



Health-awareness of Saudi Consumers and its Mediating Impact on The Effect of Marketing Mix Strategy on Purchasing Food Online during COVID-19

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Abstract

This study aims to explore the mediating impact of health awareness of Saudi consumers on the relationship between the marketing strategy of online food retailers and food purchasing decisions during the Covid-19 period. The study employs the marketing mix model (price, product, place and promotion) to analyse its impact on purchasing decisions. Health awareness of consumers is regarded as a mediating factor. The data are collected from consumers of online food retailers using an online questionnaire. 465 respondents completed the questionnaire. The results show that the marketing mix elements of the marketing strategy have a positive impact on purchasing decisions except for the price of the product. When looking at the impact of marketing strategy on health awareness among consumers, only the promotion does not have a statistically significant impact on consumer's health awareness. The study also revealed a significant relation between consumer's health awareness and purchasing decisions. Lastly, health awareness partially mediates the impact of marketing strategy on purchasing decision. The findings have several implications for both practitioners (retailers) and academics. The study concludes with future research recommendations with focus on segmentation of respondents on age, gender and economic status.

Keywords: Health Awareness, Covid-19, Purchasing Decision, Marketing Strategy, Saudi Arabia.

Introduction

Covid-19 has changed the way we work, play, learn, buy and consume products after the World Health Organization declared the coronavirus disease (COVID-19) a pandemic (Sohrabi et al., 2020). Researchers worldwide rushed to develop a vaccine, while governments were implementing social distancing measures, followed by partial or complete lockdowns to curb the spread of the virus. Businesses have been taking a hit, as almost every aspect of life changed. A research concerning mobility data of Google users of over 127 countries shows that less mobility results in lower COVID-19 infections and fatalities (Yilmazkuday, 2020). This further emphasised the protocols adapted by the governments nationally.

In addition to its impact on public health, the coronavirus had a major impact on the national and global economies (Bartik et al., 2020). In many countries, the public was advised stay indoors, restricting their daily movements and travel, and governments sometimes closed non-essential businesses (Gostin & Wiley, 2020) and also their borders for foreigners (business and tourists). The outbreak of the virus has produced a "de-globalization" process where countries felt forced to close borders for foreigners, force returning nationals into quarantine, preventing the flow of humans, goods, capital and it also resulted in shutting down businesses and production facilities (Barua, 2020). Social distancing advised by the governments has resulted in saving lives, but

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also imposed substantial costs on society due to reduced economic activity (Thunstrom et al., 2020). The lockdown and social distancing are especially detrimental as the businesses which heavily depend on direct interaction or close proximity when creating or delivering a product or service, like the retail, have suffered the most (Koren & Petó, 2020).

The pandemic has taken a lot of lives. In addition to this, some countries implemented strict and complete lockdowns as preventing measures. Saudi Arabia has adopted the strategies as shown in Table 1.

As discussed above, the pandemic impacted all sorts of businesses. COVID-19 also had a wide-reaching impact on digital businesses (Hasanat et al., 2020). They found it difficult to sell their products and faced huge problems while sourcing the products. E-commerce businesses felt the pressure of the supply crunch due to the restriction of the movement of goods. Businesses that relied on China as the central manufacturer, felt the repercussions of this disruption in China's factory output, which resulted in online businesses facing shortages to meet their customer demands (Craven et al., 2020). This impact on the supply chain then resulted in a boost in the prices of products.

The customers were more shifting towards e-commerce as it became the only means through which to survive the COVID-19 crisis, certainly in complete or partial lockdown situations. The most significant impact of the COVID-19 was that customers were taking the necessary precautions as advised by health experts, were acting accordingly, sometimes also forced by authorities. This resulted in a change of behaviour among the customers of e-commerce businesses. In many countries during this Covid period, the customers were primarily dependent on e-commerce platforms for their essential necessities, such as food and grocery shopping, being unable to go to markets or supermarkets. As people were spending more time online for their shopping needs, customers shifted (or were forced) to digital grocery facilities during these uncertain times (Hasanat et al., 2020). However, there was a big variety in the measures taken by countries: from advice to minimize leaving the house till temporary complete lockdowns. Not in every country, consumers were forced to go online for their daily shopping goods. The consumers in Saudi Arabia adapted to the new situation by shopping for their essential items online. The popularity of online food delivery services has surged among younger Saudi Arabian consumers, driven by their convenience, speed, and a wide range of options. The food delivery market in Saudi Arabia has experienced rapid growth in recent years, with an annual growth rate of 5.6% (Statista, 2024). The COVID-19 pandemic further accelerated this expansion. One key trend in the Saudi online food delivery market is the rise of local startups, offering unique services tailored to the specific needs of the local population, such as traditional Saudi dishes and personalized services. Another notable trend is the growing use of mobile apps for food delivery. Apps like Hunger Station, Marsol, and Jahez have become the preferred platforms for ordering food online in Saudi Arabia. Additionally, the large expatriate population has fuelled market growth due to language barriers and unfamiliarity

Table 1. Overview Covid Measures Saudi Arabia

Measures	Steps	Timeline
Travel Bans	From/to China	The end of January/2020
	Suspended issuing visas to all visitors.	The end of February /2020
	Expanded to all international travels.	March /2020
Suspending Religious Activities	Suspending all activities in all mosques	17-3-2020
	Suspended the Umrah	4-3-2020
	Reducing the number of pilgrims	25-5-2020
Closure of Non-essential Stores	Closed shops like gyms and event halls but essential shops such as supermarkets, pharmacies were excluded.	14/15 -3- 2020
Enforcing Changes at Workplaces	Distance learning in schools and universities	9-3-2020
	Suspend the fingerprint attendance system/reduce the staff to 25 %.	16-3-2020
Imposing Curfews	Partially curfews for 11hrs every day and suspended travelling between cities; obligatory face masks in public.	23-3-2020
	Total lockdown. Location-based mobile applications for temporary permissions in emergency cases.	6-4-2020

Source: Sayed, 2021.

with local cuisine. Social influence and performance expectancy have emerged as the strongest factors driving the intention to continue using mobile food delivery apps in the post-pandemic era (Abed, 2023). The right contents and packaging, offers and discounts, timely delivery, and user-friendliness (utilitarian factors) can be added to the factors why Saudis use the food delivery apps. (Khan, 2020).

