AN EMPIRICAL STUDY ON THE SERVICE MARKETING FACTORS INFLUENCING THE NEED OF CONSUMERS FOR AN ONLINE FOOD ORDERING DELIVERY USING SUBSCRIPTION-BASED MODEL

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Abstract

The online food delivery service was one of the major emerging businesses during the Covid-19 pandemic, with the demand for online services increasing dramatically in many countries, especially Thailand. The core ideas of this paper are to empirically explore several service marketing factors influencing the needs of consumers regarding online food ordering and delivery services via use of a subscription-based model. A total of 1,049 respondents were surveyed using a quantitative survey and qualitative approach sampling 30 respondents via interview for confirmation of the results. Statistical analysis of all collected data via confirmative factor analysis (CFA) and a structural equation model (SEM) were used to conclude the influencing service marketing factors in Bangkok province. The results indicate that process and promotion perspectives have strong significant impacts on consumer needs for online food ordering and delivery services. The paper not only describes the essential service marketing factors respectively, but also identifies some challenging factors which have influence in this industry, additionally leading to a more precise understanding of consumer behavior.

Keywords: Online, Delivery, Subscription, Need, and Consumer

1. INTRODUCTION

E-commerce is evolving at an accelerated rate due to disruptive technologies such as metaverse, Artificial Intelligence, Augmented Reality, Virtual Reality, cloud technologies, digital cryptocurrency, bitcoin, Internet of things (IoT), and new hybrid or innovative platforms. These have led to the rapid growth of new business models including the online food ordering and delivery sector which has adapted its own platforms to survive the uncertain conditions of the Covid-19 pandemic. Furthermore, the food delivery service is rapidly flourishing due to the increase of the working population in metropolitan cities, and the responsive nature of urban consumers, which has sparked the emergence of online food delivery services (Chai and Yat, 2019).

Simultaneously, the working from home phenomenon has given people more chances to shop online and created a higher demand for online food ordering (Chen and Hsieh, 2017). There is no significant difference between other industries and this as almost all industries are experiencing a reshaping of their strategies due to the transformation and rise of digital platforms and technologies. Consumers are getting used to online ordering or shopping through apps due to convenience and safety.

The worldwide revenue of online food

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ordering, especially in the service sector industry in 2019 was US$ 107.4 billion, in comparison to US$ 136,431 million in 2020. Moreover, the number of users is now 1,213.9 million and is expected to rise to US$ 182.3 billion by 2024. This revenue represents the gross product value which is defined as the total sales value in dollars for food sold through the online food delivery marketplace (Statista.com, 2020). There is a great opportunity for many rider(s) due to the emergence of online food delivery services through a cloud kitchen format, such as Uber Eat, Robinhood, Grab food, GoJek, Get, Food Panda, and Lineman. All of these include fast work through payment platforms such as rabbit line pay, e-wallet, mobile banking, and Dolfin wallet. With the abundance of modern business platforms diffused through social media namely Facebook pages, Instagram, Line add, TikTok, WhatsApp Business, Twitter, YouTube, Forums and Blogs, or even the companies own business websites, these social, cultural, and new normal contexts have influenced consumer lifestyles greatly. Therefore, an entrepreneur ought to understand, analyze, and anticipate consumer choices with big data rather than his own instinct.

Moreover, a membership-based business model is one of the interesting trends in the market that can lead to recurring income, with consumer repurchasing. New technologies have accessed elegant methods of personal purchasing by delivering customized selected products regularly straight to consumers' doors (Needleman, 2012). The subscription-based business model is a new shopping lifestyle and is transforming one transaction per product to subscription transactions per year or long term relationships with loyalty. Thus, it is quite challenging for a business owner to deal with consumer acquisition, and consumer retention with consumer feedback. On the other hand, a subscription-based model also deals with high risks as many consumers' decisions are based on loyalty to selected brands which constrains long-term payments.

However, there is still a lack of understanding towards consumer insights regarding a subscription model in the context of the online food ordering and delivery services in Bangkok. This paper contributes to the literature by examining methods of managing a business subscription model in the right direction(s) in response to consumer needs, and also providing personal service which is designed for special consumers with an increase in sustainability.

2. LITERATURE REVIEW

Subscription Business

Subscription based business were used in the 17th century, but they were not popular compared to transactional businesses. Until the present time, the rapid growth of the internet and wireless technology has impacted e-commerce and online retailing businesses (Amir and Rizvi, 2017). Since 2011, sales in subscription businesses have been growing at a rate of 200 percent a year, generating 5 billion dollars in revenue in 2014, while the number of entrepreneurs in the industry has also accelerated. It was estimated that the number of online subscription retailers has grown by approximately 3,000 percent in the past three years alone (Proulx, 2016).

The top online platform service application included a video streaming application service that offers video content directly to customers via the internet directly to their individual devices. In 2017, the global market size was valued close to $97.43bn and is forecast to reach approximately $332.52bn by 2025, with a compound growth rate of 16.7% from the year 2018 to the forecasted year of 2025 (Samtani and Jindal, 2018). E-retailers have a huge opportunity to grab customers as consumer behavior evolves as a result, with estimations of 75% direct-to-consumer brands embarking upon subscription services in the market (Moore, 2020).

With membership privileges, subscription business has become common as a business model in several industries such as consumer products (shaving, cosmetics,

household products), fashion (Rent a runway), the streaming entertainment sector (YouTube premium, Spotify, Netflix, Apple music), content providers (Wall Street journal, New York Times, National Geographic), enterprise software (HP computer, Dell), dating applications (Tinder), vehicle sector (car rental), social network (Facebook, Linked In), non-profit organizations (Unicef), cloud services (Salesforce, cloud kitchen), or loyalty programs such as Starbucks and others.

The Langston Co. (2019) made an attempt to compare different elements, considering whether consumers consider both the advantages and disadvantages of the subscription business model, especially the long-term costs of subscribing to these online platform businesses. Their exploration indicated fundamental segments and sub segments of "*influencing factors"* in these services. The overall value as perceived by the customer is broadly divided into quality, specifically what the customer receives verses the costs which are what the customers pay for it. Moreover, quality is subdivided by "*consumer experience"*, which comprises the overall meaning of the brand. Meanwhile, the cost division of value is subdivided by "periodical charges", which are specified as "monthly/yearly" and "add on charges". The subdivision of the online food delivery service itself constitutes several elements which are covered in this paper.

Subscription Retailing

New retailers are disrupting businesses through changing the traditional retailing assumptions, while many retailers are implementing new technologies on various platforms (e.g. metaverse, face recognition, palm or eye scanning, beacons, bitcoin, etc.). Web-based retailing platforms, or subscribed applications are attracting consumers away from traditional brick and mortar stores, with some physical stores becoming showrooms for online shopping, while consumers are adopting the idea of renting rather than buying (Kahn et al., 2017). Upon successfully implementing a subscription business model, companies are able to carry out up-selling with long tail revenue, building customer loyalty, commitment of new customers, and placing their brand as a partner in consumer lifestyles. Since consumers are driving their own shopping experiences, the subscription model provides retailers both flexible management, stable cash flow, and the data needed to serve customers with what they really want (Roussin, 2016).

