaction (Y) on revenue (Z), Fig. 3 showed that the direct effect of X2 on Y is 0.495. Meanwhile, the indirect effect of X2 through Y on Z is $0.495 \times 0.265 = 0.131$. Then the total effect given by X2 to Z is the total of the direct effect plus the indirect effect, which is equal to $0.495 + 0.131 = 0.364$. Based on the results of these calculations, it is known that the direct effect value is 0.495 and the indirect effect is 0.131. This means that the value of the direct effect is greater than the value of the indirect effect. So, it can be concluded that directly X2 through Y has an effect on Z.

5. Conclusion

Based on the results of the analysis and discussion that has been carried out regarding the impact of food quality, food safety, and customer satisfaction to revenue on a hospitality company in Jakarta, the following conclusions are obtained. First, food quality has a significant effect on customer satisfaction with a significant value of $0.000 < 0.005$. Thus, it can be

concluded that there is a direct influence of the variable food quality on customer satisfaction. Second, food safety has a significant effect on customer satisfaction with a significant value of 0.005. There is a direct influence on the variable food safety on customer satisfaction. Third, customer satisfaction has a significant effect on revenue with a significant value of $0.002 < 0.005$. There is also a direct influence on the variable customer satisfaction on revenue. Fourth, food quality has a significant effect on revenue with a significant value of $0.000 < 0.005$, and there is a direct influence on the variable food quality on the revenue.

Moreover, the results showed that food safety has a significant effect on revenue with a significant value of $0.000 < 0.005$ and that there is a direct influence on food safety to revenue. The direct effect value of food quality to revenue through customer satisfaction is bigger than indirect effect value ($0.343 > 0.128$). It means that food quality has an impact directly on increased revenue. In addition, direct effect value of food service to revenue through customer satisfaction is bigger than indirect effect value ($0.448 > 0.167$). It means that food service impacts directly to increase revenue through customer satisfaction.

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