Literature Review and Theoretical Framework

The way customers responded to the COVID-19 crisis is very critical to the performance of the businesses (Liang & Litscher, 2020). Apptopia (www.apptopia.com), a tracking entity of mobile apps, noted an increase in the total of downloads of popular grocery apps such as Instacart, Walmart Grocery, and Shippt in the USA (Mehraeen et al., 2020) during Covid-19. In Saudi Arabia, there has been a shift towards online grocery shopping in recent years. Many research projects focused on the impact of the behavior and intention of the consumer to buy their groceries online using digital media such as websites and mobile applications Alatawy (2019) concluded that the main factors influencing consumers' intention to use mobile applications for online shopping in the KSA consisted of: attitude, perceived behaviour control, subjective norms and perceived trust. In Saudi Arabia there is a general acceptance of on-line grocery shopping. Home delivery and website security were identified as the most important factors supporting online shopping for groceries. Furthermore, quality service was valued higher than price and discounts. Online shoppers were willing to pay a higher price for website security and superior quality services. (Kindra et al., 2014).

The current research focuses on how online grocery shopping behavior has changed under the various marketing strategies employed by online food retailers in a very difficult time. The three different constructs, namely marketing mix strategy, purchasing decision and health awareness will be explained here.

Marketing Mix Strategy

Digital marketing has many advantages, and these have been further highlighted during the pandemic. The most significant one is the fact that it does not require face-to-face interaction, which is in alignment with the government policy of social distancing. A well-established theory in marketing (Miller Jr, 2020) is the marketing mix strategy, commonly referred to as the 4Ps. These Ps refer to the four elements of the mix, namely Product, Price, Place (=distribution), and Promotion. These elements together achieve companies' marketing objectives (Kotler & Amstrong, 2010). In marketing, a decision cannot ignore any of these four elements. "Marketing mix is the same idea as when mixing a cake; a baker will alter the proportions of the ingredients in a cake depending on the cake he/she wishes to bake" (Goi, 2009, pg. 2). All these 4Ps show how the retailer is competing and differentiates with its direct competitors.

The product is basically the total of material, functional (technical, ingredients) and immaterial (emotional, design, brand, added value) characteristics, companies are using to offer the customers what they want. Deepak and Jeyakumar (2019) argue that the companies' task is not to find the appropriate consumers for the product but to find the appropriate product for the consumers. According to Muzondo and Mutandwa (2011), the assortment of grocery goods has a strong impact on consumer choices and buying decision-making from food retailers.

The pricing strategy depends on the (perceived) value each consumer is willing to pay and how that value compares with competitive products in the eyes of the consumer. It is also the only element in the 4Ps that produces revenue for the retailers (Khalid & Sahu, 2020). And as research found, it is the element which most affects consumer purchasing decision, in normal circumstances at least (Satit et al., 2012).

Place (or distribution) strategy is where the consumers look for the product and can buy or order it. Are the products positioned at the appropriate time and in the right quantity in the correct location? An effective place strategy can help create a growing customer base and adds to the competitive advantage of any business (Rybackzewska & Sparks, 2019). As research shows, the distribution and delivery services have significant influence on consumer buying decision (Fadhillah, 2013). Until the introduction of the internet

with the possibility of webshops and delivery apps, distribution mainly consisted of real time and real face contact. Just a small part was buying and distributing via telephone, TV-advertising/shows or catalogues. In the Covid-19 period, the variety in distribution strategies was very limited. The real shops and the markets, where consumers often make their final decision, were closed in the period of a complete lockdown.

Last but not least: the promotion deals with how the targeted customers are informed and educated about the products, and convinced that that a specific product is the best choice. Pitts (2020) argues that among these 4P's, promotion is marketing in its entirety as the general public sees and relates to it as marketing. According to Neha and Manoj (2013), consumer purchase decision from food retailers is influenced by promotion strategies such as premiums, contests and in-shop promotions. In-shop promotions were replaced by in-web shop promotions in the Covid period. And the online retailers had to make a choice for which product or products they wanted to make promotion.

Generally, many researchers noted that the marketing mix strategy has significant impact on buying decisions (Andotra, 2006; Azzadina et al., 2012; Elgarhy & Mohamed, 2023). E-commerce sales are benefiting from a significant behavioral shift among consumers. Retail marketers had already planned to allocate more funds to social media advertising in 2020 compared to previous years, recognizing the numerous advantages it offers for marketing (Appel et al., 2020). As people are spending more time on social media networks while staying indoors, this is the time for retail brands to focus on social media advertising as a primary source of marketing.

Purchasing Decision

In this research we focus on food purchasing decisions during the Covid-period, a special situation certainly during the weeks of a complete lockdown. This might have caused two effects: a bigger and more intense health awareness (with following the strict instructions of the government) and a change concerning the value of factors for food purchasing decisions. Rahman et al. (2020) studied the consumers' price and expenditure sensitivity of demand for 15 major food items from 1959 to 2016. The results demonstrate a shift in food preferences among consumers in the USA from carbohydrates to protein, largely driven by increased health awareness. The price elasticities indicate that all food items are price inelastic except 'other meats. Mbongwe and Qutieshat (2023) concluded that during Covid, consumer buying behaviour changed. It has been affected by various factors, among them cultural, personal, and psychological. The purchasing patterns were more inclined toward value. Food design and packaging were less significant factors in purchasing decisions during a crisis, and younger consumers tended to rely on the Internet for food purchases the least (Récky et al., 2023). Alam et al. (2022) explored the factors influencing the intention to buy healthy foods in Malaysia during the COVID-19 pandemic. Their study highlighted concerns regarding food safety, health consciousness, and nutritional content, premium price and attitude significantly affected consumer's buying intention. In their research of the effects of consumer anxiety and social contagion on willingness to pay more for food during instances of panic buying (in Covid-times), Tan et al. (2023) concluded that the direct impacts of panic buying were significant.

Social contagion had a direct impact on both panic buying and the willingness to pay more for food items. In their post-COVID study conducted in Beijing, Jiang et al. (2023) discovered that the marketing mix strategies of product, place, and promotion were essential in shaping Chinese consumers' attitudes toward organic food. Notably, price did not play a significant role in influencing purchasing decisions, likely because consumers prioritized their health and food safety even after the pandemic.