Subscription Model

The subscription business model is a business model in which a company charges consumers at a recurring fee with a periodic product or service being provided direct to the consumer's home. A subscription model with

Figure 1: Subscription model
Source: Campbell (2020)

a fixed membership fee is a tool for consumer retention and for incentivizing consumers to place a large number of orders (Kim, 2019).

It can be observed in Figure 1 that the subscription business model can be divided into 5 stages (Campbell, P., 2020) as follows:

1) Consumer acquisition

This is the first stage for doing business in both traditional and subscription business models, whether through advertising, searching from social media, inbound marketing, data related processing, or any other marketing techniques, this stage requires significant spending, with a large proportion of a business budget being related to consumer acquisition costs. This takes time to recover from and makes a state of profits hard to achieve. Alternatively, a company may opt for a **freemium** model in which the company gives free products or services as a trial in the first period of use as this can be successful in acquiring new customers. In addition, a **freemium** model can lower customer acquisition costs by approximately 15% (ProfitWell, 2020). Once satisfied, there is a greater likelihood of consumers upgrading to the paid model.

2) Feedback

Feedback is basically understanding, listening, and tracking customer insight with consuming experiences. However, consistent high value quality provides the road to repurchases and the increased loyalty of consumers. Studying what consumers really want and learning how to respond to consumer needs is the most important strategy for product or service design such as the Anticipation Shipping of Amazon; in this a service provider delivers the product to the consumers door before they order the products, Amazon analyses an abundance of data on the consumers buying history in order to predict consumer characteristics and what products they tend to like to suit with their lifestyles.

3) Upselling and cross-selling

A subscription-based model can enhance the long-term consumer relationship and recurring income, however, there are two main methods to increase revenue, namely upselling and cross-selling. Upselling is a strategy for upgrading the consumer status to be a premium or loyalty consumer, while cross-selling is a strategy for adding-on main features, services, or supplementary products for loyal consumers.

4) Consumer retention

Acquiring new consumers seems to be quite interesting, however, maintenance of existing consumers is also useful for growing business subscription revenues. Reducing churn rate seems to be a problem of business subscriptions, thus either the quality of product or service, or existing consumer retention matters. An improvement of consumer acquisition by 1% can generate an increase in revenue of 3.32%, while an improvement in consumer retention by 1% can generate an increase in revenue of 6.71% (ProfitWell, 2020)

5) Transforming

Even in the last stage, the business subscription model can generate recurring income by tracking information such as the customer credit card, expiration dates, and churn rate, including communicating charge failures to the customer. Analyzing consumer data regarding their purchasing details; the type of product, number of purchases, frequency, payment method, and especially black box buyer understanding, leads to designing new products or services which suit the lifestyles of the consumers. To be able to forecast consumer demands before they can imagine what kind of product or service that made their lives better and more convenient, can create consumer subscriptions which both acquire new consumers and improve retention of existing consumers.

Conceptual Framework

Based on the literature review, many factors influence the need to be a member according to the benefits for members only,

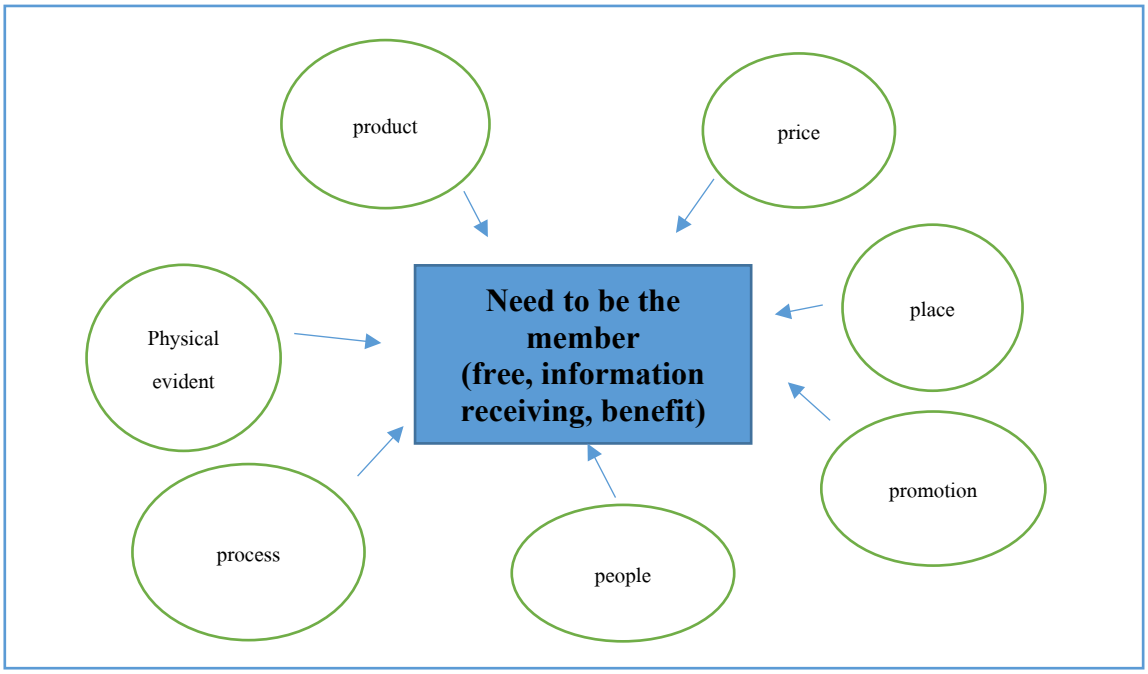


Figure 2: Conceptual Framework

free charges, and information being received in different proportions, as these make up the 7Ps of the service marketing factors: product, promotion, process, price, place, people and physical evidence.

Traditionally, service marketing strategies enhance effectiveness, allowing survival and growth; this relates to the potential of either micro or multinational oganizations (Pholphirul et al., 2021). The service marketing strategies consist of 7 areas, namely product, price, place, promotion, people, process, and physical evidence. This is especially important for the service-based subscription model which tends to consumer satisfaction based on the service rendered by the various people involved in service delivery (rider, call center, service provider, etc). The traditional 4 Ps (product, price, place, and promotion) which are commonly used for tangible products are expanded to include a further 3Ps (people, process, and physical evidence) to enable the service industry to add more value, service innovation, service differentiation, and competitive advantage from other restaurants. Moreover, Amofah et al. (2016) have cited that investment in people, physical, and especially process areas, with speedy food delivery service in accordance with the consumer lifestyle is very important for an entrepreneur. Ugonna et al. (2017) mentioned that service marketing strategy enables retention of existing consumers and increases profitability. Nguyen et al. (2015) agreed that application of the service marketing mix can boost sales voume. Kusumawati et al. (2014) stated that the 7Ps, especially pricing strategy can stimulate consumer decion making for purchasing. Aghaei et al. (2014) and Hilal (2019) found that the 7Ps have a positive impact on consumer satisfaction and meeting consumer needs.

