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## Consumer purchasing pattern of fish and seafood products from physical and online stores in Coimbatore city

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### Abstract

The research was conducted to understand the purchasing pattern of fish and seafood products from both physical and online stores in Coimbatore city. The study was carried out by using primary data from 150 respondents, among them 86 consumers were purchasing from physical stores and 64 consumers were purchasing from online stores. The results showed that family size and monthly income influenced the purchasing quantity in physical stores and family size influenced the quantity of purchasing from online stores.

**Keywords:** Purchasing pattern, quantity of purchase, physical and online purchasing

### Introduction

Human diets have always included a sizable quantity of fish and seafood, which benefits the world's economy. Consumer preferences, lifestyles, and technology breakthroughs have changed food consumption in recent years, which has resulted in a significant shift in how people buy food, especially fish and seafood products. The fast expansion of e-commerce platforms has put traditional brick-and-mortar retailers under pressure and added a new dimension to customer purchasing behavior (Brunsø, K., Grunert, K. G., & Bredahl, L. 2004)<sup>[1]</sup>. Consumer preferences for food items are significantly influenced by several variables, including perceived product quality, convenience, price, supplier trust and sensory qualities. These elements are anticipated to significantly impact how consumers decide whether to buy fish and seafood products from physical stores or online (Chen, Y. 2018)<sup>[2]</sup>. Apart from that, cultural, and regional factors might have an impact on these choices and preferences. This study aimed to compare purchasing decisions between established retail stores and newly developing online marketing platforms mainly to examine the purchasing pattern towards fish and seafood products in the study area. Coimbatore City is renowned for its varied culinary traditions and seafood consumption. Growing urbanization, rising disposable income, online purchasing patterns and high internet accessibility were the important factors that had an impact on consumer decisions about where to buy fish and marine goods. This research aimed to offer useful insights for retailers and policymakers to modify their strategies and products to meet the changing requirements of consumers by looking at the interactions of numerous elements. Understanding the underlying causes of this shift in consumer preferences toward either physical stores or online platforms has become necessary.

Jimoh, W. A *et al.* (2013)<sup>[4]</sup> employed multistage sampling with 150 respondents in Ibadan. They examined socioeconomic characteristics, determinants of preference, and socio-cultural factors influencing preferences for fresh and frozen fish. Significant factors included in the study were education, occupation, and family spending. The factors like taste, packaging, pricing and availability played key roles in determining preferences. Education level, employment type and expenses influenced choices between fresh and frozen fish. Purwanto *et al.* (2021)<sup>[5]</sup> investigated how factors shape the acceptance of a digital fishery platform. Data from 360 potential fish shoppers in Jakarta, Banten, and West Java were collected via online surveys. The results indicated that performance expectancy, effort expectancy, and social influence significantly influenced acceptance, suggesting the potential for policymakers to

enhance the adoption of digital technologies in the fishery sector. Wong Prawmas *et al.* (2022) [8] examined how consumer perceptions and knowledge shape intentions to buy farmed and wild fish in Italy. Among 804 consumers, the study found out taste and nutrition favored wild fish, while farmed fish was seen as economical, safe, and ethical. Logit regression resulted in those factors like preference, attitude, and knowledge influenced purchase intentions. The sample respondents exhibited greater intentions to buy farmed fish than the control group, offering insights into fish purchasing determinants.

**2. Methodology**

**2.1 Sample size**

The respondents were contacted through personal interview using a well-structured questionnaire. The simple random sampling technique was followed in this study. A total number of 184 respondents were contacted for the study. About 12 respondents were vegetarians and 22 were given incomplete information and they were not included in the study. So, totally 150 respondents were considered for the study. Among them 86 respondents were purchasing fish and seafood products from nearby physical stores and 64 were using digital platforms for purchasing.

**2.2 Tool for analysis**

**2.3 Percentage Analysis**

Percentage analysis is applied to analyze the demographic factors like gender, age, education level, occupation level, monthly income of family, family size and frequency of purchase of respondents who were purchasing fish and

seafood products from physical and online stores in Coimbatore city.

$$\text{Percentage analysis} = \frac{\text{No.of respondents}}{\text{Total sample size}} \times 100$$

**Linear Regression Analysis**

Linear regression analysis is a statistical method used to explore relationships between a dependent variable and one or more independent variables. It quantifies how much changes in the independent variables correspond to changes in the dependent variable. Linear regression serves as a valuable tool to analyze and understand the impact of variables on the phenomenon under investigation.