Health Awareness

The third construct in our research focuses on consumers' health awareness, which is essential for businesses to align with customer needs. According to Lim (2020), there is a significant positive relationship between price and health awareness. Evidence suggests that consumer responses vary considerably based

on the nature of the product, the type of health claim, the functional ingredients used, or a combination of these factors. Health claims are generally viewed more favorably when associated with products that have an overall positive health image, often referred to as “trust.” Familiarity with a functional ingredient and its claimed health benefits tends to lead to a more favorable evaluation (Wills et al., 2012).

Consumer segments differ in how they prioritize health-related and non-health-related food attributes when making food choices. The level of health consciousness influences which attributes (health-related vs. health-unrelated) are deemed important. Additionally, the degree of nutrition-related self-efficacy shapes the number of health-related attributes considered significant. Analysis identified two primary segments—taste lovers and nutrition fact seekers—defined by consumers’ levels of health consciousness. It is reasonable to expect that health consciousness would increase, or have more consequences, during periods when one’s health is at risk, such as during COVID-19. Alam et al. (2022) found that concerns about food safety, health consciousness, nutritional content, attitude, and premium pricing significantly affected buying intentions. Research conducted in Qatar indicates clear changes in how consumers ate, shopped, and interacted with food during COVID-19, highlighting a shift toward healthier diets and an increase in the consumption of domestic products due to food safety concerns (Ben Hassen et al., 2020). However, 40% of Saudi online food buyers gained weight during the pandemic because the apps did not restrict purchases of less healthy processed foods, and consumers struggled to control their cravings (Alhusseinio et al., 2022).

Research Problem and Questions

The current situation has created an environment where e-commerce can thrive by implementing effective marketing strategies aimed at health-conscious consumers during the COVID-19 period. While the pandemic has also affected marketing tactics and advertising initiatives, marketers have adapted by focusing on strategies that capitalize on the unique challenges of these times. How would consumers behave when selecting goods online in a scenario where they have limited or no alternatives? In a pandemic like COVID-19, would they become more health-conscious, prioritizing healthy food products over price? These questions had remained unanswered until now. The findings may provide insights that can be applied to similar future scenarios, such as disasters that impact public health.

Based on this situation, the following research questions have been formulated:

- Is there an influence of the marketing mix strategy (product, place, price, and/or promotion) on the purchasing decision from online food retailers by Saudi consumers?
- Does health awareness of Saudi consumers during the COVID -19 pandemic affect the purchasing decision from online food retailers?
- Does health awareness during the COVID-19 crisis act as a mediating factor in influencing the purchasing decision from online food retailers in Saudi Arabia?

Research Objectives

The current research aims to investigate the role of health awareness in the relationship between a marketing mix strategy and the consumer purchasing decision from online food retailers in Saudi Arabia during Covid-19. The significance of the research is that there was a need to identify the best business strategy for digital and online food retailers during the unprecedented Covid-times as consumers shifted more and/or faster to online applications and might continue doing so in the future or in new, local or national, uncertain situations.

Research Hypotheses

The importance of each 4Ps element can vary at any given moment in time, depending on the conditions. The use of the marketing mix by a retailer depends on its resources and the market conditions,

and it also heavily relies on the needs of the consumers. To understand how this mix is impacting the health awareness and purchase decision of Saudi consumers from food retailer businesses, the following two hypotheses are presumed:

It is expected that Marketing mix strategy has a positive effect on purchasing decisions

H_1 : It is expected that Marketing mix strategy has a positive effect on purchasing decisions, as follows:

- H_{1a} : It is expected that product has a positive effect on purchasing decisions.
- H_{1b} : It is expected that price has a positive effect on purchasing decisions.
- H_{1c} : It is expected that place has a positive effect on purchasing decisions.
- H_{1d} : It is expected that promotion has a positive effect on purchasing decisions.

H_2 : It is expected that Marketing mix strategy has a positive effect on consumer's health awareness, as follows:

- H_{2a} : It is expected that product has a positive effect on consumer's health awareness.
- H_{2b} : It is expected that price has a positive effect on consumer's health awareness.
- H_{2c} : It is expected that place has a positive effect on consumer's health awareness.
- H_{2d} : It is expected that promotion has a positive effect on consumer's health awareness.

Mediating role of Health Awareness

Lim (2020) noted that there is a linear relationship between health awareness and purchase intention. Another recent review of studies shows that consumer behavior regarding organic products is mainly dependent on their health-related attitudes (Stampa, Schipmann-Schwarze & Hamm, 2020). Consumers' purchasing of functional food has been described (Krystallis, Maglaras, & Mamalis, 2008) as highlighting health risk prevention and health enhancement as the most important motives of food purchasing decision. Confirming this, Wills, Bonsmann, Kolka, & Grunert (2012) state that products with health claims are associated with buying behavior. In addition, labels of grocery products play a significant role in giving relevant health information to consumers that strongly influence the purchasing decision (Bandara et al., 2016). According to Baker et al. (2020), the spending on food items increased right after the lockdown measures.

To look at the impact of consumer health awareness as a mediating variable during COVID-19 pandemic and how it affects their purchasing decisions, the following two hypotheses are proposed:

H_3 : It is expected that Consumer's health awareness has a positive effect on food purchasing decisions.

H_4 : It is expected that Consumer's health awareness related to COVID-19 pandemic impacts the relationship between marketing strategy and the food purchasing decision of consumers.

Based on the research objectives and literature review, a conceptual model has been developed, as shown in figure 1. The circles describe the three main constructs of the research, and the arrows indicate the relationship hypothesized among them. There are four independent variables which are the 4Ps (product, price, place and promotion) of the marketing mix strategy while purchasing decision is the dependent variable, whilst health awareness in the current scenario is the mediating variable.

