

Analysis of Relationship between Consumers Returning to Small Business Stores and Small Business Store Location Characteristics using Big Data

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Abstract. Researches for the activation of small business have recently been increasing. The reason for this is that concern about the future of small business owners is relatively increasing due to the economic downturn and intense competition, compared to the continuous growth of department stores, discount stores, and convenience stores, which are the areas where large corporations expand their business. Despite this situation, academic research on small business owners is still scarce, and the suggestion of practical implications for the success of small business owners is limited. Therefore, this study tried to proceed with it by subdividing the relationship between location characteristics and satisfaction of small business stores. For this purpose, it is necessary to understand small business owners and approach the study purpose from their viewpoints by combining the location characteristics of real estate. The purpose of this study is to classify the location characteristics of small business stores as the main factors of sales increase, and to confirm whether each factor has a significant effect on customer satisfaction and intention to revisit. In addition, by emphasizing the importance of customer satisfaction visiting small business stores, it will contribute to the income increase and development of small business stores in the future. Furthermore, this study aims to identify the differences in the impact of the location characteristics on customer satisfaction and revisit intention, and to suggest ways to secure the competitiveness of store operation by grasping customer satisfaction, customer's revisit intention and the important matters necessary for preparing the opening and operation of store. In order to meet the purpose of the study, the study not only examines the theoretical basis of location characteristics, customer satisfaction, and revisit intention of small business stores through domestic and overseas literature and previous studies, but also establishes research models and research hypotheses and verifies them through empirical research. The empirical study confirmed the suitability of the questionnaire through previous studies and distributed 400 questionnaires to customers who are using small business stores in major cities in Korea recently, and 345 of them were used as the final analysis data. The collected big-data was used as basic data for empirical analysis, and demographic analysis, descriptive statistical analysis, validity and reliability analysis, correlation analysis,

and regression analysis were conducted using statistical program SPSS. In addition, the analysis was conducted using Sobel-Test to verify the mediating effect of customer satisfaction. Based on the results of the empirical statistical analysis, the study set the direction of the research of the follow-up studies along with the realistic meaning of the research results. As a result of hypothesis verification through regression analysis, location characteristics (conformability, accessibility, visibility) had a significant positive (+) effect on revisit intention. Location characteristics (suitability, accessibility, and visibility) have a significant positive effect on customer satisfaction. Customer satisfaction had a significant positive effect on intention to revisit. Customer satisfaction had a mediating effect on the relationship between location characteristics (conformability, accessibility, visibility) and revisit intention. The implications of this study are that suitability, accessibility, and visibility among location characteristics are very important factors for customers to open or transfer stores. Therefore, it is suggested that, in the process of opening a store, simple access to selling only goods should be avoided. Rather, prior knowledge on customer-oriented movement plan, product display, and sales items should be acquired. In addition, it means that the consideration of location characteristics and customer satisfaction should be done at the same time in order to increase sales of small business stores. In this study, the characteristics of the location of small business stores, service quality, customer satisfaction, and revisit intention were constructed and measured by qualitative evaluation through questionnaires. In further studies, it is necessary to analyze it in objective and diverse aspects based on quantitative basis using sales. And it is necessary to study the detailed location characteristics and service quality considering the environmental factors surrounding the stores or the economic level of customers. Furthermore, there is a limitation in providing the research result of the store location characteristic or service quality that combines the industry or sales. Considering these points, future studies will need to be conducted by combining the types of small business owners' stores by industry.

Keywords: Big-data, small business, location, customer, satisfaction, revisit, intention, mediating

1. Introduction

The inefficiency of small business owners is becoming a social problem. In addition, many previous studies on the management performance of small business owners have been conducted for small business owners in the start-up stage, and have been developed as a study reflecting the actual business operation and performance creation process of small business owners by analyzing fragmentary sales and profitability.

Researches for the activation of small business have recently been increasing. The reason for this is that the future of small business owners is increasing due to the economic downturn and intense competition, compared to the continuous growth of department stores, discount stores, and convenience stores as expanded areas of large corporations. Despite this reality, academic research on small business owners is scarce, and the suggestion of practical implications for the success of small business owners has limitations.

