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Analysis of online food purchasing behavior: a study of Sri Lankan consumers

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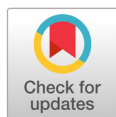
Abstract

Online shopping has been undergoing significant developments in the South Asian region in the last decade. Using a representative sample of Sri Lankan consumers, this study explored online food purchasing behavior in Sri Lanka, a developing nation and island in South Asia. Data were collected from 562 respondents from all nine provinces in Sri Lanka using an online survey. Consumer attitudes were evaluated using factor analysis, and factor scores were added as explanatory variables to the final model. An ordered logistic regression model was used to examine the impact of consumer demographics, economic variables, and consumer attitudes on online food purchases. Online food purchasing intensity was categorized into four groups that suited ordinal rankings: zero for never, low for rarely, medium for occasionally, and high for regularly. Results indicated that age, income, education, and living in urban areas affect the online food purchasing behavior of Sri Lankan consumers. In addition, trust, convenience, and attitudes toward price were powerful drivers of online food purchasing. The findings have a number of significant managerial ramifications for creating strategies to promote online food purchases in developing South Asian nations like Sri Lanka. Moreover, promoting online shopping could be a potential solution for traffic congestion, ultimately helping to mitigate the negative externalities associated with it, such as carbon emissions and air pollution.

Keywords: e-commerce, factor analysis, online food shopping, ordered logistic regression

Introduction

E-commerce is a commercial channel that involves the sale and purchase of goods and services over a technology channel, in this case, the internet. It is a cutting-edge technology made up of network gear, software, and other components that all function together as a single unit to connect



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people. Worldwide, this technology has been widely adopted so that individuals can connect with one another for both personal and professional reasons by just clicking a mouse from any location at any time. The internet-based e-commerce strategy, as opposed to the conventional brick-and-mortar business model, has been recognized as one of the marketing techniques used by businesses to acquire market share (Johnson et al., 2001; Chang et al., 2005; Zurooni and Goh, 2012; Davis et al., 2021). Many companies have used the internet as a marketing tool because they are concerned that if they do not keep up with technological advancements, their customers may go to rivals instead (Phan and Mohammed, 2003; Nielsen, 2015; Nguyen et al., 2019; Rahman and Hossain, 2023). Since internet technology and applications provide customers with more accessible, more convenient, and less expensive ways to find a wider variety of things than traditional shopping, online shopping has been a rapidly growing industry (Alagoz and Hekimoglu, 2012; Hartono et al., 2014; Nguyen et al., 2019; Davis et al., 2021). Additionally, grocery stores and supermarkets have adopted various approaches to modify their offerings in response to the rising popularity of online shopping. To increase their position in e-commerce, grocery stores have built enticing electronic platforms, including websites and smartphone applications (Dominici et al., 2021). The COVID-19 epidemic has greatly contributed to an increase in online sales and e-commerce that has grown more quickly than before. For instance, during the pandemic in the USA, a ten-year increase in e-commerce penetration was condensed into only three months (Luo et al., 2023).

Being a recently developed e-commerce market, South Asia has a lot of room to grow. The quantity of online shopping portals, the range of products offered online, and the availability of fast internet have all increased steadily in the area during the past ten years. With a population of 22 million people, Sri Lanka is a developing nation in South Asia. In the 1970s, it put into effect trade liberalisation measures. Consumers in Sri Lanka spend more than half of their disposable income on food, and private consumption makes up around 70% of GDP (Rathnayaka et al., 2022). Given the number of businesses that are already selling products and services online, e-commerce appears to have already established itself in Sri Lanka (Wattegama, 2021). Over the past ten years, Sri Lanka's digital infrastructure facilities have grown to a remarkable level of development. At least 22% of domestic homes in 2020 will have a desktop computer or laptop. Even in rural and estate sectors, that percentage was not lower than 36.3% in urban regions. On the island, 34% of people aged 5 to 69 have access to the internet, with urban areas leading with 52% of users (Department of Census and Statistics, 2020). There are 7.9 million social media users and 30.4 million mobile connections in Sri Lanka (DataReportal, 2021). The boost in Sri Lanka's digital infrastructure has had a substantial impact on both the retail channel of online shopping and people's purchasing patterns.

