Research Article

FACTORS AFFECTING CUSTOMERS' ONLINE PURCHASING BEHAVIOUR:
A CASE STUDY OF HIGHER EDUCATION LEARNERS IN THAILAND

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Abstract

The purpose of this study was to analyse factors affecting online customer purchasing by undertaking a case study of higher education learners in Thailand. A sample was conducted 638 participated according to the minimum criteria for defining a sample of 5 times per variable. There are a total of 5 observable variables and 30 required parameters, so the sample sizes are not less than 300 people. The sample group was undergraduate students and was selected by utilising a multi-stage sampling process. The random process included three steps: Step 1 involved selecting a region unit, with the regions divided into four areas: 1) Central, 2) North, 3) North-Eastern, and 4) South, ensuring that all populations were represented across Thailand. Each region contained one province, resulting in a total of four groups. Step 2 involved purposive sampling by selecting provinces from each of the 4 regions. Finally, step 3 utilised accidental sampling, where a group of samples was selected based on their experiences buying products from electronic commercial services. As a research instrument and the overall Cronbach's alpha is 0.947. SPSS and Lisrel software were used to analyse the questionnaires. Frequency, Percentage, Mean, Standard Deviation, Multiple Linear Regression, Pearson Correlation, Measurement Model, and Structural equation model (SEM) were utilised for analysis. This study applied the developed linear-causal structural variable method and the results indicated that Social Media Impact has an impact on customer online purchasing with a factor loading of 0.67, whereas, social media factors have an indirect impact on satisfaction with a factor loading was 0.18. Therefore, it was concluded that social media marketing seems to influence consumer online purchasing decisions directly rather than indirectly. In addition, the results of the marketing mix had a factor loading of 0.54 on the consumer's online purchasing, whereas the results of the service quality had a factor loading of 0.32. In contrast, the factor loading for the influence of service quality on the consumer's online purchasing decision is 0.11. The results of the analysis indicate that Service Quality has an indirect influence on the customer purchase decision, whereas Customer

Satisfaction has a direct effect. These two factors are dependent on one another and the result is that Service Quality has a statistically significant impact on the customer purchase decision.

Keywords: Electronic Commerce, Consumer Behavior, Buying Analysis, Structural Equation Model (SEM), Factor, Path

Introduction

From the transition to the digital economy, the internet has become an integral part of daily lives and a major force driving the country especially in business sectors (Jean & Kim, 2020). Internet usage is estimated to be undertaken by 62.5% of the total population worldwide and is accessed by 77.8% of the Thai population and the average daily use is 9 hours per day, mostly on mobile phones (Muangtum, 2022). From the study of 28,000 people who use the internet across 17 countries around the world, Thailand has the greatest prevalence of online shopping in the world at 68.3%, followed by Turkey at 65.7%, and Mexico at 65.3%. (Thomson, 2021)

Internet has expanded product sales, advertising, and electronic account payment services (Liu et al., 2022). The business sectors are therefore compelled to update their business strategies to include modern technologies in order to meet the demands of consumers (Jeong et al., 2019). Enterprises with an extensive variety of online distribution channels can promote their products and services, also reducing sales costs and improving financial performance both in terms of sales and profit growth (Zhu et al., 2020). A shift from physical to online sales has a profound impact on entrepreneurs who are incapable of adapting to developing technologies, resulting in some shifting out of the market.

E-commerce enables customers to make transactions regardless of time and location, providing various advantages (Pullman & Gross, 2004). However, comprehensive promotional information is required in order to encourage consumers to make their purchasing decisions online (Schiffman, 1994; Wang et al., 2019). The advantages of e-commerce have motivated those within the business sector to develop their understanding of the concept. It is viewed as a means of conducting business which is likely to survive and changing consumer behaviour (Weng et al., 2021; Kotler, 2008).

Owing to the high levels of competition in online businesses, this study aims to provide useful information for entrepreneurs to develop their capacity to grow their businesses. Hence, this study aimed to examine factors influencing the online purchasing decisions of consumers, more specifically those of learner within higher education.

Research Objective

To analyse factors affecting online customer purchasing by undertaking a case study of higher education learners in Thailand.

