Research Article

The Influence of Digital Technology on the Culinary Industry

N. Nugraha[1]*, O. Rukmana[1], D. S. Mulyati[1], R. Pamungkas[1] and A. Satriani[2]

[1]Department of Industrial Engineering Faculty of Engineering, Bandung Islamic University, Bandung, Indonesia
[2]Communication Science Faculty, Bandung Islamic University, Bandung, Indonesia

Abstract.
Digital transactions help customers to get what they require without leaving their homes. This type of transaction is very practical, safe, and efficient. With a cell phone and internet, consumers can find various items they want quickly. On the other hand, it creates a problem for retail businesses that rely more on a direct selling system. It can be said that physical stores are depressed by a change in shopping trends to online shopping. The main objective of this study is to determine the extent of the influence of digital technology on the retail industry, especially in the culinary or food sector, while the specific objectives are determining the use of digital technology, determining the factors that influence digital technology in the retail industry and finding the contribution of digital technology on the retail industry. A quantitative method is used through the distribution of questionnaires to respondents. The results showed that the culinary industry, especially in M-Resto, has implemented a work process through digital technology applications. It also showed that the largest contribution comes from technology statements where 68% of respondents strongly agree that technology affects retail industries. The conclusion is that digital technology affects the retail industry, especially at M-Resto.

Keywords: digital technology,retail industry,globalization

OPEN ACCESS

1. INTRODUCTION

Globalization has made the digital era is developing very fast. It is emphasized by the proliferation of online markets which resulted in a shift of the way people shopping. Digitalization has affected various aspects of life. Based on data, from the late of 2016 to the early of 2017 was the beginning of turmoil of the modern retail markets. One by one, modern retail market collapse because modern society not only wants to experience a convenient direct shopping, but also practical and efficient ones. These luxuries are offered by online shopping activity. Customers acquire various benefits which making people prefer to choose online shopping than conventional shopping. This situation makes modern retail market has to anticipate as well as create several programs to maintain their existence in the market [1]. Technological developments have resulted

the chain between producers and consumers that are getting closer. If a businessman is not ready, then consumers will definitely have gone. Based on the evidence above, it can be seen that it is possible that in the future the conventional retail market will be conquered by the online market because of shifting consumer behaviour that is also supported by internet facilities which are growing rapidly today. The internet is now reaching all remote areas of the country. The problem of this study is how the influence of digital technology on retail industry, especially in the culinary or food sector. The main aim of the research is to find out the influence of digital technology on retail industry especially in the culinary or food sector while the special purposes are 1) to find out the usage of digital technology, 2) to determine factors that affect digital technology in the retail industry, 3) to determine digital technology contribution on retail industry.

2. LITERATURE REVIEW

2.1. Retail Industry

Industry is a sector that produces goods and services in the economic situation. Retail industry is the entire business activities that involves a sale of goods and services that is needed by a company directly to end customers which using the products for their personal needs. This volume of sale reaches more than 50 per cent of end customers which only a small portion of business market [2]. The definition of retail is a set of marketing tools that are used by companies to pursue their marketing goals [3].

The retail mixture includes all actions that a company can take to influence the demand for its products itself and all actions that a company may take can be summed up as a group of variables which include product, location, price, and promotion. Retail is a sale of a small number of commodities to consumers. Retailing is a series of business activities to add value of goods and services that are sold to consumers for personal or household consumption [4]. It means that customers that will be a target of retailing is end customers that purchase product for their personal consumption. Retailing is a business that seeks to market goods and services to end consumers who use them for personal and household needs. Products that is sold in retailing are goods, services, or the combination of the two [5]. From several definitions above, it can be concluded that retail is all business ventures that directly point their marketing capabilities to satisfy end consumers [6].

3. METHODS

Methodology that is implemented in this study is by distributing questionnaires which then processed and analysed.

This research is divided into several stages which will be described as follows.

3.1. Designing Instruments and Preparing a Questionnaires (Pretest)

This stage is carried out to obtain information about the company that become the object of the research and the company policies. In this study, the questionnaire was used as a data collection tool.

3.2. Determining the Sample Size

This stage is done to find out how many samples of the respondent population. The sample size can be calculated using the Slovin formula.

3.3. Distribution of Pretest Questionnaires

Distributing questionnaires is intended to find out that the questionnaire statement is easy to understand by respondents. If it is difficult to understand it will be corrected.

3.4. Validity and Reliability Test

The test is conducted to find out how strong or accurate the measuring device after passing a process of the pretest questionnaire results. It, then proceed with reliability testing to determine the consistency of the measuring instrument. If the results are valid and reliable, it will be proceeding to the next stage.

3.5. Distribution of the Real Questionnaire

After the questionnaires are ready, it is distributed according to the required sample size.

3.6. Data Processing

After the data is collected then is processed using SPSS and analysed the results.

3.7. Data Analysis

Data analysis is carried out to determine whether digital technology affects the retail industry or not.