Furthermore, Shar et al. (2020) indicated that the use of mobile applications when ordering food online impacted consumer perceptions of value. Moslehpour et al. (2021) explored social media, identifying that it can stimulate consumers' purchase intentions. Meanwhile, Handarkho (2021) found that mobile payment helps to create trust and social consumer experiences with others, in line with the work of Tan and Lu (2021) which discussed of the effect of smartphones in creating a consumer relationship with the brand.

1. Influence of product towards the need to be a member of an online food online delivery platform based on the subscription model

The online food delivery service platform brings many restaurants to the consumer, serving as an intermediary between the consumer and the restaurants. Consumers want the food from their own choices (Vinaik et al. 2019). Consumers can order food online and have it delivered to their destination in a short time, choosing from the menu shown on the platform (Lan et al. 2016).

H1. Quality of the products has a significant influence towards the need to be a member of the online food ordering business subscription.

2. Influence of price towards the need to be a member of an online food ordering delivery platform based on the subscription model

Price is an important factor for consumer decision making both in store and via online delivery platforms. Consumers prefer to find the lowest price in virtual retail stores. The price, and product quality, influence consumer satisfaction and choice. Many restaurant entrepreneurs are unwilling to outsource delivery to third party online delivery service providers as it may increase consumer affordability to pay additional delivery fees (See-Kwong et al., 2017).

H2 Price has a significant influence towards the need to be a member of an online food ordering platform via a subscription.

3. Influence of place towards the need to be a member of an online food ordering delivery platform based on the subscription model

Place refers to providing access to consumers via the establishment of service networks (Brassington and Pettitt, 2006). It is measured in terms of convenience, suitability, and approachability of the delivery service. In the online delivery service context place refers to digital social locations or platforms, such as social blogs, websites, Metaverse, LinkedIn, Skype, TikTok, and Instagram. Several restaurants seek new opportunities to partner with Uber, Grab, Eatable, Robinhood, or Lineman, by innovating mobile applications, thus service innovation can create a competitive advantage for online platforms in the food delivery industry.

H3 Place has a significant influence towards the need to be a member of an online food ordering business via a subscription.

4. Influence of promotion towards the need to be a member of an online food ordering delivery platform based on the subscription model.

The promotional mix can be divided into several categories, namely advertising, public relations, personal sales, sales promotions, trade promotions, and direct promotions (Kotler and Armstrong, 2020). The success of a promotion depends on intensive research, identifying the target market, analyzing consumer needs, and selecting the appropriate promotional tools (Al-Badi et al., 2017). The promotional mix is the marketing communication which informs, reminds, and persuades consumers to accept, repurchase, recommend, or use the product or service (Ozturk et al., 2016). The promotional mix affects the performance of the company by encouraging purchases of the product, persuading customers, and building brand loyalty among customers (Berezan et al., 2016).

H4. Promotion has a significant influence towards the need to be a member of the online food ordering business via a subscription.

5. The influence of people towards the need to be a member of an online food ordering delivery platform based on the subscription model

Service quality repesents a consumer's feelings towards the overall superiority of a product. Furthermore, the delivery man should wear proper clothing and treat consumers with polite service manners and work ethics, in order to behave well in providing the service. It is important that the delivery process ensure a proper flow of

communication with the consumers (Chandrasekhar et al., 2019).

H5. The people involved in service delivery have a significant influence towards the need to be a member of the online food ordering business via a subscription.

6. The influence of process towards the need to be a member of an online food ordering delivery platform based on the subscription model

Many researchers have emphasized various processes such as the ordering process, confirmation process, timely tracking, and the delivery process. Post purchasing processes and activity related to tracking play a significant role (Cao et al., 2018). Therefore, service providers should manage their tracking system and delivery processing time according to traffic conditions as this may increase the number of consumers by assuring timely delivery (Correaa et al., 2018). Consumer post purchase activities related to delivery and tracking are also a root cause of problems regarding consumer satisfaction (Cao et al, 2018). In addition, the service process includes readiness of availability, approachability, accessibility, responsivenss, tracking, and the payment process. Moreover, social distancing and minimizing personal contact under the COVID-19 pandemic, providing numerous payment options with contactless cards, or Amazon plan payment with process improvement, enhances the ability to meet consumer needs and therefore repurchasing behavior, especially in the online food delivery context. The following hypothesis was formulated accordingly:

H6. Processes have a significant influence towards the need to be a member of an online food ordering business via a subscription.

7. The influence of physical evidence towards the need to be a member of an online food ordering delivery platform based on the subscription model

The elements of service marketing include physical evidence; for retailing businesses this consists of the physical facilities such as buildings, car parks, space, restrooms, computers, store decoration, and supporting staff. Meanwhile, the physical evidence of digital marketing includes the infrastructure, the digital platform, advanced technology, information systems, networking, and website design, as well as the availability of 5G or wifi signals. Indeed, service industries include unique characteristics of the physical environment which strongly affect service quality (Jain et al., 2013; Teeroovengadum et al., 2016).

H7. Physical evidence has a significant influence towards the need to be a member of an online food ordering business via a subscription.

Moreover, online food ordering and delivery services have rapidly gained popularity and are dependent upon various factors, such as quality, variety of food, outstanding and impressive service (serving food to the doorstep of consumer, effective price, place, or freemiums), interesting promotions (discounts, or E-coupons), and trade promotions (free samples, free shipping, and cashback offers), modern technological processes, and a friendly system or application (Market Watch, 2019).

3. RESEARCH METHODOLOGY

The data were collected through a web-based survey (n=1,049) in Bangkok province. A mixed methods approach was used to collect data via both qualitative and quantitative methods (Schoonenboom and Johnson, 2017; Creswell, 2015; and Creswell and Plano Clark, 2018). Klangphahol (2018) classified mixed methods research into 2 main categories, consisting of fundamental mixed methods research with 3 sub-categories and an advanced mixed methodology with 4 sub-categories. Traditionally, the fundamental mixed method research can be classified into 3 types, namely convergent design, explanatory sequential design, and exploratory sequential design.

This study follows **an explanatory**

sequential design for the analysis of data collected via a quantitative survey questionnaire and in-depth interviews regarding the marketing factors influencing the needs and loyalty of consumers for an online food ordering delivery service using a subscription model, with a sample of 30 respondents in the qualitative analysis which was used for confirmation of the results. This paper reports the study, providing an explanation to the descriptive analysis, hypothesis testing, and factor analysis, which were employed for data analysis.

An explanatory sequential design is the classical method relating to surveys of quantitative data in the qualifications and attitudes of learners in a Massive Open Online Course (MOOC) via questionnaires and 12 interviews for results confirmation (Watson et al. 2017).