The formula for simple linear regression is,

$$y = \beta_0 + \beta_1 x + \epsilon,$$

where y is the dependent variable, x is the independent variable,  $\beta_0$  is the intercept,  $\beta_1$  is the coefficient, and  $\epsilon$  represents the error term.

This study used to analyse the purchasing pattern of consumers purchasing seafood from online and physical stores which has the independent variables of age, family size, education qualification, occupation, and family income of the respondents with a dependent variable of “Quantity of purchase”.

**3. Result and discussion**

**3.1 Demographic Pattern of the respondents in physical and online stores**

**Table 1:** Demographic status of the respondents

Factors	Categories	Physical Stores		Online Stores	
		Sample respondents	Percentage	Sample respondents	Percentage
Gender	Female	31	36.05	24	37.50
	Male	55	63.95	40	62.50
	<b>Total</b>	86	100.00	64	100.00
Age (in years)	21-30	14	16.28	9	14.06
	31-40	41	47.67	28	43.75
	41-50	26	30.23	26	40.63
	Above 50	5	5.81	1	1.56
	<b>Total</b>	86	100.00	64	100.00
	Educational status	Illiterate	10	11.63	5
Higher Secondary		12	13.95	9	14.06
Graduate		40	46.51	34	53.13
Postgraduate		24	27.91	16	25.00
<b>Total</b>		86	100.00	64	100.00
Occupation Status	Business	15	17.44	9	14.06
	Government Service	17	19.77	13	20.31
	Private service	25	29.07	22	34.38
	Student	9	10.47	9	14.06
	Unemployed	20	23.26	11	17.19
	<b>Total</b>	86	100.00	64	100.00
Family Income (in Rs.)	Upto 20000	2	2.33	-	-
	20001-30000	21	24.42	2	3.13
	30001-40000	13	15.12	13	20.31
	Above 40000	50	58.14	49	76.56
	<b>Total</b>	86	100.00	64	100.00
Family Size (numbers)	Upto 2	2	2.33	1	1.56
	3	11	12.79	7	10.94
	4	48	55.81	34	53.13
	Above 5	25	29.07	22	34.38
	<b>Total</b>	86	100.00	64	100.00
Frequency of purchase	Often	10	11.63	6	9.38
	Once a week	25	29.07	21	32.81
	Once every two weeks	36	41.86	24	37.50

	Once a month	15	17.44	13	20.31
	Total	86	100.00	64	100.00

The demographic factors of the sample respondents were presented in Table.1. The demographic factor of the sample respondents includes gender, age, educational status, occupation status, family income, size of the family and frequency of purchase. It was inferred that most of the sample respondents of physical and online stores were male with 64 per cent and 63 per cent respectively. And female respondents were 36 per cent and 37 percent. In the case of purchasing from retail stores, a large number of the sample respondents falls under 31-40 years of age (48 per cent) followed by 41-50 years (30 per cent), 21-30 years (16 per cent), and above 50 years (6 per cent). In online purchasers the age category of 31-40 years was in large numbers (44 per cent) followed by 41-50 years (41 per cent), and 21-30 years (14 per cent). In physical stores, most of the sample respondents were graduates (47 per cent) followed by post graduates (28 per cent), higher secondary (14 per cent) and illiterate (11 per cent) whereas in online stores the large number of sample respondents were graduates (53 per cent) followed by postgraduates (25 per cent), higher secondary (14 per cent) and illiterate (8 per cent).When comparing the direct purchase of occupation status, most of the sample respondents were the employees of the private sector (29 per cent) followed by unemployed (23 per cent), employees of government sector (20 per cent), business and entrepreneurs (17 per cent) and student (11 per cent ). The same category was found in online purchasing also. Monthly income was an important criterion for purchasing. A large number of the respondents were earning monthly income above Rs.40000 (58 per cent)