Since e-commerce trends have primarily shifted towards online retail shopping, it is critical to understand the factors affecting online purchase intention in online retail shopping as internet usage and e-commerce activities grow. Globally, the body of literature on internet shopping behaviour has expanded in recent years (Ingham et al., 2015; Lim et al., 2016; Ahmed et al., 2017; Tandon et al., 2017; Khan et al., 2019; Davis et al., 2021). Furthermore, some research has studied the factors influencing consumers' decisions to use online delivery services or to buy food products, but limited to the West (Hui and Wan, 2009; Naseri and Elliott, 2011; Van Droogenbroeck and Van Hove, 2017; Hamad and Schmitz, 2019; Wang and Somogyi, 2019; Finotto et al., 2020; Hood et al., 2020; Dominici et al., 2021). Only a very few studies have been conducted in the Sri Lankan context (Athapaththu and Kulathunga, 2018; Gamage and Jayatilake, 2019; Perera and Sachitra, 2019). To the best of our knowledge, there are no other comprehensive econometric studies that examine Sri Lankan consumers' online food shopping behaviors. Hence, this study aimed to bridge this gap by analyzing the online food purchasing behavior of Sri Lankan consumers and elucidating the possible determinants of an individual's online food purchasing behavior in terms of demographic, economic, and attitudinal factors, employing an ordered logistic regression model. This study included actual

online shopping behavior, whereas most earlier studies just looked at the intention to buy food online. As a result, this study adds to the body of literature on technology acceptability and online food purchasing behavior and practically provides new insights into the ways in which various factors influence online food consumers' purchases in a growing South Asian market. Furthermore, in-depth knowledge of Sri Lankan consumers' online food purchasing patterns would help online food retailers, policymakers, and international operators create and oversee their campaigns to encourage the purchase of online food goods.

Materials and Methods

Data

Data were collected from 562 respondents from all nine provinces in Sri Lanka using an online survey. Using Yamane's (1973) formula, the sample size for the study was determined for a large and well-known population ratio. The questionnaire consisted of 33 questions, and each question had several options for the respondents to choose from. Minor changes were made after the questionnaire underwent pre-testing with a sample of 20 respondents.

Data analysis

Both descriptive analysis and ordered logistic regression model estimation were carried out to analyze online food purchasing behavior. The online food purchasing intensity was categorized into four groups that suited ordinal rankings: zero-not at all, low-rarely, medium-occasionally, and high-frequently. Therefore, an ordered logistic regression model was employed in this study to analyze the factors that affect online food purchasing behaviour. Extant research supports that demographic and economic factors and attitudes of consumers are important predictors of online purchasing behaviour (Ingham et al., 2015; Lim et al., 2016; Ahmed et al., 2017; Tandon et al., 2017; Sonwaney and Chincholkar, 2019; Davis et al., 2021; Dominici et al., 2021). Accordingly, online food purchasing behaviour can be expressed as:

Online food purchasing = f(Demographic factors, Economic factors, Attitudes)

Through a review of past studies on online shopping (Limayem et al., 2000; Thananuraksakul, 2007), eight statements were identified and used to represent attitudinal factors in the above regression. On a Likert scale of 1 to 5, where 1 denotes strong disagreement and 5, strong agreement, each customer assigned a score to each statement (Table 1). A factor analysis was conducted to divide the high number of statements into fewer factors using principal component analysis with Varimax rotation in order to avoid the challenge of managing a large number of statements in the regression (Malhotra, 2005).

$$\chi_i = A_{i1}F_1 + A_{i2}F_2 + A_{i3}F_3 + \dots + A_{im}F_m + V_iU_i$$

where,

χ_i = i^{th} standardized variable

A_{im} = Standardized multiple regression co-efficient of variable i on common factor m

F = Common factor

V_i = Standardized regression co-efficient of variable i on U

U_i = Unique factor for variable i

m = Number of common factors

The factor scores were calculated for the i^{th} factor as,

$$F_i = W_{i1}x_1 + W_{i2}x_2 + W_{i3}x_3 + \dots + W_{ik}x_k$$

where,

F_i = Estimate of i^{th} factor

W_i = Weight of factor score coefficient

k = Number of variables

In the aforementioned model of online food shopping behaviour, each element contributed a score that acts as an independent attitude variable.

Table 1. Attitude statements used for factor analysis.

