

The Relationship between the Elements of Marketing Mix and Consumer Behavior during Environmental Uncertainty: The Case of the COVID-19 Pandemic

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Abstract—Many companies are facing difficulties such as sales reduction due to the changing of consuming behavior during the period of crises. However, this research aims to understand consumer behavior, and identify the relationship of advertisements, product price, product quality, product availability and consumer behavior during environmental uncertainty, as well as, providing a conclusion for companies to handle the issues related to consumer needs during environmental uncertainty and crisis like COVID-19 pandemic. Therefore, managers are getting confused during the process of making marketing decisions. In addition, COVID-19 as a result of being a global pandemic, the global economy greatly affected and led to a financial crisis caused by the occurred lockdown, where the impact is not due to the disparity between supply and demand as the previous financial crisis. During the COVID-19 lockdown, the researchers electronically emailed surveys to respondents from two cities (Mosul and Erbil). However, to analyze the data, the researchers employed SPSS software, Cronbach's Alpha, and Person Correlation to test the four study hypotheses. The researchers concluded that environmental uncertainty clearly affects the principles of consumer behavior. Moreover, during crises and pandemics such as COVID-19, the behavior of consumers is going to be changed. In addition, the main findings were the positive relation of consumers' behavior with the quality, and the availability of product. While, there is a negative relation with the price, and advertisements. Finally, researchers do not recommend any increase in advertising campaigns or prices of the products during pandemics due to its negative impact on consuming behavior.

Keywords—Advertisements, Availability, Consumer behavior, Price of product, Quality of product.

I. INTRODUCTION

Consuming can be considered as an important component of the national income of a society (Gupta et al., 2008). Therefore, the study of consumer behavior can be very important in the economy to direct the production, and work for achieving an integrated match between resources and needs (Aissa et al., 2018).

Consumer behavior is unstable and depending on many factors. Where it is affected by the consumers evaluation of goods and services, as well as, their comparison to get the best of them to meet the consumer's desire and achieve the consumer's needs and satisfaction (Hogg, 2003).

The consumer faces many influences that control the final behavior and orientation towards buying a specific good or

service, and these influences differ according to the nature, culture, social background of consumers, and the market (Mittal et al., 2008). On the other hand, the most important influencer is the environmental uncertainty such as environmental disasters, earthquakes, volcanoes, and pandemics (Jameel et al., 2021).

However, due to instability of consuming behavior as well as the reduction of companies' sales during crises, researchers explore the impact of environmental uncertainty of the COVID-19 pandemic on consumer behavior and highlight the factors that companies have to consider during such pandemics.

II. RESEARCH PROBLEM

It is notable that many business firms are facing difficulties such as sales reduction due to the changing of consuming

behavior during crises period. Where, in a recent survey showed that 46% of consumers are reducing their purchases during pandemics which directly reflect on sales of business firms (Kim, 2020). In addition, the environmental uncertainty can be a very vital influence that companies have to consider in their future action plan due to high risk that may happen forwards.

III. RESEARCH OBJECTIVES

Researchers aim to achieve the following objectives in this research:

- Understanding consumer behavior during environmental uncertainty
- Identifying the relationship between the marketing mix elements and consumer behavior during environmental uncertainty
- Providing conclusions for companies to handle issues in the term of consumer needs during environmental uncertainty such as COVID-19 pandemic.

IV. RESEARCH MODEL

Based on the literature review, the model of this research can be presented as follows:

As shown in Figure I, consumer behavior is the dependent variable while, the independent variables are advertisements, price, quality, and the availability of product. In addition, environmental uncertainty is a control variable.

V. RESEARCH HYPOTHESES

Based on the research model, the following hypotheses can be developed:

- H₁: There is a positive relationship between Advertisements and Consuming behavior during COVID-19 pandemic.
 H₂: There is a positive relationship between price of product and consuming behavior during COVID-19 pandemic.
 H₃: There is a positive relationship between quality of product and consuming behavior during COVID-19 pandemic.

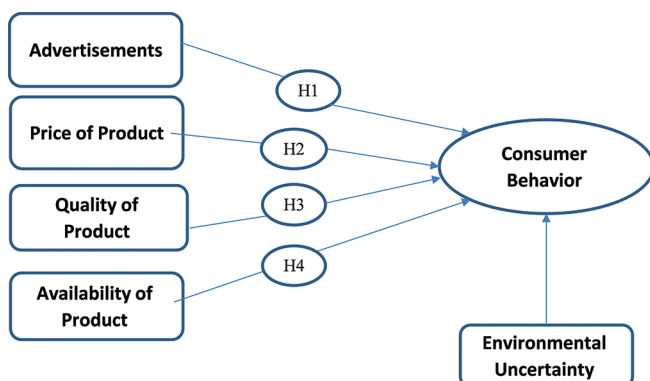


FIGURE I
THE RESEARCH MODEL

- H₄: There is a positive relationship between availability of product and consuming behavior during COVID-19 pandemic.