Therefore, this study subdivides the relationship between location characteristics and satisfaction of small business stores further, and proceeds with analysis based on the results of subdivision. For this purpose, it is necessary to understand and approach small business owners by combining the location characteristics of real estate, so the following research purposes are presented.

First, the location characteristics of small business stores are classified as the main factors of sales increase, and it is intended to confirm whether each factor has a significant effect on customer satisfaction and revisit intention. In addition, by emphasizing the importance of customer satisfaction visiting small business stores, it will contribute to the income increase and development of small business stores in the future.

Second, the other purpose of this study is to identify the differences in the impact of the location characteristics of small business owners on customer satisfaction and revisit intention, and to suggest ways to secure the competitiveness of store operation by grasping customer satisfaction, customer revisit intention and the important matters necessary for preparing the store operation and opening of small business owners.

In order to meet the purpose of this study, the study aims not only to test the theoretical basis of location characteristics, customer satisfaction, and revisit intention of small business stores through domestic and overseas literature and previous studies but also to establish research models and research hypotheses based on this for verifying them through empirical research. The empirical study confirmed the suitability of the questionnaire through previous studies and asked the customers who are using the small business stores in the domestic metropolitan area to write the questionnaire directly for 21 days from July 11, 2020 to July 31, 2020. A total of 400 questionnaires were distributed and 368 questionnaires were collected. Of the

collected questionnaires, 345 questionnaires were used as the final analysis data except for 23 questionnaires that were unfaithful.

The collected questionnaire data was used as basic data for empirical analysis, and demographic analysis, validity and reliability analysis, correlation analysis, and multiple regression analysis were conducted using statistical program SPSS. In addition, the analysis was conducted using Sobel-Test to verify the mediating effect of customer satisfaction. Based on the results of the empirical statistical analysis, the study will summarize the research direction of the follow-up studies along with the realistic meaning of the research results.

2. Theoretical Background

2.1. Small business owners

2.1.1. Concept of small business owners

In 1998, the IMF and 2008 global financial crisis caused the business deterioration and economic crisis, leading to changes in the industrial structure, anxiety about retirement guarantee, unemployment and reemployment due to decreased jobs in the process of industrialization and urbanization, and saturated youth unemployment. Therefore, the number of small business owners is increasing as the start-ups for breadwinning with low entry barriers are continuously repeated (Kim 2014).

In academia, it is generally not expressed as a "small business owner" and rather is expressed as just a "business" in the Chamber of Commerce. In business administration and economics, businesses are classified as large corporations, medium enterprises, and small enterprises. In Japan, the concept of small business owners has been used as a meaning of small enterprises. In Korea, small companies are classified based on the number of regular employees, but they are generally defined as a sector of small-medium-sized enterprises(SMEs). However, small and medium enterprises are used in a comprehensive sense to refer to all companies that do not have characteristics of large corporations quantitatively and qualitatively. In spite of the existence of small business owners, they have been used in the category of SMEs without having their own definition and scope.

Small business owners specified in Article 2 Section 2 of the Framework Act on Small and Medium Enterprises are defined as companies with less than 10 regular workers in manufacturing, construction, mining, and transportation, and less than 5 regular workers in wholesale and retail, restaurants, and various service industries. The small business owners in Korea account for about 86.6% of the total number of businesses, and the number of employees accounts for about 37.7% of the total number of businesses, which consists of very high rate among the entire employees.

When scoped out based on the above data, it indicates that small business owners are smaller than small-medium-sized enterprises, and the term refers to the smallest

scaled business among the entire businesses. Therefore, the rest of the industries except manufacturing, construction, mining, and transportation can be named small business owners only if the number of regular workers is less than five.

2.1.2. Characteristics of small business entities

Small business owners are various in all industries, so it is difficult to accurately identify their characteristics. So, in order to identify the characteristics of small business owners, this study summarizes them as the followings by referring to the research of Park Chun-yeop et al. (2000) and the user satisfaction research conducted by government agencies.