Data Collection and Analysis

The study was conducted in Bangkok, covering 50 districts and 10 areas, based on **purposive selection using** industries and commercial areas, government areas, education areas, religious areas, recreational areas, agricultural areas, vacant areas, accommodation areas, warehouse areas, and civil servant accommodations, with a focus on online food ordering services (Bangkok Metropolitan Administration, 2019). However, this study included accommodation areas by using **probability sampling with systematic random sampling** of consumers' online food delivery service providers in Silom district as this selected accommodation area is concordant with the lifestyle of daily food ordering among the population. This research included 42 variable factors and therefore required a sample of 20 x 42, or 840 respondents. However, a sample size of 1,049 was actually utilized to ensure validation and reliability. In addition, the sampling technique of structural equation modeling (SEM), which tests the causal relationships between variables has sampling criteria denoting a sample size 20X the number of variables for effective analysis in AMOS (Diammantopoulos & Siguaw, 2000).

Sample Size

Determining the minimum sample size for the exploratory factor analysis has greater subjectivity (Pearson & Mundform, 2010). In addition, there is a difference of opinions prevalent among researchers regarding the exact sample size for factor analysis. Gorsuch, (1983), Hair et al., (1995), Hogarty, (2005), Tabachnick, (2007), Williams et al., (2010), and Tabachnick & Fidell, (2007) agreed that having at least 300 cases is a basic requirement for factor analysis. Meanwhile, Gorsuch (1983), Hair et al., (2010), and Kline (1994) agreed that a sample size of at least 100 cases was the minimum requirement, and Comrey & Lee (1992) stated that sample sizes of 100, 200, and 300, could be identified as poor, fair, and good, respectively.

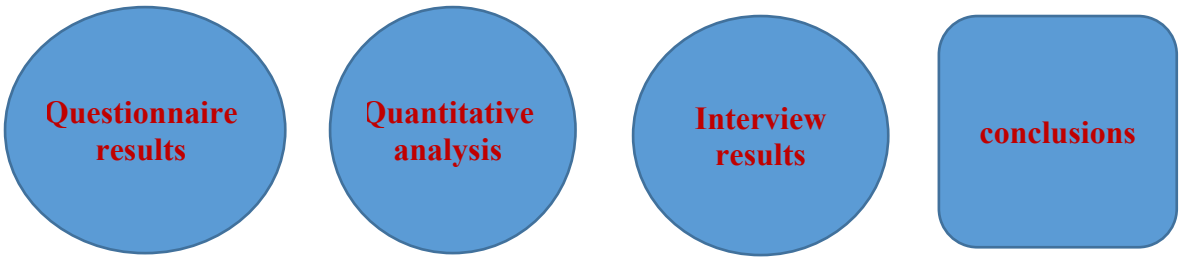


Figure 3 Explanatory Sequential Design
Source: Adapted from Creswell and Plano Clark (2018)

Sampling Technique

The non-probability convenience sampling method was taken into consideration. Respondents were initially asked if they were consumers of online food ordering to confirm their eligibility in the study. Those who answered in the affirmative were further invited to participate in the study.

As shown in Tables 1 and 2, most respondents were female (752 respondents, 71.7%), while males made up only 28.3% of the sample (297 respondents); most were 20-38 years old (born between 1983 and 2000), with the category of "gen Y" making up 975 respondents (92.9%), while 18-19 year olds (born 2001-2002, gen Z) made up only 51 respondents (4.9%), and 39-60 year olds (gen X) made up only 23 respondents (2.2%). Consumers under the age of 18 and over the age of 60 years old were not included in the sample, pursuant to Human Research Ethics Committee Panyapiwat Institute of Management. Moreover, if the respondent was not a consumer of online food ordering they were not considered to participate in the survey. However, section 5 of the questionnaire checked previous and future experiences of food buying behavior and was further used to produce feedback from consumers who do not prefer online food ordering. Non consumers of online food ordering were further skipped to answer the 5th part of the questionnaire. All participation was voluntary and anonymous with results being used for academic purposes only.

The questionnaire composed of 5 parts, namely part 1, which asked about demographic information in terms of age, gender, and occupation; part 2, which was composed of 28 closed-questions about factors which influenced the consumers' online food ordering; part 3, which comprised of 4 questions regarding the online food ordering subscription model in terms of privileges, and membership intentions; part 4, which contained 4 questions relating to the loyalty of consumers with an online food ordering subscription, in terms of frequency, word of mouth, sharing with others, and website visits; and lastly, part 5, which asked about the previous and future food buying behavior. (See Appendix)

Survey Instrument

Primary research was undertaken via use of a structured questionnaire as the research tool. The questionnaire was divided into 5 parts and included 39 closed questions each utilizing a 5-point Likert scale rating.

4. RESULTS

This section provides a summary of the main results. The research employed the Analysis of Moment Structures (AMOS) version 21.0 to test the causal relationships among the variables. AMOS is considered easy-to-use and user-friendy compared to other software such as SPSS. AMOS also has the ability to estimate and present the model.

Table 1 Demographic by Gender

Gender	No.	%
Male	297	28.3
Female	752	71.7
Total	1,049	100.0

Table 2 Demographic by Generation

Generation	No.	%
18-19 years old (2001-2002) Generation Z	51	4.9
20-38 years old (1983-2000) Generation Y	975	92.9
39-60 years old (1960-1981) Generation X	23	2.2
Total	1,049	100.0

Analysis of the Measurement Model

This study employed a CFA in order to examine the relationships among the different constructs within the conceptual model. To assess the measurement model via CFA, the researcher first considered the fit of the measurement model and then evaluated the validity of the measurement model for hypothesis-testing type research. The following data processes and analyses were involved:

1. Confirmatory Factor Analysis (CFA)
1.1. Goodness of Fit
1.2. Construct Validity
   - Factor Loading (>0.4)
   - Critical Ratio (C.R.), p-value (<0.05)
   - Composite of Construct Reliability (α)
   - Average Variance Extracted (AVE, >0.5)
1.3. Discriminant Validity

Confirmatory Factor Analysis (CFA)

The maximum-likelihood method was adopted to estimate the model's parameters where all analyses were conducted on variance-covariance matrices (Hair et al., 2011). There are some fit indices that should be considered in order to assess the model's goodness-of-fit (Kline, 2005). This was first determined using the χ^2. However, the χ^2 was found to be too sensitive for the sample size in this study; in this case it is more likely that something in the model will be rejected as untrue, and also that very small differences between the observations and the model might be found to be significant and a good model fit would be rejected (Hair et al., 2011). Therefore, other fit measures were used to overcome this problem. First, the ratio of the χ^2 statistic to its degree of freedom (χ^2/df) was used, with a value less than 3 indicating an acceptable fit. Hair (2011) suggested the following indices to indicate an acceptable fit "Goodness of Fit Index (GFI); Root Mean Square Residuals (RMSR); Comparative Fit Index (CFI); Adjusted Goodness-of-Fit Index (AGFI); and the Root Mean Square Error of Approximation (RMSEA)". Table 3 shows the levels of fit obtained with the survey data.