Research Design

For the current research, a quantitative research approach was adapted. By using a quanti-

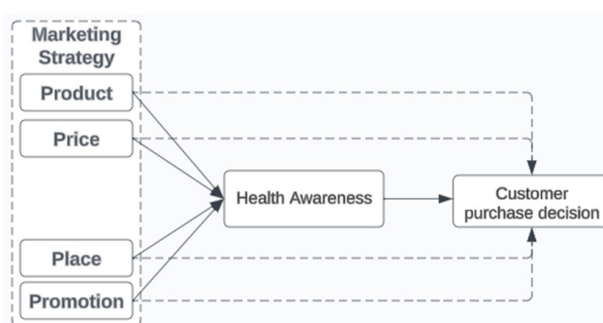


Figure 1. Research Model based (Marketing Mix Strategy, Health Awareness and Purchasing Decision)

tative approach, the researcher can identify trends and differences within a larger number of respondents and also within a larger population sample (Saunders et al., 2019). This method of research is also considered more valid and reliable as compared to qualitative research (Mohajan, 2017). The research targeted consumers of online food retailers during Covid in Saudi Arabia such as Al Danube, Panda, Al Raya and Bin Dawood. The total population for the research was the consumers of online food stores in Saudi Arabia who are buying their grocery from e-store either using Internet or mobile applications during the COVID-19 period. The research was executed in April-May 2020 (see table 1 for the actual restrictions in this period) and we used convenience sampling. The sampling unit is Saudi consumers who actively engage in online food and grocery shopping.

Questionnaires (online) were used for data collection. The participants were entering research voluntarily and they gave consent before they filled the questionnaire. The questionnaire includes close-ended questions with the standard Likert scale to quantify the findings (Joshi et al., 2015). The questionnaire is divided into two sections. The first section contains demographic information such as age, gender, education and economic status of the respondents. The second part of the questionnaire focuses on the current research constructs rated on a five-point Likert scale with 1=strongly disagree to 5=strongly agree. The total number of consumers' response is 465, and all are provided complete and valid data for analysis. The data are processed using SPSS (IBM Statistics) and SMART-PLS software. Table 2 shows research measurement items that were used.

Table 2. Research Measurement

Construct	Number of items	Items	References
Independent Variables			
Product	4	I only shop at online stores which offer high-quality products.	Andreti, Zhafira, Akmal, and Kumar (2018); Katsikeas, Leonidou, and Zeriti (2016); Astuti, Silalahi, and Wijaya (2015)
		The online store offers several brands to choose from for my grocery shopping.	
		There are many healthy foods provided at online store.	
		Online food store modified their packaging decisions to emphasize the following of the health precautions.	
Price	4	My favorite online grocery store has the lowest price as compared to other stores.	Andreti, Zhafira, Akmal, and Kumar (2018)
		I like shopping at online stores which offer discounts when products are bought in bulk.	
		The healthy foods are provided at the best prices by my favorite store.	
		Online retailer provides e-payment method only and avoid cash payment because of COVID -19 pandemic.	
Place	4	The online platform for the delivery is easy to use.	Kitthandechaorn (2016); Andreti, Zhafira, Akmal, and Kumar (2018)
		Online store delivery gives me an opportunity to order items which is hard to find normally.	
		Delivery representative is following the health precautions.	
		The products always arrive in good condition when ordered online.	
Promotion	2	I regularly see online food store advertisement on social media.	Al-Sharif, Qwader, and Al-Slehat (2017)
		Online food store has offered promotions during the lockdown period.	
Mediating Variable			
Health Awareness	3	Ordering healthy and fresh food is really important for me during the COVID19 crisis.	Jain (2020) ; Wills, Bonsmann, Kolka, & Grunert (2012)
		Stores promoting hygienic practices during the COVID19 lockdown attracts me towards their products.	
		Purchasing from online food store during COVID-19 crisis to implement the social distancing is important to me.	
Dependent Variable			
Purchasing Decision	4	I am always looking to buy food products from online store.	Astuti, Silalahi, and Wijaya (2015); Mcleay and Oglethorpe (2013); Azzadina, Huda, and Sianipar (2012)
		I repeat making purchases from online food store.	
		The COVID19 promotions that targeting healthy habits always make me shop more at the online store.	
		Purchasing decisions for my grocery shopping from online store during COVID-19 crisis are very important to me.	

Data Analysis and Results

Sample Descriptive

Respondents were asked to provide details of their gender, age, marital status, education level, total monthly income, and online shopping behaviour. The majority of the respondent were female (66.7%), and mainly aged 20 to 39 years (56.8%). A higher number of respondents were married (71.8%). The majority held a Bachelors' Degree (61.1%). In terms of monthly income, 32.5% of respondents had (relatively low) income less than SR 5000. With respect to online shopping average, more than half the respondents shopped monthly (52.7%). A complete overview of demographic profile of respondents is given in table 3.

Reliability and Validity Analysis

The measurement model was assessed on reliability and validity of the constructs (Table .4). First, the factor loadings of all the items in the model have a value greater than the minimum acceptable value of 0.50 (Hair et al., 2016). One item of the price items (My favorite online grocery store has the lowest price as compared to other stores) loaded less than .50 and was removed from further analysis. Reliability was assessed using composite reliability and was found greater than required value of 0.700 (Wasko & Faraj, 2005), indicating good reliability (Henseler et al., 2016). Convergent validity was acceptable because the AVE was higher than 0.500 except for product and price. However, it was close to .50 and the composite reliability was greater than .70. Discriminant validity was assessed by comparing the correlations among the latent variables with the square root of AVE (Fornell & Larcker, 1981). All square root values were higher than the underlying correlation values. Hence, discriminant validity was established (see Table.5).