First, most of the small business owners are directly related to the economic and social stability of the majority of the people because they start up as a means to make a living.

Second, small business start-ups play a big role of creating jobs. Small business owners employ 45% of all industrial workers, which is a great contribution in that they offers many opportunities to work for employees (Nam 2002).

Third, small business owners are very small-scaled because they are working on a small scale. Generally, the tertiary industry is small and has the number of regular workers because most of the small business owners are concentrated in the tertiary industry. Therefore, it can be said that it leans toward economic purpose because it has a small scaled livelihood-centered form.

Fourth, small business owners start up with small capital. When small business owners start their business, the total capital invested is mostly small funds of less than 100 million won.

Fifth, small business covers a variety of businesses. By industry classification, small business owners are very diverse including wholesale, retail, food manufacturing, other public personal services and so on. Small business owners, which are distributed in other industries, are especially characterized by small business owners who occupy a greater portion in the non-manufacturing sector than the manufacturing sector, which is the main field of large corporations.

Sixth, it is the individual business type whose business owner and the manager are the same person. In the form of an organization, most are private enterprises whose size is small and private.

Seventh, most workers are family members. When the status of small business owners are examined in terms of the status of employees, self-employed owners and unpaid families account for most of them.

This phenomenon suggests that small business owners are family-oriented businesses, which comes down to the issues of succession, strategy, finance, and family in itself (Park 2002).

2.2. Location characteristics

2.2.1. Concept of real estate location and store location

Location means a place to choose for various economic activities such as provincial and retail business, manufacturing, agriculture, office service, housing, and public service. Specifically, location of a specific facility can be defined based on relative location with factors closely related to economic activities of the facility and unique physical characteristics of the site in itself.

The concept of real estate location varies according to the viewpoint and scholar. Nelson (1958) defined the location as "some fixed place where people may visit" in relation to retail location. Lee Ho-byeong (2005) mentioned that one of the basic attributes of a place is a location, and that location can be said to be the place where something is located as above, and when the location is interpreted as 'locating a store,' the location is the place consisting of nature and humanities occupied in a land, and it can be interpreted as implying the meaning that the place has when humans use the land according to various purposes (Lee 2005).

Store location means the locational conditions of the land or various facilities, especially commercial facilities such as stores within the spatial structure. It also tells the place where humans choose to do economic activities. Factors that determine such places include demographic factors, economic factors, and land use factors. Demographic factors include population density, the number of population, number of houses, economic factors include land price, purchasing power, number of employees, local tax, accessibility to roads, accessibility to subway stations, access to access to roads, and congestion of roads, and land use factors include area of used space compared to the surrounding area.

When the locational environment of the store is examined, the interoperability with large-scale guest facilities is related to the synergy effect that can be said to be the basis of the formation of the commercial area. In addition, it is the most important factor to determine the success or failure of the business from the perspective of the company. Therefore, when the location is determined, it is difficult to change the location because much capital source was invested, so companies need to analyze the location decision factors accurately.

2.2.2. Location characteristics of retail stores

According to the type of real estate, various concepts and characteristics of location exist. In general, the location of retail stores operated by small business owners is to find the appropriate location for shopping malls and stores.

The location characteristics of these retail stores can be classified into center-oriented stores, cluster-oriented stores, and dispersion-oriented stores according to the type of stores. The following characteristics are found by the type of stores.

First, it is center-oriented. The center-oriented store is a store located in the center of the city or area. It is advantageous to be located in the center or the area where the

back ground is surrounded. It holds true for department stores, luxury restaurants, jewelry stores, luxury clothing stores, large bookstores, and movie theaters and so on.

Second, it is cluster-oriented. Cluster-oriented stores are ones which deal with the same products or services. If they are located in one place, it is not only easy to be known to customers but also advantageous to visit. Banks, insurance companies, offices in shopping malls, government offices, machinery stores, furniture stores, and electronics stores belong to this type.

Third, it is dispersion-oriented. Some stores may be disadvantageous if they are gathered in one specific place or in proximity. This is the case where stores need to get some distance from one another because they should have a certain back-ground area due to serving the same type of service. Drug stores, barber shops, laundry, public baths, and retail stores belong to this type.