Table 3 Results of Factor Loading and Compostion Realibility of Service Marketing

Construct Validity	Factor Loading					Cronbach's Alpha
	Initial	revised	SMC	AVE	CR	
Product						
- cleanliness	0.734	0.719	0.52	0.545	0.831	0.783
- tasty	0.759	0.747	0.56	-	-	0.775
- nutrients	0.698	0.697	0.49	-	-	0.780
- raw materials	0.763	0.768	0.59	-	-	0.762
- type of food	0.566	-	-	-	-	0.828
Price						
- fit with quality	0.664	-	-	-	-	0.590
- fit with quantity	0.521	-	-	-	-	0.451
- fit with service	0.501	-	-	-	-	0.423
Place						
- website of restaurant	0.826	0.826	0.68	0.711	0.879	0.716
- platform on mobile application	0.859	0.859	0.74	-	-	0.724
- social media	0.846	0.845	0.71	-	-	0.751
Promotion						
- discount	0.772	0.770	0.59	0.549	0.826	0.714
- sampling and coupon	0.820	0.831	0.69	-	-	0.763

Table 3 (Continued)

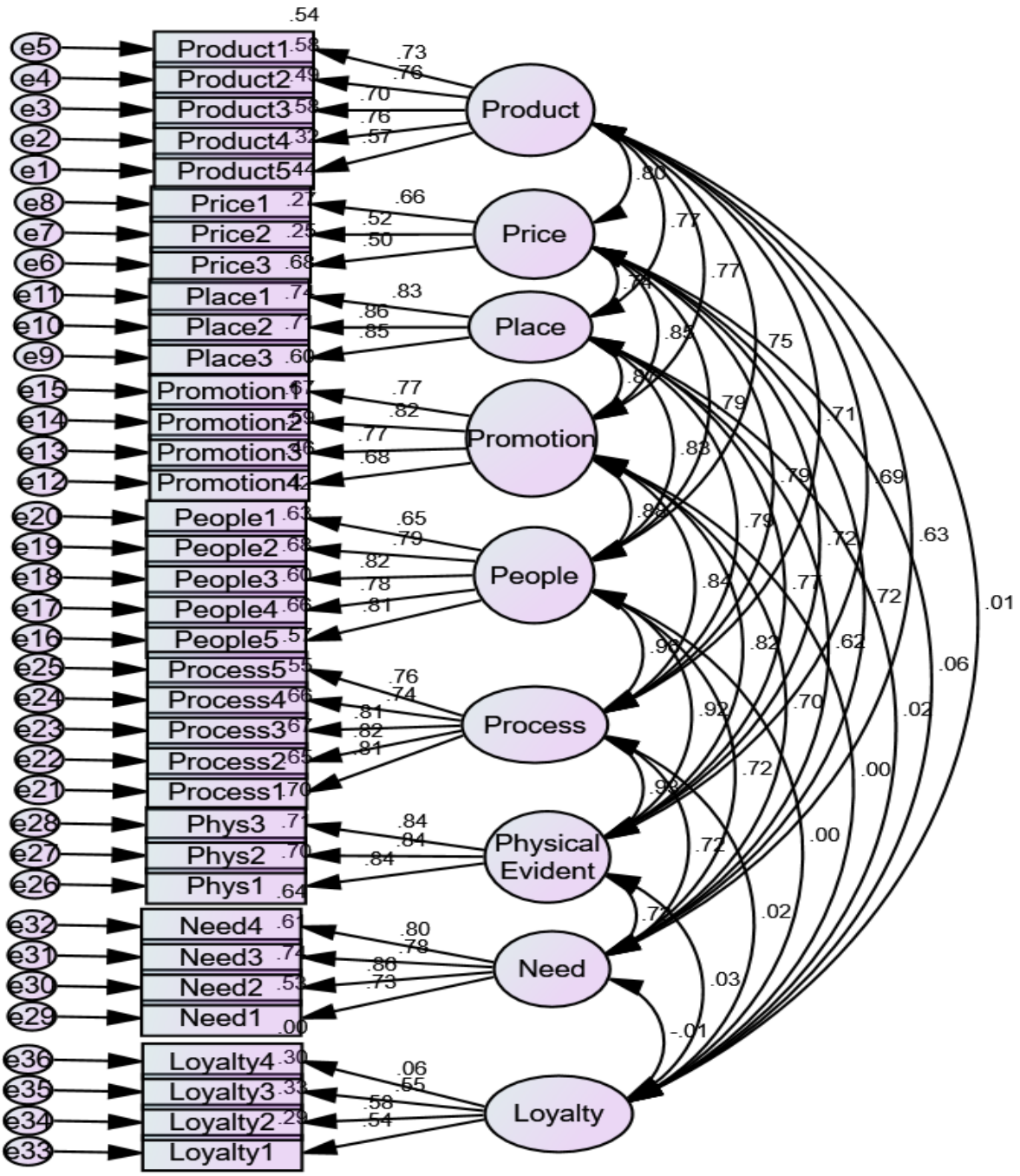
Construct Validity	Factor Loading					Cronbach's Alpha
	Initial	revised	SMC	AVE	CR	
- cumulative points	0.769	0.742	0.55	-	-	0.715
- free of delivery and membership	0.676	0.638	0.41	-	-	0.725
People						
- punctuality	0.652	0.649	0.42	0.594	0.810	0.785
- answer the questions	0.791	0.791	0.63	-	-	0.745
- politeness and hygience	0.823	0.822	0.68	-	-	0.755
- items food checklist	0.776	0.771	0.59	-	-	0.717
- address checklist	0.813	0.808	0.65	-	-	0.736
Process						
- order system	0.808	0.797	0.64	0.603	0.814	0.738
-order confirmation	0.819	0.807	0.65	-	-	0.741
-tracking system	0.810	0.804	0.65	-	-	0.726
- payment system	0.742	0.724	0.52	-	-	0.717
- claiming system	0.756	0.747	0.56	-	-	0.713
Physical evident						
- appealing of webpage	0.837	0.836	0.70	0.706	0.961	0.738
- advanced technology	0.841	0.841	0.71	-	-	0.743
- friendly user	0.839	0.839	0.70	-	-	0.750

Table 4 Results of Factor Loading and Composite Reliability for Being a Member

Construct Validity	Factor Loading					Cronbach's Alpha
	Initial	Revised	SMC	AVE	CR	
Member						
- Need to be member	0.728	0.750	0.56	0.642	0.870	0.729
- Need to receive privilege	0.863	0.856	0.73	-	-	0.797
- Need to get free of charge	0.781	0.802	0.64	-	-	0.717
- Need to receive information from to be member	0.800	0.794	0.63	-	-	0.608

Table 3 also presents the results of another five internal consistency reliability indicators, namely factor loading, multiple square regression, average variance extracted, critical ratio, and Cronbach's Alpha. Hair et al. (2011) suggested that the calculated value should exceed 0.6 for factor loading, 0.5 for average variance extracted, and 0.7 for Cronbach's Alpha. The results of the pilot study exceeded the cut-off values for all the constructs, indicating that the questionnaire should be accepted. The first run of the model revealed the following results for the consumer sample: χ^2= 1538.753, χ2/df= 4.779, GFI=0.900, RMSEA=0.060, RMR=0.025, CFI=0.944, AGFI=0.874. These results indicate further room for improvement in order for the measurement model to be considered as having a good fit for the data. The complete results shown in Table 3 indicate that there are 2 factors which do not meet the specified criteria, namely the price factor and the loyalty factor.