Statement	Abbreviation
I purchase food online because I do not need to go shopping	EASY
I purchase foods online because it saves time	TIMESAVY
Price is my primary concern for purchasing online	PRICECONCERN
I would purchase food online if the prices are reasonable for me	REASNPRICE
The members of my family believe that I should purchase food online	FAMILYINF
My friends influence me to purchase food online	FRNDINF
Security breach is not a problem in purchasing food through the Internet	SECURE
The Internet is trustworthy	TRUST

Econometric model

Since the respondents were able to correctly specify their level of online food purchasing, it was used as the dependent variable in the model. It was essential to employ a method that can handle this kind of qualitative variable because the respondents' level of online food purchase was divided into four categories that are suitable for ordinal rankings, so an ordered logistic regression was used in this research.

Where,

$$D_i = \sum_{k=1}^k \beta_k X_{ik} + \sum_i \varepsilon = z_i + \sum_i \varepsilon \tag{1}$$

D_i was the level of online food purchasing, k factors (determining variable) whose values, for individual i , were x_{ik} , $k = 1 \dots k$, $\beta = k$ is the coefficient associated with the k^{th} variable. The association between D_i and the ordinal likelihood ranking Y was a function of thresholds or cut-off points, δ 's, which are known and can be calculated in addition to β 's. Consequently, the dependent variable can be stated as follows:

$$Y_i = 1$$

$$Y_i = 2 \text{ if } D_i \leq \delta_1$$

$$Y_i = 3 \text{ if } \delta_1 \leq D_i \leq \delta_2$$

$$Y_i = 4 \text{ if } \delta_2 \leq D_i \leq \delta_3$$

The probabilities of Y_i , if $D_i \geq \delta_3$ taking values 1, 2, 3, and 4 are given by,

$$Pr(Y_i = 1) = Pr(\varepsilon_i \leq \delta_1 - Z_i)$$

$$Pr(Y_i = 2) = Pr(\delta_1 - Z_i \leq \varepsilon_i \delta_2 - Z_i)$$

$$Pr(Y_i = 3) = Pr(\delta_2 - Z_i \leq \varepsilon_i \delta_3 - Z_i)$$

$$Pr(Y_i = 4) = Pr(\varepsilon_i \geq \varepsilon_3 - Z_i)$$

The model was explained by the marginal effects of the independent variables on the probabilities, which were not the same as the estimated coefficients and then depended on the values of all the independent variables. The marginal effects of the variables were calculated for each of the probabilities as follows.

$$\frac{\partial Pr(Y = 1)}{\partial X_{ik}} = \frac{d}{dz_i} [\lambda(\delta_i - Z_i)] \frac{\partial Z_i}{\partial X_{ik}} = -\lambda'(\delta_i - Z_i)\beta_k$$

$$\frac{\partial Pr(Y = 3)}{\partial X_{ik}} = \frac{d}{dz_i} [\lambda(\delta_3 - Z_i) - \lambda(\delta_2 - Z_i)] \frac{\partial Z_i}{\partial X_{ik}} = [-\lambda(\delta_3 - Z_i) - \lambda'(\delta_2 - Z_i)]\beta_k$$

$$\frac{\partial Pr(Y = 4)}{\partial X_{ik}} = \frac{d}{dz_i} [1 - \lambda(\delta_3 - Z_i)] \frac{\partial Z_i}{\partial X_{ik}} = -\lambda'(\delta_3 - Z_i)\beta_k$$

The following empirical model was developed to show the relationship between the volume of food purchases made online and the demographic, economic, and attitudinal characteristics.

$$D_i = \beta_0 + \beta_1 GEN_i + \beta_2 AGE_i + \beta_3 MARITAL_i + \beta_4 EDUC_i + \beta_5 HHINCOME_i + \beta_6 HHSIZE_i + \beta_7 URBAN_i + \beta_8 SEMI URBAN_i + \beta_9 RURAL_i + \beta_{10} INTRENTACCESS_i + \sigma_1 F1_i + \sigma_2 F2_i + \sigma_3 F3_i + \sigma_4 F4_i + \varepsilon_i \tag{2}$$

The description of variables for the empirical model is presented in Table 2.

Table 2. Description of variables for the empirical model.

