

Exploring Factors Affecting Intention to Consume Fish in Jordan

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Abstract: Purpose: This study aims to exploring factors affecting intention to consume fish in Jordan.

Theoretical Framework: Fish consumption is one of important topics in the national economy, so the current study examine how price, product, promotion, place, and health concern effect on intention to consume fish.

Design/ Methodology / Approach: A descriptive approach and regression analysis was utilize to test the study's hypotheses, and 208 questionnaires were analyzed.

Findings: Results revealed a significant effect of product promotion, place and health concern on fish consumption intention in Jordan. While price have no impact on intention to consume fish.

Research, Practical & Social implications: the study recommended more studies covers different region in Jordan, taking into consideration other variables that could concern the Jordanian customers.

Originality / Value: This study one of paucity studies in Jordan environment focus on the factors that affect fish consumption, also set of suggestions for the subsequent research works also was listed at the end of this study.

Keywords: fish consumption intention, health concern, price, product, promotion, and place.

1. INTRODUCTION

For the past few decades, it is known that the foremost contributors to the increase of the worldwide consumption of fish products are the rapid population growth and income improvements, and growing health awareness in some developed countries. In-depth analysis of the behavior of the fish consumption is taking place in several countries while fish consumption is constantly changing in terms of consumers' desire. In addition, social and psychological factors in other countries remain undiscovered (Supartini et al., 2018). Therefore, food security and improving food quality in the global system is insured by sustainable food consumption and production. The consumption of seafood has doubled globally in the past 50 years, to over 20 kg per capita per year in 2014. As a recognized, importantly sources of nutritional foods for humankind, fishery products were considered. According to the recent data, the fastest sector at the annual growth rate with about 7% growing over the past decades was fishery (Kaimakoudi et al., 2014).

Globally, produced seafood merchandise that are global traded has a very excessive and developing share compared to different commodities. Different vitamins such as proteins and nutritional vitamins which are integral to human fitness are furnished through fish when consumed (Sun, 2008). In terms of animal protein supply, fish account for approximately 16.6% of total protein for human consumption globally. Fisheries or aquaculture farming is a crucial source for improving socioeconomic level; it also provides job possibilities. Up to 880 million individuals view aquaculture as a primary source of income (Allison et al., 2013).

According to the Food and Agriculture Organization of the United Nations (FAO), global consumption of fisheries products was around 18.9 kg per capita in 2011, with a typical annual growth charge of 1.62% from 2001 to 2011 (FAO, 2014). Comprising each rural and city areas a boom in common of fishing in many exceptional cultures is followed (Bienenfeld et al., 2003). However, the international grant of fish is decreased in current years (Watson et

al., 2014). Although fish products have been always significant dietary food item. Moreover, fish consumption has increased dramatically in developing countries such as Jordan. Jordanians have recently been diverted to the consumption of fish and seafood products, driven by rising meat and poultry prices and the recovery of fish farming projects, and consumption of seafood was higher in urban areas than in rural areas (Fiedler et al., 2008). The fishing industry which is based in Aqaba on the coast of the red sea is small and is consisting approximately of 85 fishermen and 40 boats. In 2001, total catch reached the limit of 170t comparing to catches from 1995 of 150mt and 103mt for the year 1993. In 2001 catch, about 65% was tuna, no cold storage facilities are established so catches are sold when landing. Reports say that SCUBA divers collect small number of aquarium fish; however, no volume indications are available.