Structural Model

The structural model reflects the paths hypothesized in the conceptual framework. A structural model is assessed based on the R2, Q2, and significance of paths. The results show that all R2 values are over 0.1. Hence, the predictive capability is established. A Q2 above 0 shows that the model has predictive relevance. Furthermore, the model fit was assessed using SRMR. The value of SRMR was 0.08, this is within the required value of .10 (Hair et al., 2016). For further assessment of the goodness of fit, hypotheses were tested to ascertain the significance of the relationship. The results revealed that all elements, all Ps, of the marketing mix had a significant influence on the purchasing decision of food online, except for price. The results revealed also that that all elements, all Ps, of the mar-

Table 3. Demographic Profile of Respondents

Demo-graphics	Categories	Frequency	Percentage
Gender	Male	155	33.3%
	Female	310	66.7%
Age	Less than 20 Years	21	4.5 %
	20-39	264	56.8 %
	40-59	147	31.6 %
	60 and Above	33	7.1 %
Marital Status	Single	112	24.1 %
	Married	334	71.8 %
	Divorced	17	3.7 %
	Widowed	2	0.4 %
Education Level	Under Secondary School	14	3.0 %
	Secondary School Certificate	72	15.5 %
	Bachelor Degree	284	61.1 %
	Postgraduate Degree	85	18.3 %
	Other – Diploma	10	2.2 %
Total Monthly Income	Less than 5000 SR	151	32.5 %
	SR 5000-10000	112	24.1 %
	SR 5001-15000	122	26.2 %
	SR 15001-20000	40	8.6 %
Shopping Average	More than 20000 SR	40	8.6 %
	Daily	74	15.9 %
	Weekly	146	31.4 %
	Monthly	245	52.7 %

Table 4. Reliability and Validity Analysis

	Items	Loadings	CR	AVE
Product	Prod1	0.694	0.771	0.462
	Prod2	0.778		
	Prod3	0.687		
	Prod4	0.536		
Price	Pri2	0.722	0.725	0.476
	Pri3	0.510		
	Pri4	0.804		
Placement	Plc1	0.739	0.807	0.514
	Plc2	0.598		
	Plc3	0.704		
	Plc4	0.810		
Promotion	Prom1	0.812	0.795	0.660
	Prom2	0.813		
Health Awareness	HA1	0.747	0.815	0.595
	HA2	0.773		
	HA3	0.792		
Purchasing Decision	PD1	0.846	0.888	0.667
	PD2	0.840		
	PD3	0.700		
	PD4	0.870		

Note: CR: Composite Reliability and AVE: Average Variance Extracted

Table 5. Fornell-Larcker Criterion

	Prod	Price	PLC	Prom	HA	PD
Prod	0.679					
Price	0.492	0.690				
PLC	0.429	0.485	0.717			
Prom	0.378	0.369	0.417	0.812		
HA	0.413	0.542	0.450	0.319	0.771	
PD	0.382	0.401	0.415	0.364	0.507	0.817

Note: Diagonal and italicized are the square roots of the AVE.

keting mix had a significant influence on the health awareness of the consumers, except for promotion. The results indicated that health awareness significantly influences purchasing decisions, supporting H3. See Table 6 for results.

Mediation Analysis

To assess the mediating role of health awareness on the linkage between marketing mix strategy and purchase decision, mediation analysis was performed. The results (see Table 7) revealed that the total effect of the marketing mix strategy on purchasing decision was effect of MS on PD was significant. With the inclusion of the mediator, the direct effect was reduced but was still significant. The indirect effect of Marketing Mix on purchasing through health awareness was also found significant. This shows that health awareness partially mediates the relationship between the marketing mix and the purchasing decision.

Table 6. Testing Direct Relationships

	Coefficient	Standard Deviation	T Statistics	P Values
H1a:Product->PD	0.108	0.049	2.188	0.029
H1b:Price->PD	0.053	0.054	0.986	0.324
H1c:Place->PD	0.134	0.064	2.103	0.036
H1d:Promotion->PD	0.146	0.048	3.043	0.002
H2a:Product->HA	0.129	0.052	2.488	0.013
H2b:Price->HA	0.360	0.054	6.712	0.000
H2c:Place->HA	0.198	0.054	3.654	0.000
H2d:Promotion->HA	0.049	0.047	1.050	0.294
H3:HA->PD	0.327	0.055	5.928	0.000
R ² HA = 0.355		Q ² HA = 0.198		
R ² PD = 0.257		Q ² PD = 0.215		

HA: Health Awareness, and PD: Purchase Decision

Table 7. Mediation Analysis

Total effect (MS->PD)		Direct effect (MS->PD)		Indirect Effects of MS on PD			
Coefficient	P-value	Coefficient	P-value	Coefficient	SD	T value	P Values
0.508	0.000	0.327	.000	H4:MS->HA->PD	0.181	0.036	5.026 0.000

MS: Marketing Strategy, HA: Health Awareness, and PD: Purchase Decision

Results Discussion

The study assessed the relationship between Marketing Mix elements (Product, Price, Place, and Promotion), Health Awareness, and Online Food Purchase Decisions in the COVID-19 period in Saudi Arabia. With the world completely engulfed in the COVID-19 pandemic, this research was one of the first to assess the proposed interrelationship. Based on the results, we conclude that the marketing mix elements product, place and promotion have an impact on online food purchasing decisions. However, in our research, pricing did not have an influence on the purchasing decision. This is contrary to previous research that found a (even high) significant impact of price on purchasing decision (Satit et al., 2012), however in normal times.

There might be different explanations for this finding during Covid-times:

- 1- The fact that consumers became less price sensitive during the COVID-19 pandemic and paid more attention to other factors like the available literature suggests (Alam et al., 2023; Mbonge & Qutieshat, 2023).
- 2- Growing health awareness in general. Prasad, Strijnev, and Zhang (2008) showed that the more health conscious a household is, the less price-sensitive it is.
- 3- A growing health awareness in Covid times (afraid to get ill) that steers consumers to buy more healthy products which are more expensive.
- 4- The lack of availability of cheaper food items online. When it comes to food products, customers are more enticed by the availability of products, and how to get it in safe environment during the pandemic than by the price.

The findings of the current study do not validate the hypothesis that promotion has a positive impact on consumer’s health awareness. The reason why might be that the consumer in the COVID pandemic focused more on how he/she can follow all general health precautions rather than look online if the retailer had promotions for certain (healthy) food products.

The findings support the statement that consumers’ health awareness has a positive impact on purchasing decisions which has been concluded by earlier research as well. Kraus (2015) noted that when it comes to purchasing healthy foods, the most important motivating factors are good health, long harmoni-

ous life and self-esteem. Lastly, the study found a partial mediating role of health awareness on the linkage between marketing mix elements and purchasing decisions. This is in line with the previous research that has also shown that marketing strategies have been found to impact health related issues (Stampa, et al., 2020) which in turn impact the purchase decision of people.