Literature Review

Marketing Mix This entails the products distribution that align with purchasing demands; targeting customer behaviour; and using marketing strategies to satisfy the target group. It is comprised of factors, including the Product Factor; which involves products and services being offered via online in order to satisfy the targeted customer group. Price Factor; based on the prices of the commodities advertised by an online market provider, the value of a product is conveyed as a combination of currency and value. Place Distribution Factor; The availability of numerous, comprehensive, and suitable distribution channels facilitates business transactions. Promotion Factors; marketing communications between buyers and sellers to promote publicity, discount, premiums, points, and so on (Kotler, 1997; Lamb et al., 2001).

Social Media Social media marketing concentrates on the strategic promotion and dissemination of products, as well as facilitating consumer access to them through various advertising channels: Entertainment, Trendiness, Customization and E-Word of Mouth (Erkan & Evans, 2016; Nadeem et al., 2020).

Service Quality Service quality indicates the standard of services delivered to consumers. The level of satisfactory service provided to consumers depends on their expectations before, during and after receiving the services. In order to be recognised as a provider of excellent service, the service received by the consumer must be at a higher level than anticipated. Service quality assessment includes 1) Trustworthiness, 2) Service User Response, 3) Availability, 4) Accessibility, 5) Manner of Service Provider, 6) Communication, 7) Credibility, 8) Security, 9) Understanding Service Users, and 10) Providing Services. (Seth, 2005; Syafarudin, 2021).

Information Literacy This is the ability to identify needs in receiving information and media inclusive of the ability to access, search, analyse, and evaluate the quality and credibility of the received information, including implementing the information to maximise work performance efficiency. The composition of Information Literacy consists of 1) Awareness of needed information, 2) Selecting an appropriate approach to obtain information rapidly, 3) Identifying Planning and Information Search Sources, 4) Identifying Access to information sources, 5) Comparing and evaluating information, 6) Information application and Communication, 7) Information Synthesis and Creation, and 8) Ethical use of information. (Binkley et al., 2012; Johnston & Webber, 2003)

Customer Satisfaction Consumer satisfaction is the perception of consumer contentment deriving from the comparison of the value derived from the procurement of expected products, services and security. The contentment of the consumer is contrasted to the satisfaction after experience of the products or services. The extent of individual gratification varies, if the value the consumer obtains is lessened than the expected, it results in customer dissatisfaction (Keller & Richey, 2006; Oliver, 1980; Kotler, 1994).

Buyer Decision Process A consumer's decision to choose a product or service is based on internal factors such as motivation, perception, knowledge, attitudes and demands by determining whether to acquire a product from various options. Factors that influence the decision to purchase online products or services include: Problem Recognition, Information Search, Evaluation of Alternatives, Purchase Decision and Post-purchase Behavior Recognition (Aydin et al., 2014; Kumar et al., 2000; Schiffman, 1994)

Conceptual Framework

This study focuses on the impact of the Factors Affecting Customer's Online Purchasing Behaviour: A Case study of higher education learners in Thailand. Therefore, based on the literature review, the researchers selected the factors related to Factors Affecting Customer's Online Purchasing Behaviour and combined them.
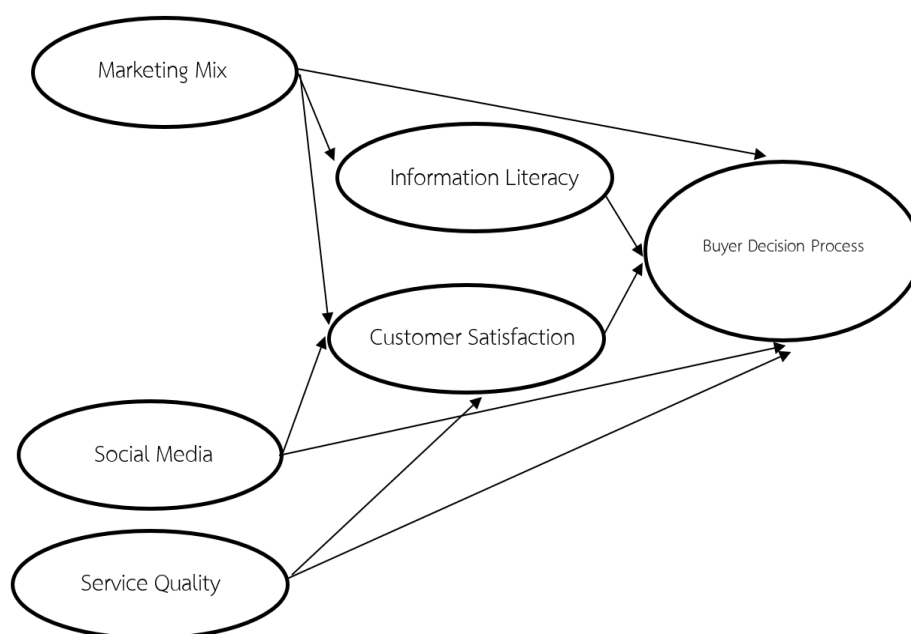