Jordan Valley Fisheries (JVF) being the largest producer of the semi-intensive, salt-water aquaculture is carrying on with Tilapia farm is being operated by the company in the Jordan Valley near Dead Sea. The production of the farm can reach up to 700 ton per year and for algal production and heating, the farm has an intensive system based on solar technology. Aquaculture production was totally estimated at 540t in 2001, which around 80t (15%) were fresh water species such as carp, and the production of saltwater Tilapia. Freshwater aquaculture production has descended for some years with water resources being under pressure from alternate use and environmental degrading. Jordan's fish demand by imports is satisfied, in 2001; imports contributed over 98% of Jordan's fish supply. The prospects of limited development for the industry in the near future will result in a little change to the current situation. Imports have strongly risen more than doubling from 11.400t to 23.200t in the period (1994-2001). Even though there has been a small increase in total local supply, (from nearly 640 in 1996 to 1060 in 2001) 51% of which comes from aquaculture, it has not been sufficient satisfying the constantly increasing local demand. Therefore, the current study aims to investigate the factors that affect intention of fish consumption in Jordan thoroughly.

2. REVIEW OF LITERATURE AND HYPOTHESES DEVELOPMENT

In 1999, Foltz and others looked into the United States customers purchasing intention. Specifically, investigated how socioeconomic attributes influence the preference on purchasing decision of fish products, and developing the marketing strategies for trout products by using the consumers' profiles to meet the demand of a specific segment.

Petursdottir, K. G. M. (2013) also studied fish consumption and attitudes towards fish among the people of Iceland and its tourists. Overall, the participants' attitudes towards fish intake were good, and their behavioral intention to consume fish was quite high. Tourists were more optimistic than locals were. In terms of societal norms, both visitors and the local people concluded that the views of family, physicians, and nutritionists are the most relevant when choosing a fish. Both groups saw advertising, the food industry, and government opinion as unimportant. In terms of perceived behavioral control, three criteria that participants in both groups regarded most important when selecting a fish were availability and ease of preparation, ease of determining quality, and making a good decision.

Khan et al., (2018) has done a study to learn about the consumption of fish and the attitudes of Saudi households towards fish farming in the kingdom of Saudi Arabia (KSA). According to the findings, 85% of respondents were dissatisfied with the price of the fish. Further findings revealed that fish consumption and preference are high in the research region, with consumers preferring fish to chicken and beef due to the nutritional content of fish. Nonetheless, respondents' opinions regarding fish prices in the research region is negatively influence by their educational level and age.

Arsil, P., and Yanto, T., (2019) proposed a conceptual framework explaining relevant attributes of fish consumption. They differentiate main variables for the framework including attitudes, social norms, observed behavioral control, information and knowledge and habits. The influence of product features and socioeconomic variables on the desire and intention of seafood buyers in Oman was investigated Yousuf et al., (2019). The preference model's findings suggested that country, habit, freshness, flavour, family size, money, and education all had a significant impact on seafood purchase frequency. Additional important variables influencing consumers' seafood purchase the hybrid model identified intention like past and current consumption behavior, while the attitudes of the consumers and control beliefs are vital in the intention model. Based on the above discussion we hypothesize that:

H1: Price has no significant effect on fish consumption intention hat:

Another investigation by Li et al. (2000), Houston, and Li (2000) studied consuming of fishery products among consumers in Taiwan. They concluded that consumers who have chosen fish and shrimps are mostly adults and office workers who are interested in nutrition, food quality and taste. Olsen (2001) proposed a surprising influence of positive and negative attitude components, examined in Norway when seafood considered as a family dinner. Positive attitudes, as predicted, have a positive influence on intention, whereas negative attitudes have a negative regression coefficient. In addition, Oslen (2003) discovered a favorable association between consumer age and seafood intake in the United States. Olsen et al. (2008) studied the intention to consuming new fish products in Spain and Norway among adolescents and young adults. He found that the preference and motivation for consuming products varieties among younger and elderly consumers. Based on above discussion we hypothesize that:

H2: Product has significant effect on fish consumption intention

Bhuyan and Goswami (2013) studied the advertising and marketing of value-added fishery merchandise in Assam, India, taking into account consumer consumption and choice." They investigated consumer behaviour in terms of consumption patterns, patron choice, consumer purchasing procedure, and purchasing behaviour of fish goods. The findings of the study may use to develop a high-quality advertising plan for the fisheries business. Kessuvan et al., (2015) searched the consumption conduct and the mind-set of customer towards the tremendous factors that have an effect on selection buy fishery merchandise in Thailand. The results confirmed that middle-income category or above shoppers concentrate on "the meals protection and hygiene of merchandise and market places, origins of products and no contamination. High-income buyers have excessive expectations on marketplace, specifically on the suitability to visit, cooking service, and handy parking area. In conclusion, the most quintessential element affecting the selection to purchasing fishery merchandise is pricing, whilst product method is much less influenced on them. On the other hand, Alghizzawi (2019) pointed out that the importance of digital communication for tourism competitiveness, tourists' behavior, and their use of social media and mobile applications. Therefore, we hypothesize that:

H3: Promotion has significant effect on fish consumption intention

Xu et al. (2012) better a framework to learn about chines consumers' capability to pay for inexperienced and eco-label seafood. The results indicated that chines buyers had in consideration the seafood label turning into quintessential facts source extra than consumption experience. In addition, exclusive elements affected an intention to buy such as gender, purchasing venues, schooling expenditure and knowledge. However, rate had not been viewed as a sizeable element to affect purchase decision. Similarly, Mitterer-Dalton, Carrillo, Queiroz, Fiszman, and Varela (2013) cleared the correlation between the constructs of "health" and "weight control" to predict the intention to consume fish in Rio Grande, Brazil. Kaimakoudi et al. (2013) examined consumers' conduct in Greece"for fishery products by means of a two-step cluster evaluation to assort two specific consumers' clusters via the particular socio-economic data. Outcomes confirmed that high-potential fishery buyers have been younger with higher earnings and educational history than the low-potential consumers have. Based on above we hypothesize that:

H4: Place has significant effect on fish consumption intention

Trondsen et AL. (2004) found that the consumption of healthy food generally includes weekly fish consumption. The higher consumer beliefs and behaviors of the importance of that food the higher fish consumption is associated. Verbeke and Vackier (2005) elaborated fish consumption behavior determinants in Belgium by a planned behavior theory to find that women consume fish higherly and the consumption increases higher age, and the lowest consumption is by the lower income class. Consuming fishery products has more intention among higher education. In addition, there is no impact of food health awareness was found. Altintzoglou, Vanhonacker, Verbeke, and Luten (2011) studied, in Bilguim, the involvement in the issue of health and attitudes towards the consumption of fish, the result confirmed that fish consumption is main outcome. Pethiyagoda and Olsen (2012) aimed to explain the behavior of fish consumption, stressing on the consumer attitudes affect additionally on the effect of comfort orientation, knowledge, range looking for and rate awareness. The effects confirmed that there is a wonderful relationship between mind-set and fish consumption frequency is remarkably related, and charge attention to fish consumption have a negative relationship. Therefore, we hypothesize that:

H5: Health concern has significant effect on fish consumption intention

Figure 1 shows the theoretical model proposed along with the hypotheses to be tested