Notation	Variable	Description
<i>D</i>	Online purchasing	Ordinal rankings (i = 1 to 4)
<i>GEN</i>	Gender	Dummy (1 = male, 0 = otherwise)
<i>AGE</i>	Age	Years
<i>MARITAL</i>	Marital status	Dummy (1 = married, 0 = unmarried)
<i>HHINCOME</i>	Household income	Continuous variable
<i>URBAN</i>	Urban	Dummy (1 = urban household, 0 = otherwise)
<i>SEMI URBAN</i>	Semi-urban	Dummy (1 = semi urban household, 0 = otherwise)
<i>RURAL</i>	Rural	Dummy (1 = rural household, 0 = otherwise)
<i>EDUC</i>	Level of education	Scores
<i>INTACCESS</i>	Internet access	Dummy (1 = yes, 0 = otherwise)
<i>F1</i>	Attitudinal factor on convenience	Factor score
<i>F2</i>	Attitudinal factor on price	Factor score
<i>F3</i>	Influence from family and friends	Factor score
<i>F4</i>	Attitudinal factor on trust	Factor score

Results and Discussion

Table 3 provides summary statistics for the entire sample. Accordingly, 58% of the respondents were female. Moreover, 68% of the respondents were married, and 32% were single. The majority of the sample (64%) were bachelor’s degree holders, followed by those with a postgraduate degree (18%) and those only with Advanced Level qualifications (16%). Interestingly, 91% of the respondents had internet access. The recent study also showed that social media in particular had a significant impact on online food purchases. These results are to be expected and can be attributed to the internet’s high intractability. Those who are more susceptible to peer pressure would believe their friends’ choices and experiences when they post images or reviews of food products on social media. (Dang et al., 2018). The majority of consumers order online food for their dinner (Table 3). Moreover, the main means of online food purchasing are mobile applications, websites, and

direct calls, respectively. Fig. 1 shows the frequency of online food purchases by the respondents. Accordingly, 68% of the respondents are online food buyers. However, only 15% of the sample was found to be frequent food buyers online.

Four variables emerged from a factor analysis of the eight individual attitude statements (Table 4). In the rotated factor matrix, factor 1 is highly related to EASY and TIMESAVY, therefore, this factor was labeled as convenience-related factor. Factor 2 is highly related to variables: PRICECONCERN (Price is my primary concern for purchasing online) and

Table 3. Descriptive sample information.

Sample information	Percentage
Gender	
Male	42
Female	58
Marital status	
Single	32
Married	68
Ethnicity	
Sinhala	70
Tamil	22
Muslim	8
Other	0
Educational level	
Ordinary level (O/L)	1
Advanced level (A/L)	16
Bachelor's degree	64
Postgraduate	18
Other	1
Locality	
Urban	31
Semi-urban	44
Rural	22
Estate	3
Internet accessibility	
Yes	91
No	9
Method to adopt online food purchasing	
Social media	45
Internet advertisements	24
Word of mouth	18
Mass media	8
Other	5
Means of online food purchases	
Direct call	28
Web	30
Mobile apps	37
Short message service (SMS)	4
Other	1
Online purchasing meal types	
Breakfast	8
Brunch	10
Lunch	24
Dinner	58

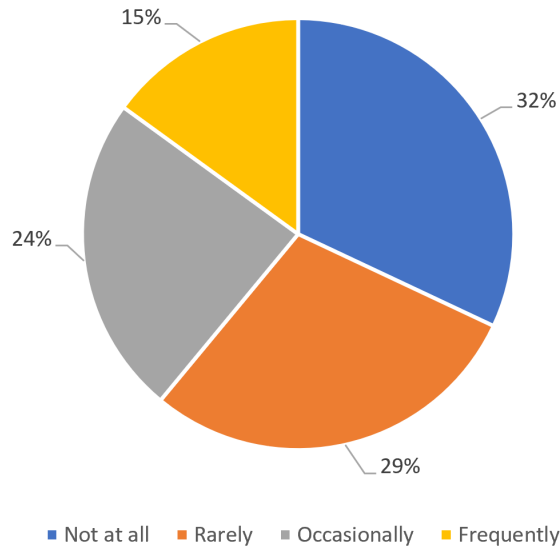


Fig. 1. Frequency of online food purchasing.

Table 4. Factor loadings, factor structure.

Statement	Factor	Loading
EASY	Convenience (F1)	0.3597
TIMESAVY	Convenience (F1)	0.3619
PRICECONCERN	Price (F3)	0.6158
REASNPRICE	Price (F3)	0.4579
FAMILYINF	Influence (F2)	0.5602
FRNDINF	Influence (F2)	0.4548
SECURE	Trust (F4)	0.7135
TRUST	Trust (F4)	0.2203

REASNPRICE (I would purchase food online if the prices are reasonable for me). Thus, factor 2 was labeled as Price factor. Factor 3 is highly related to variables; influence from family (FAMILYINF) and influence from friends (FRNDINF). Therefore, factor 3 was labeled as Influence factor. Factor 4 has high coefficients for variables; SECURE and TRUST variables and it was named as Trust factor.