followed by Rs 20001-30000 (24 per cent), Rs.30001 – 40000 (15 per cent) and Upto Rs.20000 (3 per cent) were purchasing. In online purchases the large number of the respondents came under above Rs.40000 category (76 per cent) followed by Rs.30001 -40000 (20 per cent), and Rs.20001-30000(3 per cent). Most of the retail purchases were having large family with four members (56 per cent) followed by above five members (29 per cent), when coming to online purchases the most of the respondents with the family size of four members (53 per cent) followed by above five members (34 per cent) in both categories same trend was also found in online purchases. With respect to frequency of purchase in physical stores a large number of the respondents were purchasing once in every two weeks (42 per cent) followed by once in a week (29 per cent),once in a month (17 per cent) and often (12 per cent) whereas in online stores the large number of the respondents were purchasing once every two weeks (38 per cent) followed by once a week (33 per cent), once a month (20 per cent) and often (9 per cent). According to Dai *et al.* (2022) <sup>[3]</sup> highlighted those factors, including gender, age, education, occupation, family size, perceived safety, and spending, significantly affect attitudes toward aquatic product safety. Additionally, concerns for the elderly and children, and perceptions of safety were influential, while region and income were not influencing factors.

### 3.2 Purchasing quantity

**Table 2:** Factors influencing purchasing quantity of fish and seafood products from physical stores and online stores.

Variables	Factors	Physical store		Online stores	
		Regression coefficient	Significance	Regression coefficient	Significance
Dependent variable (Quantity of purchase)	Constant	1.604	0.016**	2.525	0.014**
Independent variables	Age	0.212	0.057	0.128	0.318
	Family size	0.289	0.022**	0.412	0.002**
	Education Qualification	0.042	0.658	0.047	0.660
	Occupation	0.104	0.101	0.016	0.828
	Income	0.217	0.028**	0.184	0.302
No. of. Observations		86		64	
R <sup>2</sup> Value		0.385		0.479	

\*\* indicates significance level (0.05)

From Table.2, the equation was constructed using the results of many linear regression.

$$Y = 1.604 + 0.212 (X_1) + 0.289 (X_2) + 0.042 (X_3) + 0.104 (X_4) + 0.217 (X_5)$$

The R-squared value of 0.385 indicates that the model explains 38.5 per cent of the variability in the quantity of purchase. Family size and income of the sample respondents had a significant relationship with the quantity of purchase of fish and seafood products from physical stores. Except these two factors, the remaining factors like age, education qualification, and occupation had no significant relationship with the quantity of purchase. The result indicated that a unit increase in the demographic information of the respondents with independent variables such as family size and income had increased the quantity of purchase of fish and seafood products from physical stores by 0.022 and 0.028 units respectively. Nagini *et al.*, 2016 <sup>[7]</sup> discovered a 0.330

regression between agricultural area-in-hectares and production-in-tons, suggested that area increases, so does the agriculture crop production or yield also increases.

According to Table 2, the equation was framed for online store purchase,

$$Y = 2.525 + 0.128 (X_1) + 0.412 (X_2) + 0.047 (X_3) + 0.016 (X_4) + 0.184 (X_5)$$

In the case of online store purchases, the R-squared value of 0.479 suggests that the model explains 47.9 per cent of the variability in purchase quantity. The family size was the only factor that had a strong relationship with the quantity of fish and seafood products purchased from online stores. Except for this independent variable, the remaining characteristics such as age, education level, occupation, and income did not have any significant relationship with the quantity of purchases. The results showed that an unit increase in demographic factors, such as family size, increased the

quantity of fish and seafood products purchased from online stores by 0.002 units, respectively. A study conducted by Naveena *et al.* (2022)<sup>[9]</sup> revealed that health benefits were the influencing factor for purchasing indigenous cow milk. In this study, both physical and online purchases of fish and seafood products, family size was found to be the factor that influenced the quantity of purchases.

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#### 4. Conclusion

The study concluded that about 57 per cent of sample respondents preferred physical stores (86 respondents) over online stores (64 respondents). The demographic variables like gender, age, education, occupation, family income, family size and purchasing frequency did not have any influence on both the type of purchase. From the demographic factor, it could be observed that consumers working in private sector mostly prefer to purchase on online seafood platforms. Linear regression analyses revealed that family size and income consistently influenced purchasing quantity in physical stores and family size alone influenced purchasing quantity in online stores. Because people who work in the private sector are familiar and convenient with online shopping and digital platforms. Interestingly, age, education, and occupation showed limited impact on consumer choices. These findings may provide valuable information for retailers and online platforms to adapt strategies to meet the diverse preferences of consumers in urban areas.

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