Meanwhile, Nelson (1958) suggested 8 rules like Table 1 about what place should be located in order to increase sales and maximize profits.

Table 1: 8 principles of location selection (Jo et al., 2016)

division	content
potential	Possibility of securing profitability of goods handled in the current commercial area Possibility of securing profitability of stores, or distribution complexes
accessability	The possibility of attracting customers in the commercial area to their own stores or distribution complexes.
growth potential	The possibility that market size or sales of distribution complex will grow due to population growth or income level improvement
intermediate-stop	The extent to which small business stores can attract customers on their way to the existing store or distribution complexes when they are located in the middle of the customers and small business stores.
cumulative attraction	The possibility of attracting customers because there are adjacent offices, schools, cultural facilities, etc.
compatibility	The possibility that customers are inhaled because there are stores with complementary relations.
avoidance of competition	The possibility that the branch has the advantage in competition with existing store considering the location, size, and type of competitors
economical	Profitability and productivity due to price and cost of location

2.3. Customer satisfaction

The etymology of satisfaction is derived from the Latin word ‘satis (sufficient) + facere (to make or do)’. Satisfaction means meeting customers' expectations beyond what one might think. This can be seen as filling or accomplishing something with subjective evaluation rather than objective evaluation of experiences such as cognitive state, pleasure, displeasure, desire satisfaction, or benefit evaluation.

Engel et al. (1955) defined customer satisfaction as the evaluation that assessment on a selected alternative is consistent with expectation on it before the purchase. And

David & Wilton (1988) defines the difference between pre-expectations and perceived performance after consumption as a consumer response.

Swan & Oliver (1989) defined customer satisfaction as a degree of favor for subjective evaluation of the result and experience of purchasing and using products or services. They also mentioned that satisfaction as an emotional and affective response to consumer experience reflects positive emotion, and dissatisfaction reflects negative emotion. Parasuraman et al. (1985) defined customer satisfaction as the state that the seller meets the needs and expectations of customers, and as a result, repurchase of goods and services is made.

When the definitions from previous studies are generally examined, the definition of customer satisfaction can be defined as the subjective evaluation of customer's own desire by emotional response obtained from customer's experience of purchasing products or services. Increasing customer satisfaction can be defined as making the gap between consumer's expectation and perceived performance into zero.

Table 2: Examples of leading factors and result factors for customer satisfaction (La et al., 2015)

Classification	Classification
Antecedent factors	Perceived Service quality, Aggressiveness of consumption behavior process, Expectation, Perceived performance, Demographic variables, Inconsistency, Relative preference, Customer civic behavior/Customer bad behavior, Information search efforts, Benefit, Value, Gain Inequity/Fairness/Loss Inequality, Sentiment, Benefit vs Loss, Perceived price, Communication (in-store promotion, peer group reputation), etc.
Outcome factors	Repurchase(use) intention, Word of mouth behavior, Complaint behavior(Intention), Relationship maintenance intention, Customer loyalty, Number of purchases, Purchase amount, Well-being, Institutional performance(New person, Support, Reputation), Social performance(National happiness, National estrus), etc.

According to the perspective or approach of researchers conducting customer satisfaction research, antecedent factors can be divided into two types: outcome and process (Yan et al., 2020).

The result is a view from the perspective of the result theory that customers directly experience through consumption, and it is conceptualized as a result that is caused based on the consumption experience for customer satisfaction (Tian et al., 2020).

However, the process evaluates to the fact that the consumption experiences are at least consistent with the prior beliefs of the selected alternative or good evaluation than expected, which is called customer satisfaction (Gibbert et al., 2021). The process-oriented approach deals with the consumer's entire consumption experience, so many studies have adopted a process-oriented view because of the advantages of

individually measuring each factor that plays an important role in each stage to identify an important process.