VI. LITERATURE REVIEW

A. The Consumer Behavior

The consumer behavior is the basis that must be adopted in understanding the marketing process based on looking at the requestor of the service or good (the consumer) as a set of satisfactory needs and desires, a set of actions and reactions, and indirect decisions (Raewf and Thabit, 2015), (Raewf and Thabit, 2017), (Ghran et al., 2019).

Therefore, Kiboro et al. (2017), and Thabit and Raewf (2018) defined it as “a set of behaviors and direct acts of individuals to obtain a good or service that includes making a purchase decision,” but Sari and Hanifah (2018), Ahmed and Jameel (2018), and Thabit and Jasim (2017) explained it as “a set of mental and muscular activities related to the evaluation, differentiation process, acquisition, and use of goods and services.” Hence, consumer behavior can be defined as “economic behavior based on study to achieve the maximum benefit and satisfy the desires of the individual” (Aissa et al., 2019), (Karem et al., 2019).

B. The Theories of Consumer Behavior

There are many scientific theories that deal with consumer behavior in various aspects, the most important ones can be listed below (Thabit et al., 2016), (Jameel and Ali, 2016), (Stampa et al., 2020), (White et al., 2020):

Freudian motivation theory

Freud believes that the needs of the individual appear at different levels of feeling, they can be at an indirect level, and they can only be observed through psychological analysis that can help infer them.

Maslow's hierarchy of needs

This theory relies mainly on a number of hypotheses. These hypotheses summarize that the individual has the needs of varying importance. Where the needs can be in a hierarchical form that includes in the base of hierarchy, the strongest basic human needs and this individual works to achieve satisfying the most important need in his/her view. Afterward, the individual will work to satisfy the needs which are less important than the previously achieved.

Two-factor theory

According to this theory, Herzberg was able to distinguish between two sets of feelings that could impact on individual behavior, and determine satisfaction and dissatisfaction. This theory is considered the most acceptable from the practical perspective.

Theory of the leisure class

Veblen explains in his theory that the individual buys the good to satisfy his/her needs. The needs and wants are

greatly affected by the group to which he/she belongs. In addition, the individual looks to consumption patterns and purchasing habits of the social classes higher than the class to which he/she belongs.

Microeconomic theory

Marshall and Mike relied in their theory on the freedom of individuals to choose their purchases, as the consumer is free in what he/she chooses of goods or services and his/her needs are different from other individuals, but prices and the level of income are the two factors that control the consumer's choice.

Macroeconomic theory

Keynes considers the consumer as a fundamental variable in consumer behavior, as it is assumed that the needs are felt by the individual in a holistic manner, meaning that members of society are equal in living conditions.

C. The Influences of Product Marketing on Consumer Behavior

There are many factors that can affect consumer behavior, including internal factors such as perception, education, motivations and personal considerations, and external factors such as culture, society, and customs. Another important factor that may be recognized by uncertainty and instability is the influences of product marketing (Thabit and Raewf, 2018), (Panwar et al., 2019), (Massoudi, 2020).

The most important influences of product marketing on consumer behavior according to the hypotheses of this research are the following:

Advertisement

The advertisements greatly impact on how individuals perceive things around them, as previous studies have shown that stereotypes and the classification of a specific group of people have a significant impact on a large number of individuals, where advertisements affect society and the consumer's perception of a particular product; therefore, advertisements can be considered as one of the most influencing factors on consumer behavior.

In addition, researchers such as Akyüz and Ercilasun suggested that advertisements should not be stopped during crises, due to the high impact on the long run of business firms (Akyüz and Ercilasun, 2014).

Price of product

The price of product (which is determined by the economic unit) can greatly influence on the consumer behavior. Therefore, if consumers believe that the price of product "which is charged by the economic unit" is less than competitors, this will lead to increase the sales, but if the price of product exceeds the price charged by competitors that may lead to decrease the sales.

Moreover, according to the study of Cranfield, there is a high possibility of increasing the prices during pandemics such as COVID-19 pandemic, where the increase of prices going to influence on the consumer buying behavior (Cranfield, 2020).

Quality of product

The quality of product often means manufacturing quality, sales service, availability of spare materials, timing of delivery, and permanent product availability. The effect of product quality varies according to the consumer's need for it, as the product can compromise quality in the event of an urgent need for the product, while it cannot compromise the quality of important products such as medicine. Furthermore, the consumer can demand high quality at a certain social level; therefore, the quality of the product can affect the consumer's behavior in a different manner and according to the circumstances, society, and need.