Figure 1 Relationship Model of Factors Affecting Customers' Online Purchasing Behaviour: A case study of higher education learners in Thailand

Methodology

Sampling methods

The sample population consisted of higher education students with online commerce experience. Online surveys collected data from 638 responders using Multi-stage sampling method.

The researcher determined the sample size using the formula Hair, et al. (1998). The minimum criteria for the sample collection were 5 times per variable. There was a total of 5 variables and 30 required parameters, so the sample size are not less than 300 people.

Multi-stage random sampling process. The random process included three steps: Step 1 involved selecting a region unit, with the regions divided into four areas: 1) Central, 2) North, 3) North-Eastern, and 4) South, ensuring that all populations were represented across Thailand. Each region contained one province, resulting in a total of four groups. Step 2 involved purposive sampling by selecting provinces from each of the 4 regions. Finally, step 3 utilised accidental sampling, where a group of samples was selected based on their experiences buying products from electronic commercial services.

Results

Instruments

The questionnaire was developed from a review of literature, theory, and related research. Design questions were considered for checking reliability (Validity) by doing an IOC with 5 experts, it was found that the index for measuring consistency for each item (IOC) was equal to 0.92, indicating that the questions correspond to the research objectives. Confidence value of the question was 0.954, which is greater than 0.70. Therefore, the confidence values of questions comply with the specified criteria. The sample was developed into 4 parts to be used to collect data with the population further.

This study utilised an online questionnaire in the academic year of 2023 between February and May. The questionnaires consist of two parts; 1) Population Survey and 2) Online purchasing decision factors survey. It contains 30 questions on 5 Marketing Mix Factors, 5 Social Media Marketing Factor, 5 Service Quality Factors, 5 Information Literacy Knowledge Factors, 5 Customer Satisfaction Factors and 5 Buyer Decision Process. The questions are based on a Likert scale of 1 to 7, which was used to assess the least to most appropriate responses in order for the scale to be comparable.

Data analysis methods

The date was analysed using various methods of descriptive statistics, namely: bivariate inferential test, confirmatory factor analysis and Structural equation model. The questionnaire was validated with 60 respondents of 1,000 people (638 responded)

Sample characteristics

The respondents were higher education students in their fourth or fifth year of study and the response rate was 60%. The sample group consisted of 497 females, which is 77.9 %, and 141 males, which is 22.1 % of all participants. The current address of the respondents divides into 53.9 % Central, 11.6 % Northeast, 13.9 % North, and 20.5 % South of Thailand.

In Table 1, the structure validity is considered in relation to the Factor Loading of each question. From measurement model analysis it was demonstrated that all of the questions had structure validity with Factor Loading 0.40 and AVEs above 0.5 (Anderson & Gerbing, 1988). In addition, the questionnaire has been evaluated and indicated to have reliability.