Accordingly, consumer attitudes were categorized into convenience, price, influence, and trust. As discussed previously under equation 2, attitudes (the four factors), and other socio-economic and demographic variables were regressed with the online food purchasing variable, which is an ordered variable. The results of the ordered logistic regression model and marginal effects are presented in Table 5. The marginal effects shed light on how the explanatory variables change the likelihood of purchasing food online frequently at each of the four ordinal levels. To see if the sample data's findings supported the hypothesized proportion, a likelihood ratio test was performed. Likelihood ratio testing has the same concept as the F test in the linear model. The regression results in Table 5 showed that $\text{prob} > \chi^2$ is worth 0.000 which is less than 1%. Accordingly, the ordered logistic regression carried out was found to be significant.

According to the marginal effect, if a person's age increases by one year, the likelihood of being level 1 (never) will increase by 0.09 percentage points, the likelihood of being level 2 (rarely) will decrease by 0.37 percentage points, the likelihood of being level 3 (occasionally) will decrease by 0.02 percentage points, and the likelihood of being level 4

Table 5. Results of the ordered logistic regression and marginal effects.

Variable	Dependent variable: Online food purchasing				
	Coefficient	Marginal effects			
		Level 1	Level 2	Level 3	Level 4
GEN	0.3448 (0.2512)	-0.0648 (0.0467)	0.0248 (0.01832)	0.0138 (0.10104)	0.0261 (0.0264)
AGE	-0.0491** (0.0202)	0.0092** (0.0037)	-0.0037** (0.0015)	-0.0020** (0.0008)	-0.0037** (0.0016)
MARITAL	0.1347 (0.1311)	-0.0253 (0.0245)	0.0097 (0.0094)	0.0054 (0.0053)	0.0102 (0.0100)
EDUC	0.5693** (0.2819)	-0.1070** (0.0519)	0.0409** (0.0207)	0.0228** (0.0120)	0.0432** (0.0222)
HHINCOME	0.030** (0.010)	-0.010** (0.0048)	0.0002** (0.0001)	0.0001** (0.0000)	0.0002** (0.00012)
HHSIZE	0.112 (0.115)	-0.0225 (0.0230)	0.0095 (0.0098)	0.0049 (0.005)	0.0081 (0.0084)
URBAN	1.9507** (0.78812)	-0.3663** (0.1447)	0.1403** (0.0598)	0.0781** (0.0346)	0.1479** (0.0630)
SEMI URBAN	0.52340 (0.7822)	-0.0983 (0.1466)	0.0377 (0.0563)	0.0210 (0.0316)	0.0397 (0.0595)
RURAL	-0.35060 (0.8167)	0.0659 (0.1530)	-0.0252 (0.0584)	-0.0140 (0.0328)	-0.0266 (0.0621)
INTACCESS	1.7000** (0.7625)	-0.3193** (0.1396)	0.1223** (0.0558)	0.0681** (0.0332)	0.1289** (0.0606)
F1	0.030*** (0.1329)	-0.012** (0.0002)	0.008** (0.0001)	0.001*** (0.0023)	0.0080** (0.0043)
F2	0.052*** (0.1622)	-0.099*** (0.008)	0.038** (0.016)	0.023** (0.012)	0.040** (0.018)
F3	0.04070 (0.1432)	-0.00765 (0.0226)	0.0029 (0.0086)	0.0016 (0.0048)	0.0031 (0.0091)
F4	0.0146** (0.0841)	-0.0027** (0.0013)	0.0010** (0.0005)	0.0006** (0.0003)	0.0011** (0.0005)
/cut1	1.748	1.318	-	-	-
/cut2	4.364	1.344	-	-	-
/cut3	5.096	1.351	-	-	-

***, significant at 1% level; **, significant at 5% level; *, significant at 10% level.

The estimation results showed that the age had a negative influence on online food purchasing behavior with a significance level of 5%.