Therefore, during pandemics the quality of product is playing an important role in sales as well as it has a positive relation with the buying behavior of consumers (Turri et al., 2021).

Availability of product

The availability of product can be considered as a component of product quality, but given its significant impact on consumer behavior and its association with other factors such as advertisement and price of the product, it is considered one of the factors affecting consumer behavior. The availability of product affects, in varying degrees, the consumer behavior according to the importance of the product, the possibility of replacing it with another product, the cultural level of the consumer, and the public's confidence in the economic unit and brand.

The availability of products and services at the right time during pandemics encourages consumers to buy. Whereas, using online stores and delivering products to the place where the consumer is Alfonso et al., 2021.

D. The Environmental Uncertainty

Pandemic crises are one of the most important types of environmental uncertainty because they significantly increase the degree of uncertainty in organizations (Appiah et al., 2020), contribute to the disruption of strategic plans, limit the effectiveness of making decisions, and reduce the public's confidence in the organization and its vision (Darvishmotevali et al., 2020).

At present, the world is facing COVID-19 pandemic; therefore, most of the organizations and consumers have faced a high level and dangerous environmental uncertainty (Mann, 2020), as COVID-19 forces the world to trade-off between social separation and economic collapse (McKibbin and Fernando, 2020). Hence, applying quarantine for long periods of time can seriously affect many economic activities that include social interactions such as retail trade, restaurants, tourism, sporting events, and entertainment events. (Fernandes, 2020).

COVID-19 is the first pandemic to hit the global economy in depth, as most goods and services are the product of global supply chains, so social activities in one place are related to social activities in other places (Cohen, 2020); therefore, if one of the activities will be stopped somewhere, the economy will collapse in other places.

COVID-19 dramatically restructures global supply chains and consumer behavior (Watanabe, 2020), as many

activities requiring physical interaction have been reduced versus activities that do not require physical interaction (Anderson et al., 2020). The repercussions resulting from the environmental uncertainty during COVID-19 pandemic were not caused by the decline in demand, but they were caused by the sudden and rapid shift in consumer behavior.

VII. METHODOLOGY

This study used a quantitative approach, data collected through a questionnaire covering consumers of products in two different cities Mosul, and Erbil. Moreover, questionnaire distribution has been done electronically by creating Google forms and sent them by email as well as other social media platforms during the period of COVID-19 lockdown. In return, only 70 valid questionnaires were received out of 145 sent questionnaires. Returned questionnaires were coded and analyzed by SPSS ver. 25.

A. Data Analysis

Descriptive analysis was used to present the respondents' background information. Furthermore, as shown in Table I; 75.7% of respondents were male while female were 24.3%. In addition, Table II shows the nationality of respondents where 95.7% were Iraqis and only 4.3% were from outside of Iraq. To find the internal consistency between scale items reliability analysis was used based on Cronbach's Alpha. The Pearson correlation is used to evaluate the study hypotheses and determine the nature of the relationship between the variable and the relationship's significance.

B. Reliability Test

In reliability test, Cronbach's Alpha was used as a benchmark. However, according to the study of Raewf and Thabit, if Cronbach's Alpha is closer to (1) the measurement is more reliable, (0.6) or less Cronbach's Alpha means the internal consistency is weak, (0.7) or greater Cronbach's Alpha means the internal consistency is appropriate, (0.8) or greater Cronbach's Alpha means the internal consistency is good (Raewf and Thabit, 2017). Moreover, as shown in Table III, all the scales have internal consistency that is good and appropriate.

C. Hypotheses Testing

In this study, the researchers have used Person Correlation to test the hypotheses. The value of Person Correlation is

TABLE I
GENDER OF RESPONDENTS

Gender	Frequency	Percent	Valid percent	Cumulative percent
Valid				
Male	53	75.7	75.7	75.7
Female	17	24.3	24.3	100.0
Total	70	100.0	100.0	

TABLE II
NATIONALITY OF RESPONDENTS

Nationality	Frequency	Percent	Valid percent	Cumulative percent
Valid				
Iraqi	67	95.7	95.7	95.7
Foreigner	3	4.3	4.3	100.0
Total	70	100.0	100.0	

ranging between (1) and (-1). In other words, if the value is more than (0) that means the relation is positive, while, the relation is negative when the value is <(0).

First hypothesis

H₁: There is a positive relationship between advertisements and consuming behavior during the COVID-19 pandemic.

Based on the observation of the Table IV, the relationship between consumer behavior and advertisements is negative, because of the negative sign at a correlation (-0.423)**. Therefore, researchers rejected the first hypotheses.