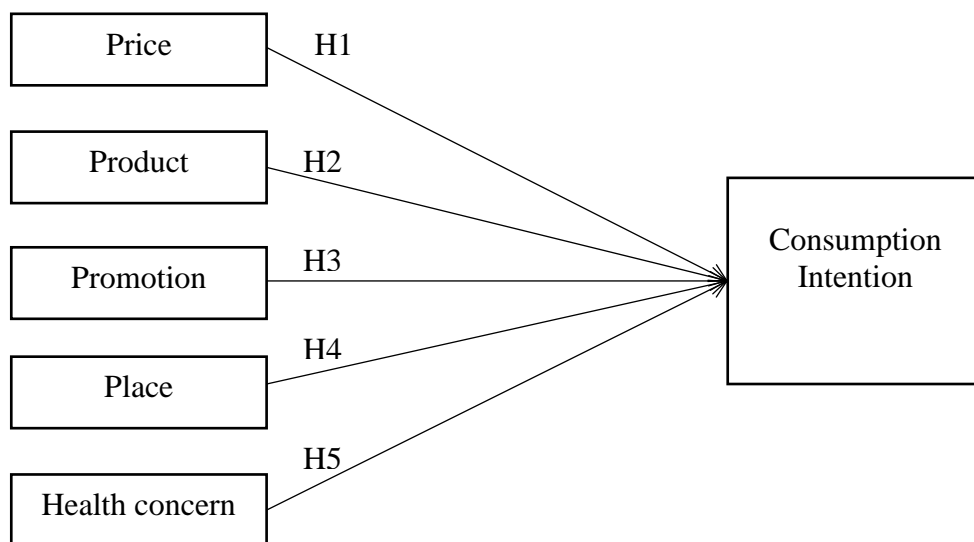


Figure 1. Research Framework

3. RESEARCH METHODOLOGY

The current study apply convenience sample from seafood restaurants in Amman and Aqaba. The reason for choose Amman and Aqaba is that, Amman is the capital of Jordan and it is inhabited by about four million people, Also Aqaba is the only coastal city in Jordan, which is the main source of fish. The researchers use questionnaire to collect data from study sample, out of 260 questionnaire retrieved 208 questionnaire valid for analysis. The Intention to consume, price, and health concern were measure by, 5, 5, and 5 items adapted from (Qasim et al, 2019). In addition, promotion measured by 4 items adapted from (Ye and Zhang, 2014). Product measured in 5 items adapted from (Han and Hyun, 2012), and place measured by 4 items adapted from (Ho, 2012).

4. RESULTS AND DISCUSSION

The current study apply SPSS software to analyze data and test the hypotheses. The results in table 1 shown that the majority of study sample is male which indicated that male are consume fish more than female. In addition, the group age (35 years to 44 years) are highest group age that consume fish in Jordan; this indicates that fish consumers in Jordan are young people. The results also show that the majority of the study sample are hold Bachelor degree (53.88%) means that they have a good knowledge about the fish. The results also indicate that the majority of the study sample who consume fish their income is less than 500JOD, which mean that the majority of Jordanian citizens can consume the fish.

Table 1. Sample profile

Variable	Level / Category	Number	Percentage %
Gender	Male	144	69.23%
	Female	64	30.77%
Age	18-24	40	19.23%
	25-34	36	17.31%
	35-44	60	28.85%
	45-54	38	18.27%
	55-64	25	12.02%
	More than 65	9	4.33%

Variable	Level / Category	Number	Percentage %
Education	Diploma	11	4.37%
	Bachelor	111	53.88%
	Master degree	33	16.02%
	PhD degree	53	25.73%
Income	Less than 500	73	35.27%
	500-1000	64	30.92%
	1000-2000	45	21.74%
	More than 2000	26	12.08%
Total		208	100.0%

The results in table 2 show that the correlation between variable is range between (0.2 – 0.60) which mean moderate to strong strength. In addition, the results indicated in table 3, that the data follow the normal distribution based on skewness less than 2.58. Also the Cronbach alpha for all variables are more recommended value 0.60 (0.63 – 0.90).

Table 2. Pearson Correlation test.

Variable	Independent Variable	Dependent Variable				
		Price	Product	Promotion	Place	Health
Item	Consumption Intention					
Cons. In.	1.0					
Price	-.02	1.0				
Product	.46**	.26**	1.0			
Promotion	.20**	.34**	.326**	1.0		
Place	.30**	.21**	.60**	.41**	1.0	
Health	.38**	.25**	.53**	.39**	.50**	1.0

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed), N= 208.

Table 3. Tests of Reliability, Normality, and Descriptive statistics.