2.4. Revisit intention

The intention to revisit occurs during the contact with service and after the contact or after engaging in the contact. And it should not be overlooked that the intention to reuse is only a predictor of the behavior to use (Garbarino & Johnson, 1999). Dick & Basu(1994) defined loyalty as the relationship between the relative attitude toward the object and the repurchase behavior, determined by the combination of the level of repeated purchase of the consumer and the relative attitude.

Baker & Crompton (2000) stated that the intention to revisit is the concept of whether a specific customer re-uses specific products, programs, facilities and has the will to revisit or not. Although it is studied that customers' future behavior or behavioral intentions can be predicted by many factors such as value, attitude, past experience, quality and satisfaction, revisit intentions are highly influenced by the level of perceived satisfaction in customers' minds because they are formed through direct experiences of customers about products or services. Hosany, S. & Witham, M (2010) concluded that satisfaction affects revisit intention. They stated that the tourists who are satisfied with services are more likely to visit the tourist destination again and are more likely to give positive word of mouth or recommendation to the people around them.

After consumers generally experience dissatisfaction or satisfaction after purchasing a product, they will take various actions such as purchasing another product, continuing to purchase the same product, not recommending to others around them, and recommending the purchase of the product. In terms of profit of corporate, one of the most important things for the marketing manager is customer's intention to revisit because companies, above all, want consumers to have intentions to reuse (Sun 2010).

3. Research Design

3.1. Research model and hypothesis

The causes of the difference in the amount of small business owners' incomes are as diverse as the results obtained through previous studies. This study empirically analyzed the relationship among the factors of location characteristics, service quality, customer satisfaction and revisit intention in order to prepare a plan for income increase of small business owners by focusing on the fact that the location characteristics and service quality of small business owners have a very subtle effect on customers. In this study, to empirically verify the flow of the research, the study was conducted based on the previous studies presented in the theoretical background to study the effects of location characteristics and service quality on customer

satisfaction and customer's intention to revisit. Based on the previous studies, the research model is suggested in Fig. 1.

This study set the following hypotheses based on the results of previous studies between variables using causality hypothesis method to investigate the interactive relationship between independent variables such as location characteristics, customer satisfaction as a parameter, and revisit intention as a dependent variable.

As for the effect of location characteristics on revisit intention, Ryu Seung-jin (1999) said that location, products, and facilities of large discount stores have a significant effect on consumers' revisit and repurchase at large discount stores. And Jeon Jong-geun and Lee Tae-min (2004) suggested that the attribute variables of store such as location, price, quality, service, atmosphere increase customer loyalty and have a significant effect on revisit.

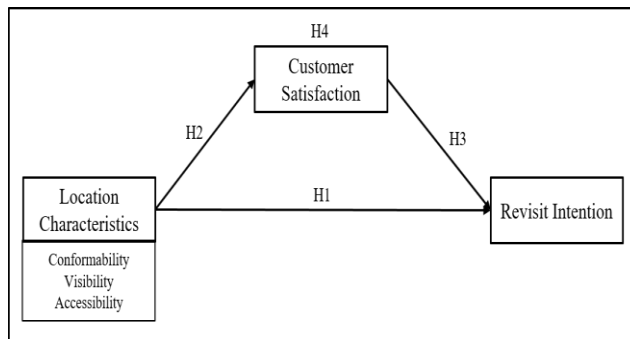


Fig. 1: Research model

As for the effect of location characteristics on customer satisfaction, Hwang Bo-yeon and Ha Kyu-soo (2008) showed that location factors of beauty service companies had a positive effect on satisfaction and accessibility of location factors in an empirical study on satisfaction and management performance, and satisfaction had a positive effect on management performance. In the study of the difference analysis of selection attributes and customer satisfaction according to segmentation of individual market and segmentation of franchise coffee shops in Seoul, Yoon Nam-soo (2011) stated that ,for the target of the top seven coffee brands in Korea (Starbucks, Coffee Bean, Cafe Bene, Tom N Toms, Angel-in-us Coffee, Hollys, Pascucci), the importance of selection attributes such as store location, interior, cleanliness, price, and additional service is relatively high. He also verified that the higher the satisfaction level customers have, the more perception of satisfaction they have.