Table 1 Measurement scales

Constructs	Factor loading
Marketing Mix	
1. Store provides a variety of distribution products and can affect your purchasing decision.	0.65
2. Store sells products which are worth purchasing and can affect your purchasing decision.	0.77
3.Store has multiple channels of distribution that can affect your purchasing decision.	0.55
4. Store provides public relation, discount coupons, and regular promotions that can affect your purchasing decision.	0.60
5. Store offers high-quality products with reasonable prices and a variety of distribution channels that can affect your purchasing decision.	0.59
Social Media	
6. Store displays product information with clear VDO and images, and can affect your purchasing decision.	0.69
7. Stores offer an engaging and entertaining method of sales which differs from others and can affect your purchasing decision.	0.60
8. Social Media influences trending products and can affect your purchasing decision.	0.80
9. Advertising and promoting customer benefits through social media can affect your purchasing decision.	0.77
10. Stores with customers' reviews can affect your purchasing decision.	0.67
11. Store has credibility in providing useful information to customers and can affect your purchasing decision.	0.70
Service Quality	
12. Store's readiness for providing services and willingness to support when problems arise can affect your purchasing decision.	0.75
13. Stores with high ratings for customer service can affect your purchasing decision.	0.85
14. Store with ability to deliver products precisely and on time can affect your next purchasing decision	0.86
15. The convenience of the store's communication can affect your next purchase decision.	0.79
Information Literacy	
16. You can access and search for information according to your needs.	0.64
17. You have the knowledge and ability to evaluate quality and reliability of the received information.	0.71
18. You can access information from various sources.	0.64
19. You can apply the acquired information and utilise the information to optimise its utility.	0.69
20. You know how to purchase products and services online.	0.72

Constructs	Factor loading
Customer Satisfaction	
21. How satisfied are you with your online purchases?	0.62
22. The seller's or business owner's interest and attention have an effect on the satisfaction of the online purchases.	0.79
23. Quality of customer service affects customer satisfaction of the online purchases.	0.83
24. After-sales service through online channels affects customer satisfaction of the online purchases.	0.72
25. Expenses when accessing services through online channels affects customer satisfaction of the online purchases.	0.73
Buyer Decision Process	
26. Problem perception and self-needs perception can affect your purchasing decisions. For instance, if you want to buy the "A model" of shoes, Model A can make your purchasing decision-making easier than a person who doesn't know which model to purchase.	0.63
27. Sharing experiences (reviews) on social media that correspond to the needs of customers can affect your purchasing decisions.	0.68
28. The ability to easily find products in an online store can affect your purchasing decisions.	0.87
29. The credibility of the information given can affect the online purchasing decision.	0.79
30. A positive online purchasing experience has an effect on the next online purchasing decision.	0.73

Table 2 Mean, standard deviation, and correlation

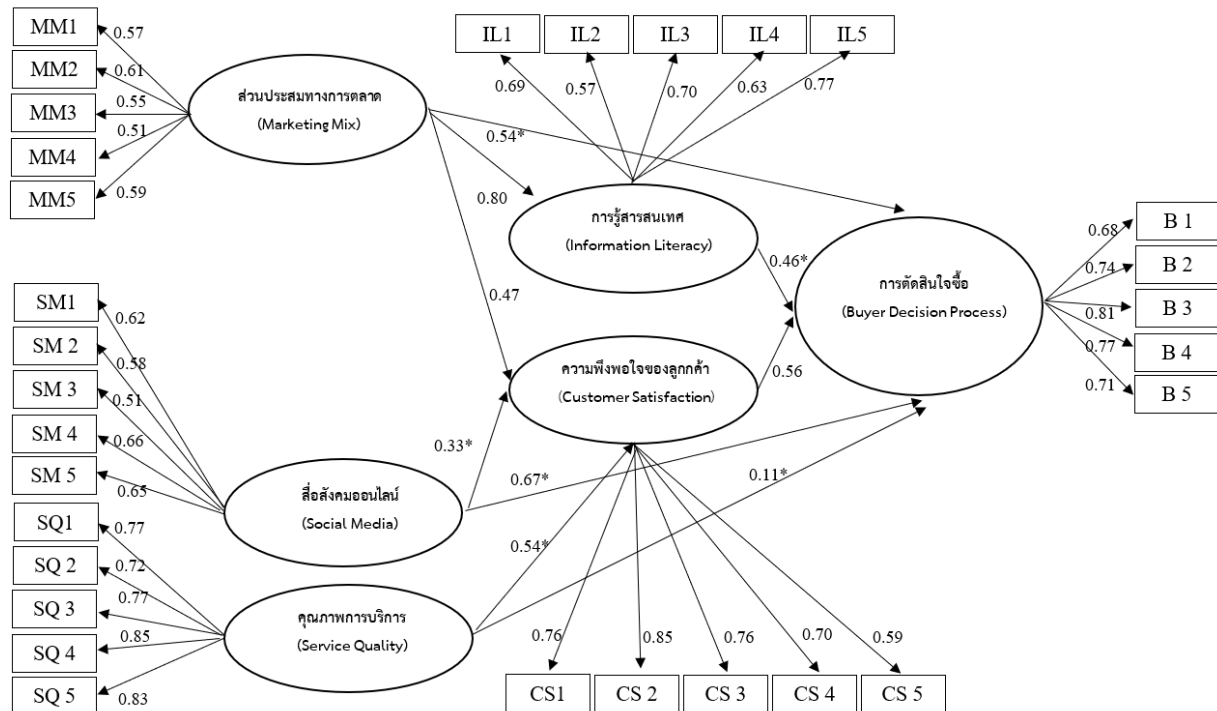| Variable	(1)	(2)	(3)	(4)	(5)	(6)	Alpha[a]	CR[b]	AVE[c]
Marketing Mix	1						0.78	0.77	0.51
Social Media	.58**	1					0.80	0.83	0.50
Service Quality	.62**	.56**	1				0.90	0.83	0.63
Information Literacy	.62**	.63**	.56**	1			0.82	0.81	0.46
Customer Satisfaction	.53**	.54**	.59**	.64**	1		0.87	0.86	0.55
Buyer Decision Process	.57**	.58**	.61**	.69**	.74**	1	0.87	0.86	0.56
Mean	6.23	6.05	6.21	6.16	6.17	6.30			
SD	.52	.55	.62	.55	.58	.54			