Second hypothesis

H₂: There is a positive relationship between price of product and consuming behavior during COVID-19 pandemic.

Based on Table V, due to the negative sign in front of the coefficient, the relation is negative at -0.459** between the price of product and consumer behavior during the crisis. Therefore, researchers have rejected the second hypothesis.

Third hypothesis

H₃: There is a positive relationship between quality of product and consuming behavior during COVID-19 pandemic.

Based on Table VI, due to the positive sign in front of the coefficient, the relationship is positive at (0.32)** between the

TABLE III
RELIABILITY TEST

Scale	Number of Items	Cronbach's alpha	Status
Consumer behaviour	6	0.737	Appropriate
Advertisements	9	0.807	Good
Price of product	7	0.766	Appropriate
Quality of product	8	0.781	Appropriate
Availability of product	5	0.815	Good

TABLE IV
THE CORRELATIONS OF 1ST HYPOTHESIS

	Consumer behavior	Advertisements
Consumer behavior		
Pearson correlation	1	-0.423**
Sig. (2-tailed)		0.000
N	70	70
Advertisements		
Pearson correlation	-0.423**	1
Sig. (two-tailed)	0.000	
N	70	70

**Correlation is significant at the 0.01 level (two-tailed)

TABLE V
THE CORRELATIONS OF 2ND HYPOTHESIS

	Consumer behavior	Price
Consumer behavior		
Pearson correlation	1	-0.459**
Sig. (two-tailed)		0.000
N	70	70
Price		
Pearson correlation	-0.459**	1
Sig. (two-tailed)	0.000	
N	70	70

**Correlation is significant at the 0.01 level (two-tailed)

quality of product and consumer behavior during the crisis. Therefore, researchers have accepted the third hypothesis.

Fourth hypothesis

H₄: There is a positive relationship between availability of product and consuming behavior during COVID-19 pandemic.

Based on Table VII and due to the positive sign in front of the coefficient, the relation is positive. The relationship is also significant as this relationship's two tailed is 0.000. Hence, it accepts the fourth hypothesis.

VIII. LIMITATIONS AND IMPLICATIONS OF THIS STUDY

The results of this study clearly showed that environmental uncertainty can clearly affect the principles of consumer behavior. Thus, crises and pandemics such as COVID-19 are changing the known aspects of consumer behavior, which can confuse the managers in making the right decisions about their products and services.

During COVID-19, the advertisements and price of product have negative relation with consuming behavior; however, the quality of product has a positive relation with it, and the availability of product has a positive and significant relationship with consuming behavior.

COVID-19 affects many aspects of the society life as a result of being a global pandemic, where it affected the global economy greatly and led to a financial crisis. In addition, the financial crises were not a cause of disparity between supply and demand as the previous financial crises; the crises were caused due to the lockdown.

As a result of the lockdown, advertisements and price of product are factors with negative relation affecting consumer

TABLE VI
THE CORRELATIONS OF 3RD HYPOTHESIS

	Consumer behavior	Quality
Consumer behavior		
Pearson correlation	1	0.321**
Sig. (two-tailed)		0.000
N	70	70
Quality		
Pearson correlation	0.321**	1
Sig. (two-tailed)	0.000	
N	70	70

**Correlation is significant at the 0.01 level (two-tailed)

TABLE VII
THE CORRELATIONS OF 4TH HYPOTHESIS

	Consumer behavior	Availability
Consumer behavior		
Pearson correlation	1	0.950**
Sig. (2-tailed)		0.000
N	70	70
Availability		
Pearson correlation	0.950**	1
Sig. (two-tailed)	0.000	
N	70	70

**Correlation is significant at the 0.01 level (two-tailed)

behavior, and their impact on marketing the product has become very weak, due to the consumer's focus on the availability of necessary products, lack of interest in the brand, and great interest in quality of the necessary products.

IX. CONCLUSION

The results showed that consumer behavior is changeable during the environmental uncertainty. However, the influencing factors on consumers' behavior during the normal life with no crises or uncertainty are not going to be the same during crises or pandemics. The researchers identified that consumers are more influenced by the quality and availability of products than other factors during abnormal situations. Finally, researchers' recommendations for goods providers and companies who are looking to satisfy their consumer to concentrate more on the following:

- Quality of products has a positive relation with consuming behavior of buyers during uncertainty.
- Providing consumers products at the right time will encourage consumers to buy.
- Pricing is also affecting on the consuming behavior during uncertainty with a negative relation. Where many of buyers are planning to reduce their spending during crisis and pandemics, offering products with low prices during pandemics would be a useful tool to gain loyal customer.
- Advertisements have a negative relation with consuming behavior during pandemics. Therefore, it is not recommended to increase advertising campaigns.

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