Limitations of Study and Future Research

The study is limited to the marketing mix strategy and health awareness and its impact on Saudi consumer's food purchasing decision online during a specific period in time. Future studies could focus on more than one country, on less restricting cases, on consumers with health deficiencies or allergies (who have to watch at buying food items more carefully and daily) and could include other mediating variables such as brand of the food item, as a carrier of added value or specific type of food (e.g. organic).

There are inherent limitations in questionnaire studies (Masuda et al., 2016). The data collecting method, using non probability sampling (convenience sampling) can create a bias in the results (Coughlan, Cronin, & Ryan, 2009). The present study is also cross-sectional. Further investigations could focus on taking data at multiple points in time and conduct a longitudinal study to analyze the influence of the marketing mix strategy and health awareness in each stage of purchasing decisions. The current study did not stratify the participants into groups based on age, gender and economic status. Future research efforts can look at the impact of the demographics of consumers and its impact on purchasing decisions and health awareness.

Conclusion, Social and Practical Implications

This is one of the first studies to assess the role marketing mix elements play in improving health awareness and purchase decisions in for consumers difficult, unusual times like COVID-19, in Saudi Arabia. The study can have significant implications for marketing managers and big corporations. The findings can be used to formulate strategies that can not only help businesses raise awareness pertinent to health-related issues but also guide the purchasing decision of the consumers.

The research aimed to understand the marketing mix's impact on health awareness and the purchasing decisions of Saudi consumers from online food retailers. The study also tried to understand the impact of consumer health awareness as a mediating factor during the COVID19 pandemic and how it is impacting purchasing decisions. The findings have shown empirically that the marketing mix strategy has an impact on purchasing decisions. The price of the products does not seem to impact the purchasing decision in Covid-times. This is an interesting finding as it shows that a customer's purchasing decision in such insecure and fearful times is not or hardly impacted by the price of the food product. Customers seem to be more interested in the product itself, and very probably the healthy characteristics or ingredients of it. This finding is very useful for food retailers as the consumers are focusing on quality healthy foods.

The second major finding is that promotion of a food item does not have a significant effect on consumer's health awareness. This provides a key implication for online food retailers to work on improving their promotion strategy to positively affect consumer's health awareness. Advocating for healthy eating habits should be advocated to the consumers to effectively change their attitudes toward health awareness (Chen, 2009). This can be done using online healthy food promotions, with customers aware of how each food item helps them during this pandemic and normal days. Maybe this can be extended to advise how to prepare food and dishes in a healthy way. The promotions can also target segments of society which have a history of disease such as diabetes, cardiac problems to help them buy foods which can help support them without a pandemic (Banerjee, Chakraborty, & Pal, 2020). The study also supports the link between health awareness and purchasing decisions as noted earlier. When the quality perception of a product increases, a retailer can entice customers to buy the quality product (Bao, Bao, & Sheng, 2011). Richardson, Jain, and Dick (1996) noted that retailers should focus on quality of the product instead of positioning the product as low price. During the current scenario, the marketing strategy should also orient itself to appeal to quality-conscious customers as noted by Sprott and Shimp (2004).

References

- Abed, S. S. (2023). Factors Influencing Consumers' Continued Use of Food Delivery Apps in the Post-Pandemic Era: Insights from Saudi Arabia. *British Food Journal*, Vol. 126, No. 5, pp. 2041-2060.
- Alam, S. S., Wang, Ch., Lin, Ch., Masukujjaman, M. & Ho, Y. (2022). Consumers' Buying Intention Towards Healthy Foods During the COVID-19 Pandemic in an Emerging Economy. *Cogent Business & Management*, 9: 2135212, pp. 1-24.
- Al-Sharif, B. M., Qwader, A. & Al-Slehat, Z. A. F. (2017). The Effect of Promotion Strategy in the Jordanian Islamic Banks on a Number of Customers. *International Journal of Economics and Finance*, 9 (2), pp. 81-88.
- Alatawy, K. S. (2019). Factors Influencing Consumers' Intention to Use Mobile Applications for Online Shopping in the Kingdom of Saudi Arabia (KSA). *International Journal of Business and Management*, 14 (1), pp. 86-94.
- Alhusseini, N., Alammari, D., Nedal Sabbah, B., Almubayedh, A. A., Arabi, T., Mahmood, H. R., Odeh, N. B. & Ramadan, M. (2022). Obesity and Food Delivery Applications: Lessons Learned from Covid-19 in Saudi Arabia. *Journal of Medical and Surgical Research*, Vol. IX, pp. 1098-1104.
- Andotra, N. (2006). Optimising Customer-orientation in Small Business Through Marketing-mix Feedback Result. *Journal of Services Research*, 6 (2).
- Andreti, J., Zhafira, N., Akmal, S. & Kumar, S. (2018). The Analysis of Product, Price, Place, Promotion and Service Quality on Customers' Buying Decision of Convenience Store: A Survey of Young Adult in Bekasi, West Java, Indonesia. *International Journal of Advances in Management and Economics*, Nov-Dec, Vol. 2, pp. 72-78.
- Appel, G., Grewal, L., Hadi, R. & Stephen, A. T. (2020). The Future of Social Media in Marketing. *Journal of the Academy of Marketing Science*, 48 (1), pp. 79-95.
- Astuti, R., Silalahi, R. L. R. & Wijaya, G. D. P. (2015). Marketing Strategy Based on Marketing Mix Influence on Purchasing Decisions of Malang Apples Consumers at Giant Olympic Garden Mall (MOG), Malang City, East Java Province, Indonesia. *Agriculture and Agricultural Science Procedia*, 3, pp. 67-71.
- Azzadina, I., Huda, A. N. & Sianipar, C. P. M. (2012). Understanding Relationship between Personality Types, Marketing-mix Factors and Purchasing Decisions. *Procedia-social and Behavioral Sciences*, 65, pp. 352-357.
- Baker, S. R., Farrokhnia, R. A., Meyer, S., Pagel, M. & Yannelis, C. (2020). How Does Household Spending Respond to an Epidemic? Consumption During the 2020 COVID-19 Pandemic. *The National Bureau of Economic Research*, Working Paper No. 26949.
- Bandara, B. E. S., De Silva, D. A. M., Maduwanthi, B. C. H. & Warunasinghe, W. A. A. I. (2016). Impact of Food Labeling Information on Consumer Purchasing Decision: With Special Reference to Faculty of Agricultural Sciences. *Procedia Food Science*, 6, pp. 309-313.
- Banerjee, M., Chakraborty, S. & Pal, R. (2020). Diabetes Self-management Amid COVID-19 Pandemic. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 14 (4), pp. 351-354.
- Bao, Y., Bao, Y. & Sheng, S. (2011). Motivating Purchase of Private Brands: Effects of Store Image, Product Signatureness, and Quality Variation. *Journal of Business Research*, 64 (2), pp. 220-226.
- Bartik, A. W., Bertrand, M., Cullen, Z. B., Glaeser, E. L., Luca, M. & Stanton, C. T. (2020). *How Are Small Businesses Adjusting to COVID-19? Early Evidence from a Survey*. (0898-2937). National Bureau of Economic Research.