Note: Off-diagonal elements are the correlational variables. ** represents $p < 0.05$

[a] Cronbach's alpha. [b] Composite reliability. [c] Average variance extracted.

Table 2 It was found that Factors Affecting Customers' Online Purchasing Behavior can be measured from 30 Variables questions, as shown by the Pearson correlation Coefficient. Observed variables have statistical significance at 0.01 for every variable. To validate its internal consistency with Cronbach Alpha, it was found

that the Cronbach Alpha score of questionnaires for six factors is as follows: Marketing Mix had a score of .78, Social Media Marketing had a score of .80, Service Quality had a score of 0.90, Information Literacy had a score of 0.82, Customer Satisfaction had a score of 0.87 and Buyer Decision Process had a score of 0.87.

The overall questionnaire had a Cronbach Alpha score of 0.95. All alphas' values and composite reliability values exceed 0.7, which indicates that the reliability of each construct was reasonably satisfied. We evaluated convergent and discriminant validity with factor loadings and average variance extracted (AVE).

**p<0.001

Figure 2 Relationship Model of Factors Affecting Customers' Online Purchasing Behaviour: A case study of higher education learners in Thailand

This research has developed a conceptual framework according to literature reviews and research assumptions. The impact factors affecting customers' online purchasing behaviour are illustrated in Figure 2.

The variables of the research concept comprise of the independent variables, namely: Marketing Mix, Social Media, Service Quality and Mediator namely Information Literacy and Customer Satisfaction

Table 3 Goodness of fit statistical between the model components and empirical data

Goodness of fit index	Criteria	Measurement
X^2-test (Hair et al., 2010)	(p>0.05)	0.00
X^2/df	< 2.00-5.00	2.13
CFI (Comparative Fit Index) (Hu, 1999)	≥ 0.95	0.99
GFI (Goodness of Fit Index) (Byrne, 1994)	≥ 0.95	0.95
AGFI (Adjusted Goodness of Fit Index) (Byrne, 1994)	≥ 0.95	0.90
SRMR (Standardized Root Mean Square Residual) (Byrne, 1994)	< 0.05	0.04
RMSEA (Root Mean Square Error of Approximation) (Byrne, 1994)	< 0.05	0.03
Largest Standardized Residual	< 2.00	0.14
Smallest Standardized Residual		0.11

Table 3 indicates that all the goodness of fit statistical values between the model components and empirical data passed the criteria. When accounting the X^2-test value which has no statistical significance with P-value = 0.000, (Hair et al., 2010) chi-square = 2.13 (X^2/df = 583.11/252). When considering goodness fit of index (GFI) value 0.95, Comparative Fit Index (CFI) value 0.99, adjusted goodness of fit index (AGFI) value 0.90. In addition, Root Mean Square Error of Approximation (RMSEA) value 0.04 and Standardized Root Mean Square Residual (SMER) value 0.03. It can be concluded that the analysed model is positively consistent with the empirical data.