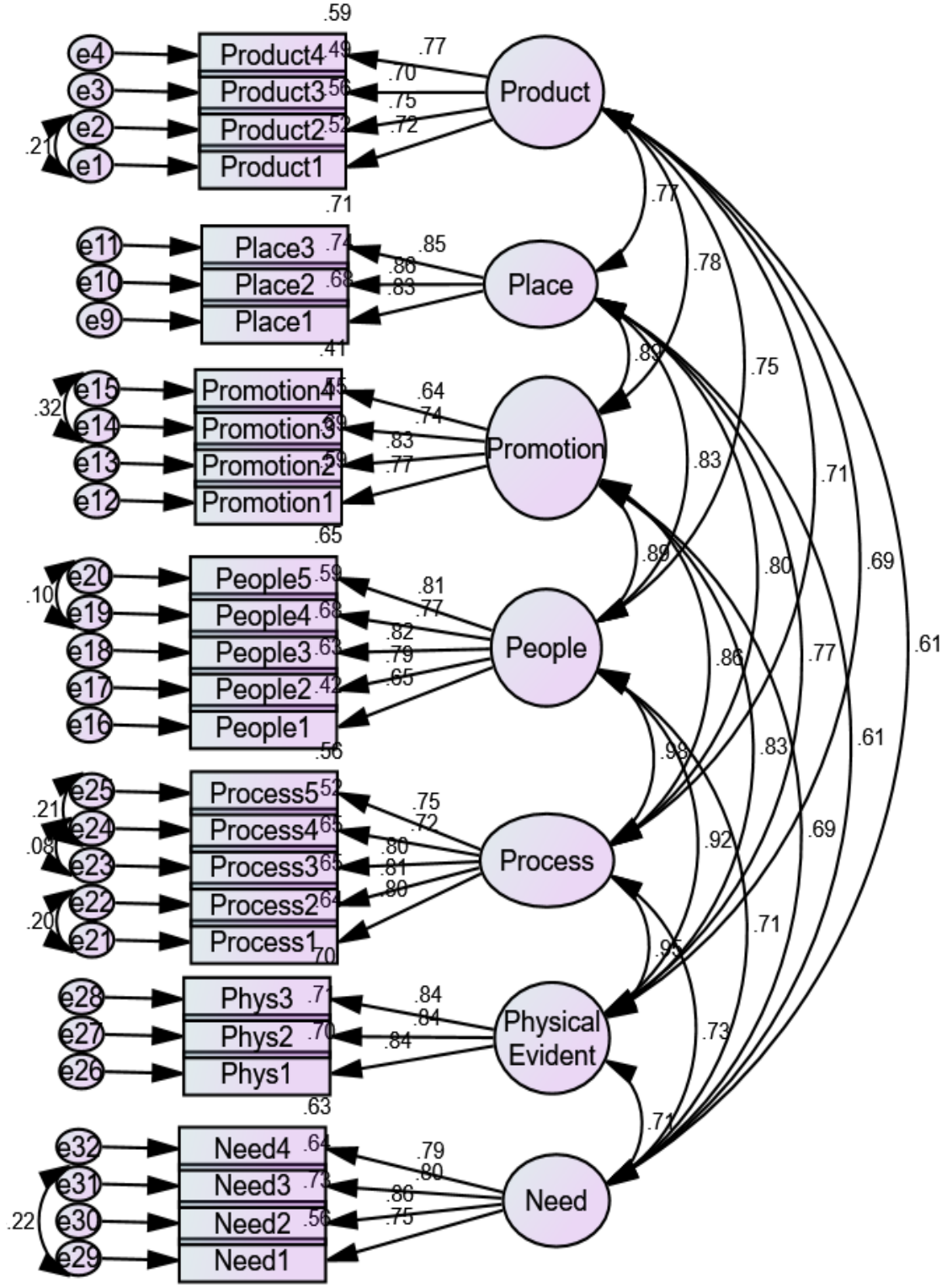
CFA and Goodness of Fit of Consumers



$\chi 2 = 2{,}346.049$, $\chi 2/df = 4.204$, GFI = 0.873, RMSEA = 0.055, RMR = 0.029, CFI = 0.924, AGFI = 0.849

Figure 4 CFA of Consumers
Source: Empirical Data Analysis Result

CFA and Goodness of Fit of Consumers Revised



$\chi 2 = 1538.753$, $\chi 2/df = 4.779$, GFI = 0.900, RMSEA = 0.060, RMR = 0.025, CFI = 0.944, AGFI = 0.874

Figure 5 Revised CFA of Consumers
Source: Empirical data analysis results

Table 5 Results of Factor Loading and Composite Reliability for Loyalty

Construct Validity	Factor Loading					
	Initial	revised	SMC	AVE	CR	Cronbach's Alpha
Loyalty						
- Frequency of online food ordering	0.536	-	-	-	-	0.725
- Frequency of ewebsite visitng	0.547	-	-	-	-	0.725
- Frequency f sharing, post, word of mouth (WOM) in social media	0.064	-	-	-	-	0.725
- Persuasion other people	0.576	-	-	-	-	0.711
Goodness of fit indices	χ2= 1538.753, χ2/df= 4.779, GFI= 0.900, RMSEA= 0.060, RMR= 0.025, CFI= 0.944, AGFI= 0.874					
Measurement	χ^2/d<3, GFI>0.9, RMSEA<0.08, RMR<0.08, CFI>0.9, AGFI>0.9					

Factor Loading (>0.4), Critical Ratio (C.R.), p-value (<0.05), Composite of Construct Reliability (>0.7), Average Variance Extracted (AVE, >0.5)