3.8. Conclusion

From the data analysis process, it can be concluded.

4. RESULTS AND DISCUSSION

Result of the research explains about variable identification in the designing question-naires for pre-test, the number of sample that are used, reliability and validity test, digital technology and how it works, the effect of digital technology on retail industry.

4.1. Identification of Research Question Variables

Determination of question variables uses dimensions of the marketing mixture which include product, price, promotion, strategic place and technology as shown in Table 1.

4.2. Determining the Sample Size

To determine the sample using the Slovin formula with data that is obtained from respondents in the culinary retail industry (M - Resto) with a population (N) of 5635 people and a level of allowance (e) 5%, the sample (n) 374 respondents which is distributed via google form (online).

4.3. Validity and Reliability Test

This test is used to determine the validity and reliability of the questionnaire which is distributed to 30 respondents.

TABLE 1: Variable research question.

No.	Dimension	Variety of Questions
1.		Product matching to what is ordered in the application
2.	Product	The product is guaranteed to be halal with its halalness logo
3.		Product display on application is attractive
4.		The price offered is in accordance with the products in the application
5.	Price	Discount notifications can be seen through the application
6.		Payment is using e - money/m –banking/ATM
7.	Technology	Digital technology affects sales
8.		Distributing promotion through social media
9.	Promotion	Serving an online order by grab food
10.		Website is easy to access
11.		Satisfactory services (friendly and fast)
12		Easy to be reached
13.	Place	Safety with CCTV cameras
14.		Location is easy to find by google maps
15.		Clean and comfortable place

It can be seen from Table 2 which is resulted from a validity test of pretest questionnaire.

TABLE 2: Validity test.

Attribute	r Calculation	r Table	Result
1	0.64	0.361	Valid
2	0.47	0.361	Valid
3	0.762	0.361	Valid
4	0.65	0.361	Valid
5	0.705	0.361	Valid
6	0.744	0.361	Valid
7	0.686	0.361	Valid
8	0.564	0.361	Valid
9	0.84	0.361	Valid
10	0.641	0.361	Valid
11	0.743	0.361	Valid
12	0.652	0.361	Valid
13	0.697	0.361	Valid
14	0.744	0.361	Valid
15	0.589	0.361	Valid

Using SPSS application, it can be obtained data as above in Table 2. It can be concluded that the value of r count> r table which is based on a significant level of 0.05, which means that the questions above are valid. Look at the Figure 1 below that mention about recapitulation of reliability test from data of pretest questionnaires.

➡️ **Reliability**

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100,0
	Excluded[a]	0	,0
	Total	30	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,912	15

Figure 1: Reliability test.

Using SPSS application, it can be obtained the value of *Cronbach alpha* is 0.912 which shows that all statements are quite reliable after the validity and reliability testing phase is carried out. The results are valid and reliable. The next step is to spread the real questionnaire as many as 379 respondents via google form.

4.4. Data Processing

Based on data from processed questionnaires and field observations, it can be obtained the work process of digital technology and the influence of digital technology on the retail industry.

4.5. The Work Process of Digital Technology in the Culinary Retail Industry

Digital technology is a system of technology that its operation is no longer using human power. It tends to implement fully automated and sophisticated operating systems. Based on the result of research, M-Resto as an object of this study has already utilized digital technology applications. Starting from customers who order the food in the Grab food applications, and the driver of Grab food receives the order then going to the restaurant to order the food.

The next step is that the driver of Grab food delivers the food to the customers. All the stages utilize technology digital system through applications as shown in the Figure 2.
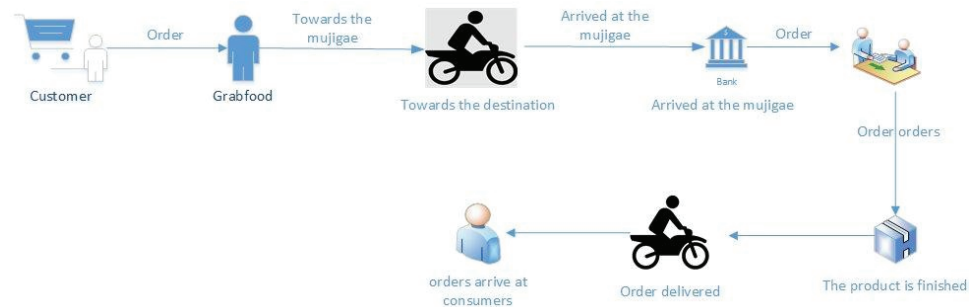

Figure 2: The way of digital technology in the retail industry at M-Resto.

5. The Results of the Study of Each Dimension of the Marketing Mixture (Product, Price, Promotion, Place) and Technology

Product Dimension

The results of measuring product dimensions through questionnaires.

Based on data on Table 3, assessment related to the product, it is known that on average of 65.7 per cent of respondents answered "agree" which means that the product

TABLE 3: Measurement of product dimension.