(frequently) will decrease by 0.37 percentage points. This suggests that younger customers are probably going to choose online grocery shopping more frequently. This result supports the notion that younger people are more tech-savvy and likely to shop online than older people. Older individuals may be less inclined to use online platforms to purchase food items. They may prefer traditional methods of shopping, such as going to physical stores or farmers' markets. Older individuals might have established long-standing shopping habits that involve visiting physical stores. Furthermore, this relationship between age and online food purchasing is supported by the findings of Hui and Wan (2009), Naseri and Elliott (2011), Van Droogenbroeck and Van Hove (2017), Finotto et al. (2020), and Dominici et al. (2021).

With a significance level of 5%, education had a favorable impact on consumers' online food shopping decisions. The likelihood of "Rarely", "Occasionally", and "Frequently" increasing with respondents' education level, as shown by the marginal effects, with the likelihood of "Non-buyer" decreasing by 10.7 percentage points as the biggest beneficiary. People with higher levels of education often have better digital literacy skills. They are more comfortable navigating online platforms, making online purchases, and using technology in their daily lives. This comfort can lead to a greater willingness to shop for food online. On the other hand, higher education levels may be associated with busier lifestyles and online food shopping can be seen as a convenient way to save time and avoid the need to physically visit a store. Consumers who are better educated may be more likely to research products, read reviews, and compare prices, all of which can be done more efficiently. Several studies on online shopping (Li et al., 1999; Morganosky and Cude, 2000; Cook et al., 2002; Foucault and Scheufele, 2002; Sim and Koi, 2002; Teo, 2002; Brown et al., 2003; Forsythe and Shi, 2003; Jayawardhena et al., 2003; Mahmood et al., 2004; Sonwaney and Chincholkar, 2019) have found that online buyers typically come from middle management and up and include professionals. They also tend to have greater levels of education and money. Furthermore, the income of households, living in an urban area, and having a stable internet connection positively affected online food purchasing at 5% significance

level. Higher-income households often have better access to and familiarity with technology, making them more comfortable with online shopping platforms. Similarly, Hansen (2005), Gan et al. (2007), Wang and Somogyi (2019), and Dominici et al. (2021) have also discovered that those who live in higher-income households are more inclined to shop for groceries online. Urban dwellers are more likely to engage in online food shopping due to the greater accessibility of online retailers and delivery services. In urban areas, a variety of online food shopping options are available, often with shorter delivery times. Urban areas tend to have fast-paced lifestyles, with residents often having busier schedules. Online food shopping offers a convenient way to save time and avoid the hassles of traditional grocery shopping in crowded urban environments. Urban congestion and limited parking spaces can discourage residents from visiting physical stores. Online food shopping provides a solution by eliminating the need for transportation and parking. Urban consumers may also be more environmentally conscious, and online food shopping can be perceived as a greener option, as it reduces the need for individual car trips to stores (Peng, 2019; Bjørgen et al., 2021).

As far as attitudinal factor variables are concerned, trust on the internet significantly and positively affected at 5% significance level. It should come as no surprise that consumers' trust is thought to be crucial for influencing their decision to make an online purchase (Gefen, 2000; Gefen and Straub, 2004; Martínez-López et al., 2005; Ingham et al., 2015; Anesbury et al., 2016). Trust on the internet suggests that consumers feel confident in conducting transactions and sharing personal information online. When individuals trust that their financial and personal data will be handled securely, they are more willing to make online purchases, including buying food. Additionally, there is evidence in the literature that the trust factor, which affects consumers' inclination to purchase online, is crucial for online businesses and includes both consumer and computer system trust (George, 2004; Mahmood et al., 2004; Monsuwe et al., 2004). In addition, the findings of Corbitt et al. (2003) support the notion that customers are more likely to visit an online store and more determined to buy a product if there is a higher level of trust established between them and the vendor. Ranganathan and Ganapathy (2002) and Khalifa and Limayem (2003) found website security to be the primary element affecting online shopping and ensuring that users' financial transactions over the Internet are secure from hackers collecting their personal data. Forsythe and Shi (2003) and Smith and Rupp (2003) discovered that internet customers may be hesitant to buy things online due to financial and privacy concerns.

Further, the estimation results of our econometric model revealed that price and convenience significantly and positively influenced online food purchasing levels at 1% significant level. Online food shopping can be perceived as more affordable by consumers compared to traditional brick-and-mortar stores. When prices for food items are competitive or lower online, consumers are more inclined to make purchases through digital platforms. Previous research has also found that people are price-sensitive and seek lower prices while shopping online (Foucault and Scheufele, 2002; Jiang, 2002; Gupta et al., 2004; Saleem et al., 2018). Similarly, Helander and Khalid (2000), Goldsmith and Goldsmith (2002), Khalifa and Limayem (2003), and Lepkowska-White (2004) revealed that online customers are price-conscious and that lower prices have the biggest influence on their intentions. In some nations, bargaining over pricing is another method of purchasing; there are outlets offering discounted goods and services in both brick-and-mortar and internet establishments. This is a benefit of the internet since it allows customers to research products, compare prices, and decide which retailer offers the most satisfying selections (Jiang, 2002).