- Ben Hassen, T., El Bilali, H. & Allahyari, M. S. (2020). Impact of COVID-19 on Food Behavior and Consumption in Qatar. *Sustainability*. DOI: 10.3390/su12176973.
- Chen, M. F. (2009). Attitude Toward Organic Foods Among Taiwanese as Related to Health Awareness, Environmental Attitudes, and the Mediating Effects of a Healthy Lifestyle. *British Food Journal*. 111(2):165-178, February. DOI:10.1108/00070700910931986
- Coughlan, M., Cronin, P. & Ryan, F. (2009). Survey Research: Process and Limitations. *International Journal of Therapy and Rehabilitation*, 16 (1), pp. 9-15.
- Craven, M., Liu, L., Mysore, M. & Wilson, M. (2020). *COVID-19: Implications for Business*. McKinsey & Company. <https://www.mckinsey.com/business-functions/risk/our>.
- Deepak, R. K. A. & Jeyakumar, S. (2019). *Marketing Management*. Educreation Publishing.
- Elgarhy, S. D. & Mohamed, L. M. (2023). The Influences of Services Marketing Mix (7Ps) on Loyalty, Intentions, and Profitability in the Egyptian Travel Agencies: The Mediating Role of Customer Satisfaction. *Journal of Quality Assurance in Hospitality & Tourism*, 24 (6), pp. 782-805.
- Fadhillah, A. P. (2013). The Analyze of Product, Price, Promotion, and Distribution Towards Customer Buying Decision. *Diponegoro University Journal*.
- Fornell, C. & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18 (1), pp. 39-50.
- Goi, C. L. (2009). A Review of Marketing Mix: 4Ps or More? *International Journal of Marketing Studies*, 1 (1), pp. 2.
- Gostin, L. O. & Wiley, L. F. (2020). Governmental Public Health Powers During the COVID-19 Pandemic: Stay-at-Home Orders, Business Closures, and Travel Restrictions. *JAMA*. 323 (21):2137-2138. doi:10.1001/jama.2020.5460
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. & Sarstedt, M. (2016). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications.
- Harris, J. L., Bargh, J. A. & Brownell, K. D. (2009). Priming Effects of Television Food Advertising on Eating Behavior. *Health Psychology*, 28 (4), pp. 404.
- Hasanat, M. W., Hoque, A., Shikha, F. A., Anwar, M., Hamid, A. B. A. & Tat, H. H. (2020). The Impact of Coronavirus (Covid-19) on E-business in Malaysia. *Asian Journal of Multidisciplinary Studies*, 3 (1), pp. 85-90.
- Henseler, J., Hubona, G. & Ray, P. A. (2016). Using PLS Path Modeling in New Technology Research: Updated Guidelines. *Industrial Management & Data Systems*, 116 (1), pp. 2–20.
- Jain, D. (2020). *Effect of COVID-19 on Restaurant Industry: How to Cope with Changing Demand*. (April 16, 2020), Available at SSRN 3577764.
- Joshi, A., Kale, S., Chandel, S. & Pal, D. K. (2015). Likert Scale: Explored and Explained. *British Journal of Applied Science & Technology*, 7 (4), pp. 396.
- Katsikeas, C. S., Leonidou, C. N. & Zeriti, A. (2016). Eco-Friendly Product Development Strategy: Antecedents, Outcomes, and Contingent Effects. *Journal of the Academy of Marketing Science*, 44 (6), pp. 660-684.
- Khalid, M. S. & Sahu, D. K. (2020). Pricing Strategies and Methods of Perishable Goods: A Critical Review. *Studies in Indian Place Names*, 40 (3), pp. 1498-1509.
- Khan, M. F. (2020). A Unified Factor Analysis and Distance Based Evaluation Approach to Evaluate the Preferences Towards Online Food Ordering Applications in Saudi Arabia. *International Journal of Management (IJM)*, 11 (12), pp. 1752-1762.