Table 4 Goodness of fit statistical between the model components and empirical data

Goodness of fit index	Model 1	Model 2	Model 3	Model 4	Model 5
X^2-test (Hair et al., 2010)	0.03	0.11	0.08	0.31	0.27
X^2/df	3.56	2.01	2.11	1.19	1.31
CFI (Comparative Fit Index) (Hu, 1999)	1.00	1.00	1.00	1.00	1.00
GFI (Goodness of Fit Index) (Byrne, 1994)	1.00	1.00	0.99	1.00	1.00
AGFI (Adjusted Goodness of Fit Index) (Byrne, 1994)	0.97	0.98	0.98	0.99	0.99
SRMR (Standardized Root Mean Square Residual) (Byrne, 1994)	0.16	0.01	0.01	0.01	0.01
RMSEA (Root Mean Square Error of Approximation) (Byrne, 1994)	0.06	0.04	0.04	0.08	0.02

Table 4 The analysis result of SEM Model 1 which is Marketing Mix found that P-value = 0.03, X^2 = 3.56 (X^2/df = 7.12/2). When considering GFI value 1.00, CFI value 1.00, AGFI value 0.97. Moreover, RMSEA value 0.06 and SMER value .02. The analysis result of SEM Model 2 Social Media indicated that P-value = 0.11,

X^2 = 2.01 (X^2/df = 6.05/3). When considering GFI value 1.00, CFI value 1.00, AGFI value 0.98 In addition, RMSEA value 0.04 and SMER value 0.01. The analysis result of SEM Model 3 Service Quality displayed P-value = 0.08, X^2 = 2.11 (X^2/df = 8.45/4). When considering GFI value 0.99, CFI value 1.00, AGFI value 0.98. Furthermore, RMSEA value 0.04 and SMER value 0.01. The analysis result of SEM Model 4 Information Literacy demonstrated P-value = 0.31, X^2 = 1.19 (X^2/df = 4.76/4). When GFI value 1.00, CFI value 1.00, AGFI value 0.99. Moreover, RMSEA value 0.08 and SMER value 0.01. The analysis result of SEM Model 5 Customer Satisfaction presented P-value = 0.27, X^2 = 1.31 (X^2/df = 2.62/2.) When considering GFI value 1.00, CFI value 1.00, AGFI value 0.99. In addition, RMSEA value 0.02 and SMER value 0.01.

The results of SEM analysis found that Marketing Mix factor has influence on a consumer's online purchasing decision with factor loading value 0.54. Whereas, the analysis results indirectly influenced the Marketing Mix factor through the Information Literacy factor with a value of 0.37 (0.80*0.46). The results indicate that the overall view of Marketing Mix factor has influence on a consumer's online purchasing decision greater than indirect influence.

While the results of the test, the Marketing Mix factor through indirect influence through the Customer Satisfaction factor with the value was 0.26 (0.47*0.56) exemplified that the marketing mix factor has an impact on customer online purchasing decisions less than through the indirect effect of the Information Knowledge Factor.

SEM analysis also found that the Social Media factor indirectly influenced the Customer Satisfaction Factor with a factor loading equal to 0.33.

Whilst the analysis results of the Social Media factor influence on consumer online purchasing decision with factor loading value equal to 0.67 concluded that social media had an indirect influence on customers' online purchasing decisions, rather than a direct impact.

In addition, SEM analysis results prove that the Service Quality Factor had a 0.54 factor loading indirect effect on Customer Satisfaction.

Where the results of the Service Quality have an effect on consumer online purchasing decisions with a factor loading value of 0.11. Hence, it can be concluded that the service quality impact is indirect. Furthermore, customer satisfaction influences indirectly on customer online purchasing decisions with factor loading valued 0.30 (0.54 * 0.56), leading it to be more effective. It appears to substantially alter the correlation between service quality and customers' online purchasing decisions.

Customer satisfaction is the major high-value component in all models since it is produced by the sentiments of customers, clients, or stakeholder that influence the purchase of a service when compared to the expectations of a product or service. Boochoom (2016) described it as, "customer satisfaction = expectation - received service".