Online food purchasing reduces the need for customers to physically visit a supermarket or market. This time-saving feature is a big motivator for those with busy schedules, as they can quickly explore, choose, and order food items from the comfort of their homes or workplaces. Similar to our findings, Bellman et al. (1999), Bhatnagar et al. (2000), Helander and

Khalid (2000), Morganosky and Cude (2000), Ranganathan and Ganapathy (2002), Gupta et al. (2004), Koiso-Kanttila (2005), Quaddus and Achjari (2005), Aragoncillo and Orus (2018), and Davis et al. (2021) have also confirmed that time saving and convenience are significant factors in online shopping. Because of this, consumers can save time for other activities and be more productive while they purchase online.

Conclusion

Online shopping has seen tremendous growth in the South Asian region over the past decade, with e-commerce expanding into both food and non-food categories. As the domestic and international food markets in the South Asian region become more complex, significant players in the food industry require comprehensive knowledge and understanding of online food purchasing behaviour to set up their strategic planning, online marketing, and promotional campaigns. This paper investigated the probabilistic sensitivity of online food purchases in Sri Lanka concerning consumer demographics, economic variables, and consumer attitudes. The results of the current study will have implications for the South Asian market because the majority of previous studies have been carried out in the West.

The findings of the study suggested that age, income, education, and living in urban areas affect the online food purchasing behavior of Sri Lankan consumers. In addition, trust, convenience factor, and attitudes toward price were powerful drivers of online food purchasing.

In order to safeguard all payment transactions from attackers attempting to steal the code information while they are being processed online from the customer's site to the seller's site, the sellers must have a reliable and trustworthy financial payment system. Online stores should allow returns and accept cash on delivery with the aim of boosting customer confidence. These are provided to ensure that online shoppers can return the items and avoid paying in advance if they do not receive what they ordered. Online shoppers' personal information shouldn't need to be submitted in order to make a purchase. As previously mentioned, the majority of customers who are asked for their personal information before making a purchase will instantly leave the online store.

An essential e-commerce law must also be passed by the government in order to safeguard online customers and promote trade. The main goal is to increase trust and legal protections for online buyers and sellers so that they will have more faith in the e-commerce channel. It is common knowledge that merchants in online stores incur minimal advertising and promotion expenses. These methods are inexpensive, which means that consumers can get a great deal. A share of this advantage should pass to online shoppers because price has also been one of their main concerns. Since convenience and timesaving have been two of Sri Lankan online food buyers' top concerns, site designers must carefully plan the online stores so that customers will have little trouble surfing the internet. In addition, internet speed is crucial since if it is slow, users are likely to waste time rather than save it.

Businesses should focus on creating user-friendly and intuitive online shopping interfaces. An easy-to-navigate platform can enhance convenience and attract more users. Online food retailers should employ competitive pricing strategies and promotions to attract price-conscious consumers. Offering discounts, bulk-buying options, and loyalty programs can be effective. They should ensure that product information, pricing, and reviews are clear and easy to find. This promotes trust and allows consumers to make more informed judgments. Sustainability initiatives, such as eco-friendly packaging and sourcing practices can also be incorporated to appeal to environmentally conscious consumers. Food businesses should pay close attention to feedback from customers to understand their specific pain points and preferences. They can use this

feedback to make improvements and adjustments.

As was already mentioned, the results of this study have various major managerial implications for creating strategies to promote online grocery shopping in developing South Asian nations like Sri Lanka. Key players such as online food retailers, website developers and managers, and policymakers should collaborate to design and implement such plans. Moreover, promoting online shopping is a potential solution for traffic congestion in metropolitan cities. This will ultimately help mitigate the negative externalities of traffic congestion, such as carbon emissions, air pollution, and fuel consumption. Instead of focusing on food products in general, future studies may take specific food categories into account. Investigating the variations in online food buying amongst groups of customers with various demographic, geographic, and cultural traits would also be valuable.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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