No	Dimension	Variety of Questions	Totally Disagree	Disagree	Uncertain	Agree	Strongly Agree
1.		Product is matching to what is ordered in the application	2%	2%	4%	68%	24%
2.	Product	The product is guaranteed to be halal with its halalness logo	1%	2%	5%	57%	34%
3.		Product display on application is attractive	0%	0%	8%	72%	20%
Average Amount			1%	1,33%	11,7%	65,7%	26%

ordered by the consumer is appropriate, the product is guaranteed to be halal and has an attractive appearance.

Price Dimension

The results of measuring the price dimension by distributing questionnaires.

TABLE 4: Measurement of product dimensions.

No.	Dimension	Variety of Questions	Totally Disagree	Disagree	Uncertain	Agree	Strongly Agree
4.		The price offered is in accordance with the products in the application	0%	1%	6%	71%	21%
5.	Price	Discount notifications can be seen through the application	3%	2%	6%	52%	37%
6.		Payment is using e - money/m –banking/ATM	2%	5%	9%	46%	38%
Average Amount			1,7%	2,7%	7%	56,3%	32%

Based on table 4, the assessment related to price, it can be seen that on average of 56.3 per cent of respondents answered "agree" which means that the price offered by the seller is in accordance with the products in the application, discount information can be seen through the application as well as payments are using e-money / m-banking/ATM.

Technology Dimensions

The results of measuring technology dimension by distributing questionnaires.

TABLE 5: Measurements of product dimension.

No.	Dimension	Variety of Questions	Totally Disagree	Disagree	Uncertain	Agree	Strongly Agree
7.	Technology	Digital technology affects sales	2%	2%	4%	68%	24%

Based on information from Table 5, assessment related to technology, it can be seen that on average of 68 per cent of respondents answered "agree" which means that digital technology affects sales.

Dimension of Promotion

The results of measuring the dimensions of promotion through questionnaires.

TABLE 6: Measurement of promotion dimension.

No.	Dimension	Variety of Questions	Totally Disagree	Disagree	Uncertain	Agree	Strongly Agree
8.		Distributing promotion through social media	0%	0%	7%	62%	31%
9.	*Promotion*	Serving an online order by grab food	1%	0%	7%	63%	28%
10.		Website is easy to access	0%	2%	6%	60%	32%
11.		Satisfactory services (friendly and fast)	1%	2%	4%	59%	34%
Average Amount			0,5%	1%	6%	61,2%	31,3

Based on table 6, the assessment related to promotion, it can be seen that on average of 61.2 per cent of respondents answered "agree" which means that dissemination of promotional information through social media has been carried out, serving a lot of online orders in the form of grab food application, website is accessible and performing satisfying service.

Place Dimension

The results of measuring the dimensions of the place/ location through questionnaires.

TABLE 7: Measurement of place/location dimension.

No.	Dimension	Variety of Questions	Totally Disagree	Disagree	Uncertain	Agree	Strongly Agree
12		Easy to be reached	0%	0%	7%	56%	37%
13.		Safety with CCTV cameras	1%	1%	2%	57%	40%
14.	*Place*	Location is easy to find by google maps	0%	0%	4%	71%	25%
15.		Clean and comfortable place	0%	0%	3%	57%	39%
Average Amount			0,25%	0,25%	4%	60,25%	35,25%

Based on Table 7, the assessment related to location/place, on average of 60.25 per cent of respondents answered "agree" which means that the location is easy to reach, carry out security by installing CCTV cameras, the location is easy to find with google maps and a place that is clean and comfortable.

6. CONCLUSION

Based on the discussion above, it can be concluded that culinary industry, especially at M-Resto, has already implemented a working process through work process/digital technology application. The result of the research is obtained from distribution of questionnaires which shows that the biggest contribution is received from technology statements where 68 per cent of respondents are very agree that technology affects retail industries.

Based on the questions about product dimension, price, promotion and location, respondents generally said that service and technology that are provided by M-Resto were very satisfactory.

ACKNOWLEDGMENTS

References

[1] Rohimah A. Era Digitalisasi Media Pemasaran Online dalam Gugurnya Pasar Ritel Konvensional, KANAL. Jurnal Ilmu Komunikasi. 2019;6:91–100.

[2] Utomo, TJ 2009.Functions and Roles of Retail Business in Marketing Channels.Economic Focus. 4: 44-55.

[3] Kotler P, Keller KL. Manajemen Pemasaran. Jakarta: Ghalia Indonesia; 2006.

[4] Levy M, Weitz BA, Grewal D, Madore M. Retailing management. New York: McGraw-Hill Irwin; 2004.

[5] Barry B. Retail management: a strategic approach. India: Pearson Education; 2003.

[6] Setiawan T., Komunikasi Krisis Di Era Digital, Jurnal ekonomi, sosial and humaniora. 2020;1:84-93.