Discriminant Validity

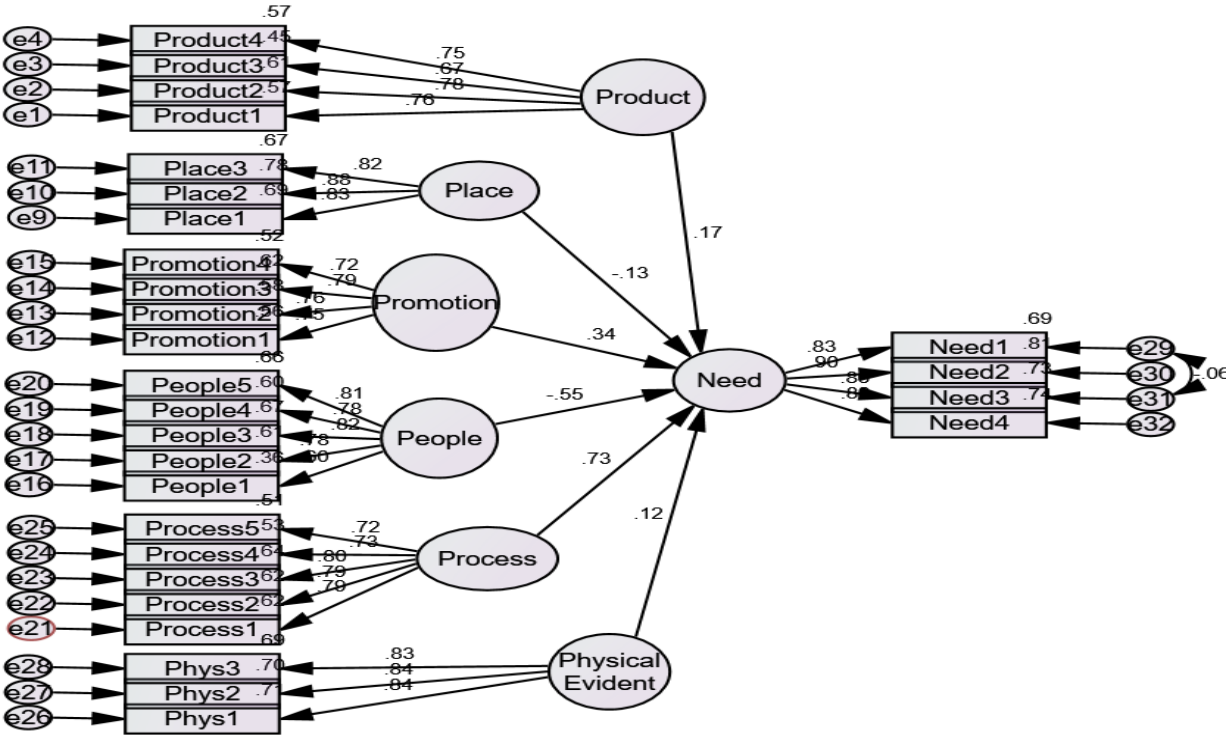
Table 6 SQRT OF AVE, AVE and CR

Variables	SQRT OF AVE	CR	AVE
Product	0.738	0.831	0.545
Place	0.843	0.879	0.711
Promotion	0.741	0.826	0.549
People	0.771	0.810	0.594
Process	0.777	0.814	0.603
Physical Evident	0.840	0.961	0.706
Member need	0.801	0.870	0.642

Convergent validity refers to "the extent to which measures of a specific construct should converge or share a high proportion of variance in common" (Hair et al., 2011). In other words, it is the degree to which two measures of constructs that should theoretically be correlated (related), are in fact correlated, while discriminant validity, also known as divergent validity, is the extent to which a construct or concept is not unduly related to other similar, yet distinct, construct (Hair et al., 2011). All variables, consisting of Product, Place, Promotion, People, Processes, Physical Evidence and Members, must have factor loadings of >0.6, CR >0.7, convergent validity and AVE > 0.5 and Square root of AVE > inter-constuct correlations; the corresponding results are shown in Table 6.

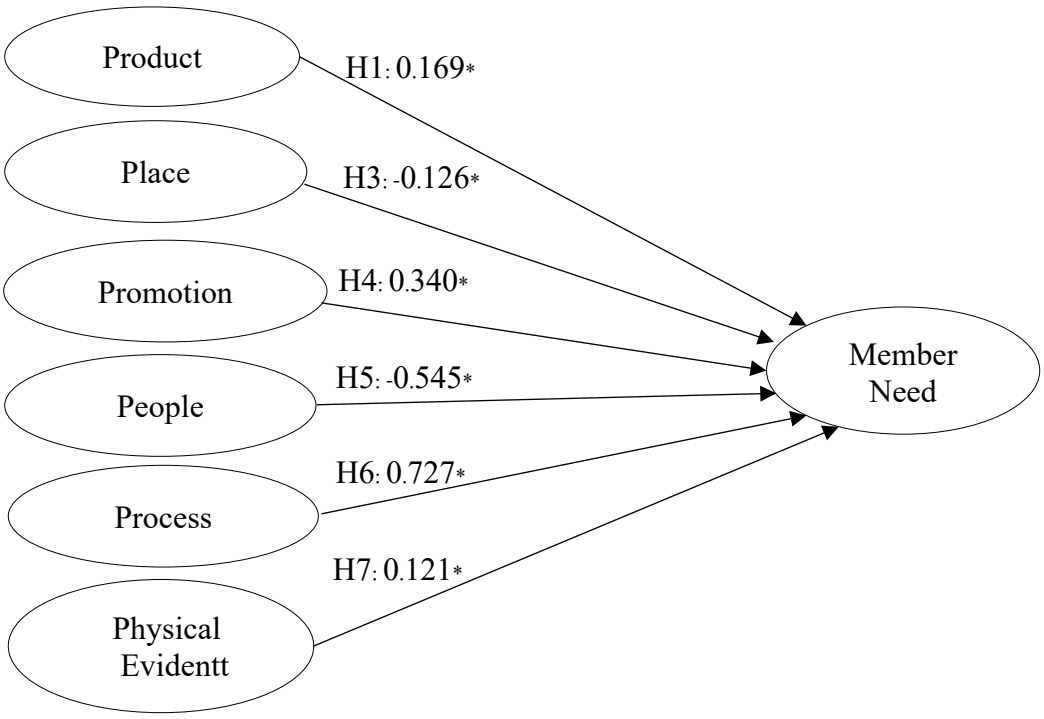
Structural Equation Model (SEM)

Applying the measurement model for each group separately revealed the following: for the consumer group χ^2 = 648.986, χ^2/df = 2.873, GFI = 0.98, RMSEA = 0.055, RMR=0.035, CFI= 0.978, and AGFI=0.945, indicating an acceptable fit with the data. The results in Table 2 show that the CR was higher than 0.7 and the AVE was higher than 0.5, and thus satisfied the criterion for reliability and convergent validity. Moreover, the SMC for all constructs was less than the AVE and the square root of the AVE was higher than the respective correlation value; therefore, discriminant validity was also established for the sample.