- Kindra, G., Ahmed, S. A. & Shawli, N. (2014). Entrepreneurship in Saudi Arabia: An Empirical Investigation of Online Grocery Shopping Behaviour. *Journal of Management Information System & E-commerce*, 1 (2), pp. 1-24. American Research Institute for Policy Development.
- Kitthandechaorn, T. (2016). *Customer Buying Decision Process Using Online Platform for Online Food Delivery in Thailand*, An Independent Study Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science Program in Marketing. Faculty of Commerce and Accountancy, Thammasat University.
- Koren, M. & Petó, R. (2020). Business Disruptions from Social Distancing. *PLOS ONE*, 15 (9): e0239113. <https://doi.org/10.1371/journal.pone.0239113>. September 18.
- Kotler, P. & Armstrong, G. (2010). *Principles of Marketing*. Pearson Education.
- Kraus, A. (2015). Factors Influencing the Decisions to Buy and Consume Functional Food. *British Food Journal*, 117 (6), pp. 1622-1636.
- Krystallis, A., Maglaras, G. & Mamalis, S. (2008). Motivations and Cognitive Structures of Consumers in Their Purchasing of Functional Foods. *Food Quality and Preference*, 19 (6), pp. 525-538.
- Liang, F. & Litscher, G. (2020). COVID-19 (Coronavirus Disease-19): Traditional Chinese Medicine Including Acupuncture for Alleviation: A Report from Wuhan, Hubei Province in China. *OBM Integrative and Complementary Medicine*, 5 (1), pp. 1-4.
- Lim, E. K. (2020). Consumer Perception of Purchasing Organic Foods: A Case Study of Online Consumer Behavior. *Strategies and Tools for Managing Connected Consumers*, pp. 106-115. IGI Global.
- Masuda, S., Sakagami, T., Kitaoka, K. & Sasaki, M. (2016). Relationships Between Ignoring Instructions and Response Bias When Completing Questionnaires. *The Japanese Journal of Psychology*, 87 (4), pp. 354-363.
- Mbongwe, Th., & Qutieshat, A. (2023). A Literature Review on the Impact of COVID-19 Pandemic on Consumer Buying Behavior Towards Private Labels. *International Journal of Social Science Research and Review*, 6 (6), pp. 138-144.
- Mcleay, F. J. & Oglethorpe, D. (2013). Social Marketing, Parental Purchasing Decisions, and Unhealthy Food in Developing Countries: A Nigerian Typology. *Journal of Consumer Behaviour*, 12 (3), pp. 232-242.
- Mehraeen, E., Hayati, B., Saeidi, S., Heydari, M. & Seyedalinalghi, S. (2020). Self-Care Instructions for People Not Requiring Hospitalization for Coronavirus Disease 2019 (COVID-19). *Archives of Clinical Infectious Diseases*, 15 (COVID-19).
- Miller Jr, L. M. (2020). Developing an Integrative Marketing Theory. *Review of Integrative Business and Economics Research*, 9 (1), pp. 165-180.
- Mohajan, H. K. (2017). Two Criteria for Good Measurements in Research: Validity and Reliability. *Annals of Spiru Haret University: Economic Series*, 17 (4), pp. 59-82.
- Muzondo, N., & Mutandwa, E. (2011). The Seven Ps of Marketing and Choice of Main Grocery Store in a Hyperinflationary Economy. *Contemporary Marketing Review*, 1 (9), pp. 1-18.
- Neha, S. & Manoj, V. (2013). Impact of Sales Promotion Tools on Consumer's Purchase Decision Towards White Good (Refrigerator) at Durg and Bhilai Region of CG, India. *Research Journal of Management Sciences*, ISSN 2319-1171.
- Pitts, B. G. (2020). "Technology and Sport Marketing", In: *Managing Sport Across Borders* (pp. 127-146). Routledge.

- Prasad, A., Strijnev, A. & Zhang, Q. (2008). What Can Grocery Basket Data Tell Us About Health Awareness? *International Journal of Research in Marketing*, 25 (4), pp. 301-309.
- Rahman, K. T., Kaynath Akhi, K. & Palash, Md. S. (2020). Empirical Evidence of Changing Food Demand and Consumer Preferences in the USA. *Journal of Bangladesh Agricultural University*, 18 (1), pp. 172–179.
- Récky, R., Kádeková, Z. D., Tkáč, F. & Košičiarová, I. (2023). Changes in Consumer Behaviour in the Food Market in a Crisis. *Food Industry Slovak Journal of Food Sciences*, 17, pp. 664-676.
- Richardson, P. S., Jain, A. K. & Dick, A. (1996). Household Store Brand Proneness: A Framework. *Journal of Retailing*, 72 (2), pp. 159-185.
- Rybaczevska, M. & Sparks, L. (2019). Place Marketing and Place-based Loyalty Schemes. *Journal of Enterprising Communities: People and Places in the Global Economy*, 14 (1), 42-56
- Satit, R. P., Tat, H. H., Rasli, A., Chin, T. A. & Sukati, I. (2012). The Relationship Between Marketing Mix and Customer Decision-making Over Travel Agents: An Empirical Study. *International Journal of Academic Research in Business and Social Sciences*, 2 (6), pp. 522.
- Saunders, M., Lewis, P., Thornhill, A. & Bristow, A. (2019). **Research Methods for Business Students**. Chapter 4: Understanding Research Philosophy and Approaches to Theory Development, pp. 128-171.
- Sayed, A. A. (2021). The Progressive Public Measures of Saudi Arabia to Tackle COVID-19 and Limit Its Spread. *International Journal of Environmental Research and Public Health*, 18 (2), 783.
- Sohrabi, C., Alsafi, Z., O'Neill, N., Khan, M., Kerwan, A., Al-Jabir, A. & Agha, R. (2020). World Health Organization Declares Global Emergency: A Review of the 2019 Novel Coronavirus (COVID-19). *International Journal of Surgery*, 76, pp. 71-76.
- Sprott, D. E. & Shimp, T. A. (2004). Using Product Sampling to Augment the Perceived Quality of Store Brands. *Journal of Retailing*, 80 (4), pp. 305-315.
- Stampa, E., Schipmann-Schwarze, C. & Hamm, U. (2020). Consumer Perceptions, Preferences, and Behavior Regarding Pasture-raised Livestock Products: A Review. *Food Quality and Preference*, 103872.
- Statista. (2024). **Online Food Delivery in Saudi Arabia**. Retrieved from [Statista](#).
- Tan, L. P., Hoang, T. H., George, M. & My, H. N. T. (2023). "Balancing Supply and Demand: The Impact of Consumer Anxiety and Social Contagion on Willingness to Pay More for Food During the COVID-19 Pandemic", In: *Business Innovation for the Post-pandemic Era in Vietnam* (pp. 133-143). Singapore: Springer Nature Singapore.
- Thunstrom, L., Newbold, S., Finnoff, D., Ashworth, M. & Shogren, J. F. (2020). The Benefits and Costs of Using Social Distancing to Flatten the Curve for COVID-19. *Journal of Benefit-Cost Analysis*, 11 (2), 179-195.
- Wasko, M. & Faraj, S. (2005). Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice. *MIS Quarterly*, 29 (1), pp. 35-57.
- Wills, J. M., Genannt Bondsman, S. S., Kolka, M. & Grunert, K. G. (2012). European Consumers and Health Claims: Attitudes, Understanding, and Purchasing Behaviour. *Proceedings of the Nutrition Society*, 71 (2), pp. 229-236.
- Yilmazkuday, H. (2020). Stay-at-Home Works to Fight Against COVID-19: International Evidence from Google Mobility Data. *Journal of Human Behavior in the Social Environment*, 31 (1-4), 210-220.