Satisfaction is a sentiment related to the customer's attitude as a result of the experience obtained while receiving the products or services, regardless of the degree to which they satisfy their expectations (Andersen & Aday, 1978).

Maslow's (1970) component of fulfillment comprises of; 1. Convenience; 1.1 Time spent waiting for the service 1.2 Taking care of need 1.3 The convenience when receiving the service 2. Co-ordination; 2.1 getting a variety of services at one location 2.2 Service providers are paying sufficient attention to their customers. 2.3 Monitoring operational results. 3. Information 4. Courtesy 5. Quality of Care 6. Output off pocket cost, which include the various costs incurred by users of the service (Davis, 1967). When the consumer has a positive online purchasing experiences and their self-anticipated requirements and expectations are satisfied during the purchase decision, this will result in a high level of satisfaction and a subsequent purchase decision (Lundberg, 1985).

Discussions

According to the research results, the factor model is consistent with the empirical data and the most significant factor is Social Media (0.67). Other significant factors are: Customer Satisfaction (0.56), Marketing Mix (0.54), Information Literacy (0.46), and Service Quality (0.11), which all have an impact on customers' online purchasing behaviour.

The social media component was demonstrated to have the greatest impact on consumers' online purchasing. Barnes (2020) argues that this is a consequence of the covid-19 pandemic, which caused customers to move towards online selling and purchasing. Social Media is one of the tools which enhances coordination between entrepreneurs and customers in various channels (Steer et al., 2019). If entrepreneurs want to increase their opportunities in terms of sales, enhancing their marketing communication via Social media is one of the popular promotion strategies (Jagongo & Kinyua, 2013).

Customer Satisfaction is another significant factor which impacts upon decision making in terms of online purchasing (Davis, 1967). Satisfaction is deemed to have occurred when customers have received service that has met, or exceeded, their needs and wants. If their expectations have been reached, that would result in their satisfaction (Aday, 1975).

Marketing Mix and Information Literacy are interlinked, and, if both utilised successfully, can increase the number of online purchases made by customers. Information Technology is the selling tool and the presentation and promotion of important product information can influence the customer's decision making (Doyle, 1992).

Perceiving Information Technology is the ability to access information technology and evaluate that information effectively (Voogt et al., 2013). Searching for, sorting, and evaluating information effectively will allow companies to apply the information efficiently based on customers' needs (Behrens, 1994). The design of online distribution channels assist consumers to select products conveniently, understand the purchasing process clearly and assist entrepreneurs in building credibility for the product's brand name. (Pogorelova, 2016).

Factors affecting online purchasing decisions are: convenience of buying products; receiving quality products according to advertising information; a convenient purchasing process and product distribution system.

Therefore, E-Commerce businesses attempt to design website and distribution channels satisfying the needs of their target audience in order to promote their businesses. (Yaseen et al., 2017)

Service Quality is another factor which could distinguish a business from its competitors. It is a factor evaluated by customer satisfaction when purchasing products or services, the overall operational management, and the impression of customers after they have received the product or service. When the customer gives a positive Service Quality assessment, it actuates purchasing decisions, which lead to customer loyalty (Kitapci et al., 2014).

The study suggested an outline for implementing the factors of online purchasing into practice to allow online operations to grow and exceed customer demands. Entrepreneurs should consider aspects that impact online business operations directly and indirectly. Businesses must prioritise marketing factors in all areas, including marketing communication factors that effectively engage consumers and respond to consumer behaviors.

Recommendations

The result of SEM structural analysis revealed that Social Media factor had the greatest influence on customers' online purchasing behaviour followed by Marketing Mix factor. In addition, the Marketing Mix factor indirectly influences the Information Literacy factor, which also has the greatest effect on customer online purchasing. Whereas, Service Quality is indirectly influenced by Customer Satisfaction and has the least effect on online customer purchasing.

Therefore, the researchers indicated these factors to encourage growth and meet customer needs. Moreover, entrepreneurs must consider the factors that directly and indirectly affect e-business in order to expand and satisfy the majority of customers' requirements. Businesses should focus on market share factors in every area, including marketing communication factors that can constantly communicate with consumers and provide products and services that meet the demand of customers.

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