Note: $\chi 2$= 648.986, $\chi 2$/df= 2.873, GFI= 0.98, RMSEA= 0.055, RMR=0.035, CFI=0.978, AGFI= 0.945

Figure 6 SEM Results of Consumer
Source: Empirical data Analysis Result



Notes: * p-value<0.05 is Supported
Figure 7 Hypothesis Testing

Table 7 Regression Weights

		Hypothesis Path	Estimate	S.E.	C.R.	P	Study Results
Need	<---	Product	0.169	.026	10.436	***	Accepted
Need	<---	Place	-0.126	.020	-8.303	***	Accepted
Need	<---	Promotion	0.340	.027	18.459	***	Accepted
Need	<---	People	-0.545	.026	10.436	***	Accepted
Need	**<---**	**Process**	**0.727**	**.020**	**-8.303**	***	**Accepted**
Need	<---	Physical_Evident	0.121	.027	18.459	***	Accepted

Notes: *** p-value<0.05 is Accepted

Table 8 Hypothesis Results

Hypothesis Support	
H1: Product influences the need to be a member of an online food ordering business via subscription.	Accepted
H2: Price influences the need to be a member of an online food ordering business via subscription.	Rejected
H3: Place influences the need to be a member of an online food ordering business via subscription.	Accepted
H4: Promotion influences the need to be a member of an online food ordering business via subscription.	Accepted
H5: People influence the need to be a member of an online food ordering business via subscription.	Accepted
H6: Processes influence the need to be a member of an online food ordering business via subscription.	Accepted
H7: Physical evidence influences the need to be a member of an online food ordering business	Accepted

As demonstrated in Table 6 and Figure 7 the p-value of the factors of price and loyalty are higher than 0.05, indicating that these data are not statistically significant and that there is strong evidence for the null hypothesis.

Meanwhile, **process** has a p-value of less than 0.05 and can be considered as one of the strongest factors which impacts the need of consumers to be a member of an online food ordering delivery service based on the subscription model; these processes include the delivery process, and tracking process, as well as browsing, ordering, rating or complaining processes. **Promotion** is also a factor which has a significant influence on many consumers' online food ordering; this includes features such as e-coupons, free of charge delivery, or promotion sets. In addition, **product** as a factor is a highly fundamental issue for purchase decisions, and includes quality, nutrients, and product value, while **physical evidence** incorporates having friendly technology a good system, and appealing website, among other potential features.

5. DISCUSSION

The results of the hypothesis testing show that the factors with a p-value of less than 0.05 are process, promotion, product, and physical evidence, indicating that these four factors have a strongly significant influence towards the need to be a member of an online food ordering business subscription, while price shows a p-value of less than 0.95 and is hence insignificant in relation to the hypotheses.

This study found that the factors of place and people influence the needs of consumers who order food delivery services online, based on a subscription model. However, **place,** which is identified in online business through social media such as Facebook, Instagram, WhatApp business, Lineadd, etc. should be linked to all these platforms for an effective single user journey and readiness for a 360-degree seamless consumer experience. Theoretically, it is advisable for marketers not to ignore low product demand, as a so-called *"long tail"* strategy with low demand products can be beneficial (Anderson, 2004), although it is not significant, as these products are still considered in marketing as low demand products, they have large volumes. These products can generate profits for an organization in the long run with a multiple desire niche target market and distribution rather than being specific to one channel. Other important points include having long-tail keywords of about 4-5 specific words on the website or platform, using a friendly interface, and having user content with either google keywords or keyword sheeted tools to increase traffic and optimize the share content presence on social media.Meanwhile, from the perspective of **people** or service providers, the platform ought to study routes before driving, and the hygience of riders as this was of high concern, especially during the COVID-19 pandemic; some brands indiated a vaccine passport for their people on the main page of their website as well.

It is a fact that regarding online food ordering via a subscription model, achievement of consumer loyalty is quite challenging for entrepreneurs as there are many competitiors in this industry with various marketing strategies and promotions. Furthermore, many consumers prefer to try new brands and taste new menus rather than being obliged to always order in a specific restaurant. Therefore, Thai restaurant owners should focus on consumer relationship management (CRM) campaigns to improve consumer retention. The quality of food is an extremely important added value for maintaining a competitive advantage.

This study also found that the process dimension has a strong significance with online food ordering, thus, an entrepreneur ought to concentrate on every process from application download, through registration, login, search engine optimixation (SEO), to search engine marketing (SEM), with marketing tools in both organic and paid media, and recording of big data relating to consumer behavior, as this was identified as an essential and valuable issue in this analysis.

Scope/Research limitations

This study considered the various service marketing factors of a subscription-based model that had potential to influence the needs of customers regarding online food ordering and delivery services in Bangkok only. Specifically, each area has its own local and unique preferences. Mostly, customers have their own reasons when choosing any restaurant. There are some interesting variations between customers that live in the Bangkok area and surrounding neighborhood areas, thus the results of this research are not consistent with every store or affiliated local restaurant.

This industry is novel and rapidly growing, the characteristic of food delivery service focuses on the food online ordering through any internet communicable device, including mobile phones, smart phones, or wireless electronic gadgets. Restaurant owners provide food from the kitchen for direct delivery to consumers' homes, offices, or other locations, via external logistics services, ccording to consumer choice.

6. PRACTICAL AND SOCIAL IMPLICATIONS

This study provides suggestions in response to consumer behavior in terms of consumer selection, and consumer decision making, based on the study location, via data analytics. Regarding subscription services, a membership-based online food ordering and delivering service is a newly emerged

retailing model, providing innovative ways for individual decision making and ordering, delivering custom selected food direct to customers' doors through the provision of riders' services. Online food ordering and delivery services affect peoples' lifestyles and wellbeing. It can reduce the stress of time spent in high traffic congestion, increase the quality of life with other activities, and also increase social distancing which has become important due to the rise of infectious disease. Therefore, this study clarifies the service marketing factors that influence consumer needs in reference to a subscription-based model.

7. RECOMMENDATIONS AND CONCLUSION

This study has explored the online food ordering delivery service, determining that the service marketing factors play a dominant role in relation to consumer needs in the subscription-based marketing model. However, consumer loyalty and retention must be recognized as the next step for marketing development in order to achieve a subscription model in the future with arduous competition and other challenges in this industry.

Broadly speaking, brand building is relevant to e-commerce and has a great impact on consumer decision making regarding online purchses. In particular, consumer retention criteria can reduce cost acquisitions and increase the frequency of reordering, sharing, or even word of mouth (WOM); there are many elements which contribute to reordering. This includes CRM campaigns which is a crucial factor that can be easily compared among several alternatives, and which includes diverse marketing strategies for competitive e-commerce.

Surprisingly, physical evidence was also found to have a significant effect on online food ordering, either through providing a user-friendly infrastructure, or speedy and secure system for consumers. The study found that price was another factor that did not have a strong influence on consumers if they were satisifed in other perspectives as mentioned above. Particularly, food quality, taste, and nutrients, were very siginifcant factors for consumer ordering.

In summary, this study found that service marketing factors influence the needs of consumers for online food ordering and delivery when considering a subscription model. Entrepreneurs should recognize demographic, psychographic, and behavioral segmentation in marketing. Adapting product or service positioning suits individualism; marketers must have a concise understanding of decisive factors for efficient allocation of budget, and resources, for effective marketing planning, strategies, and control.

Finally, this research can lead to further exploration of online food ordering services in a subscription-based model. It is crucial to discover and define new business models for maintaining a competitive advantage with new technology, covering both security and convenience, including identifying untapped low demand products which allow retailers to utilize newly innovated services and performance systems for the development of a sustainable online food delivery subscription-based business model.

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