Variable	Independent Variable	Dependent Variable					Description
		Price	Product	Promotion	Place	Health	
Item	Consumption Intention						
N. of item	4	5	5	4	4	5	∑ 27
Alpha (α)	0.90	0.66	0.63	0.86	0.73	0.84	∑ 0.87
Skewness	1.00	.63	.97	.66	.97	1.15	Er= .17
Maximum	5	5	5	5	5	5	5
Minimum	1	1	1	1	1	1	1
Mean	2.00	2.76	1.95	2.48	1.84	1.79	Low Level
SD	.78	.59	.54	.82	.62	.59	Low Level

Alpha (α) >= 60; Skewness = ±2.58; Maximum & Minimum= 5-point Likert; Mean & SD = Low level

The results in table 4 indicated that products, promotion, place, and health has appositive impact on intention to consume fish (β=0.02; 0.46; 0.20; 0.30; 0.38) respectively, and (sig= 0.00; 0.00; 0.00; 0.00; 0.00) respectively, that mean H2, H3, H4, and H5, are supported. This results indicated that Jordanian people have intention to consume fish else if it is in restaurant or home. Place can greatly influence the intention to consume fish. If the areas near the sea, the people may be more, prefer to eat fish regularly because it is available. In other areas, fish may be less available and more expensive, resulting in less intention to consume it. Also, some customers may prefer some kinds of fish,

which may affect people's intent to consume fish. Moreover, intention to consume may be affected by promotion. If fish is available in large quantities with rational price, customers may be more likely to consume it regularly. Conversely, if there is a shortage in supply or an increase in the price, customers may be unwilling to consume it. Furthermore, health plays a big role in influential customers' intention to consume fish. If people recognized the health benefits of eating fish, such as the omega-3, and vitamins that are good for the health, they might be more probable to consume it on a consistent basis. Our results are in line with (Li et al., 2000; Houston & Li, 2000; Bhuyan & Goswami, 2013; Pethiyagoda & Olsen, 2012). The results demonstrate that intention to consume fish is not affected by price ($\beta = 0.02$, $\text{sig} = 0.078$). Economic aspects play an important part in the consumption behaviors of consumers. Price is one of the greatest important factors affecting customer intention to consume fish. If the consumers' financial income is limited and the prices of fish are very high, it may become difficult for consumers to buy it. Therefore, consumers may prefer to switch to other products such as chicken or meat. On the other hand, in the incident of a shortage in supply and high demand for fish, this may lead to a rise in prices. Therefore, the convenience of fish may be affected by factors such as a specific fishing season. In this case, people may pause to consume fish because of its high price.

Table 4. Hypotheses testing

Hypothesis	variables	R Square	D.W	β	F	t	Sig.	Supported
H1	CI \rightarrow Price	0.0	2.00	-0.02	0.08	-0.28	0.78	No
H2	CI \rightarrow Product	0.21	1.96	0.46	55.33	7.44	0.00**	Yes
H3	CI \rightarrow Promotion	0.04	1.98	0.20	8.32	2.88	0.00**	Yes
H4	CI \rightarrow Place	0.09	2.00	0.30	20.77	4.56	0.00**	Yes
H5	CI \rightarrow Health	0.14	1.95	0.38	34.51	5.87	0.00**	Yes

CI: consumer intention, Regression is significant at $p \leq 0.01$; * Regression is significant at $p \leq 0.05$.

5. CONCLUSION

The current study investigated the factors affecting intention to consume fish in Jordan. The results show that promotion, products, place, and healthcare have a positive impact on intention to consume fish, while price has no impact. Overall, these factors appear to be interrelated and interact to determine the intention to consume fish. Increasing public awareness of the benefits of eating fish and promoting quality and affordable products can have a positive impact on promoting fish consumption.

This study addressed customers who are in Amman and Aqaba only, which may not reflect a comprehensive picture of factors affecting intention to consume fish in Jordan. Therefore, future research has an opportunity to apply the study framework on other cities and other countries. Another point worth noting is that extended studies may be carried out in this field, as there is a high probability that customers interact with specific seafood more than others are. To get a more comprehensive picture, future researches may study another factor, which may affect intention to consume fish in Jordan such as cultural and psychological factors.

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