As for customer satisfaction's effect on the intention to revisit, Gilly & Gelb (1982) studied the process after purchase for consumers who complain among consumers who have experienced product purchase. They showed that customer satisfaction increases when companies respond appropriately to consumer's

complaint behavior, and consumer's repurchase intention increases. Halstead & Page (1992) divided consumers into six categories by the existence of complaints, the level of satisfaction with complaints, and the level of product satisfaction. The study examined how complaints and satisfaction affect consumers' revisit intentions. As a result, it presented a different result from the previous study that consumers who complained showed higher repurchase intentions than consumers who did not complain.

Based on the results of previous studies, this study set the following hypotheses 1, 2, 3, and 4 as follows.

Hypothesis 1. Location characteristics will have a significant effect on revisit intention.

Hypothesis 2. Location characteristics will have a significant impact on customer satisfaction.

Hypothesis 3. Customer satisfaction will have a significant effect on revisit intention.

Hypothesis 4. Customer satisfaction will mediate the relationship between location characteristics and revisit intention.

3.2. Operational definition of variables, survey design and analysis method

This study used three variables of suitability, accessibility, and visibility that are considered to meet the purpose of this study among the variables of researchers used in the previous studies on the location characteristics of small business stores, which are independent variables. The measurement items are total 12 items, and the suitability is 4 items of population density, floating population, income level, and consumption level. The accessibility is 4 items of proximity with crosswalk, public transportation convenience, parking, and level of commercialization. Visibility is four items: signboard visibility, store visibility, entrance size, and store location. Measurement was measured using a five-point scale.

As for the measurement items on customer satisfaction which is a parameter, items suggested in the previous studies were modified and supplemented according to the purpose of this study. The measurement items were 4 items of satisfaction with in-store professionalism, store atmosphere satisfaction, price satisfaction, and overall satisfaction. They were measured using a 5-point scale.

The measurement items on revisit intention, which is a dependent variable of this study, were modified and supplemented according to the purpose of this study. The measurement items were 3 items of the retrade intention, the revisit intention, and the reuse confidence, and were measured using a 5-point scale.

This study surveyed the respondents for 21 days from July 11, 2020 to July 31, 2020, targeting customers who have been using small business stores recently while living in large cities in Korea to achieve the purpose of the study efficiently. The

respondents answered the questionnaire with personal self-administered type. A total of 400 questionnaires were distributed and 368 copies were collected. Of the collected questionnaires, 23 were excluded because of the unfaithful responses, and 345 were valid samples used as data for the final analysis.

The statistical analysis of this study was conducted using SPSS statistical program and the significance level was verified based on 1%, 5%, and 10%. The specific analysis methods are as follows.

First, frequency analysis was conducted to understand the demographic characteristics and general characteristics of the subjects. In addition, descriptive statistic analysis was conducted to review the regularity of each variable.

Second, factor analysis and reliability analysis were conducted to identify the reliability and validity of the scale used in this study. For factor analysis, Verimax Roration method was used to maintain mutual independence among factors. Also, for reliability analysis, the Chonbach's α coefficient was measured and the items that hinder internal consistency were excluded.

Third, before the hypothesis test, correlation analysis between variables was conducted to diagnose the problem of multiple collinearity.

4. Empirical Analysis

4.1. Demographic characteristics

The demographic characteristics of the sample were analyzed, and the gender composition was 171 (49.7%) for men and 174 (50.3%) for women. As for the age, 33 people in their 20s (9.6%), 52 people in their 30s (15.1%), 74 people in their 40s (21.5%), 111 people in their 50s (32.1%), and 75 people in their 60s or older (21.8%) were surveyed and the most common age was the 50s.

For the educational background, 47 persons (13.5%) below high school, 76 persons (22.1%) from two-year college, 131 persons (38.1%) from four-year college, 38 persons (10.9%) from master's degree, 32 students (9.3%) from doctoral degree(registered or graduated) and 21 persons from others (6.1%) were indicated. Persons from four-year college were the highest. 72 (20.8%) were unmarried and 273 (79.2%) were married.

The most common occupation was 47 housewives (13.5%). 20 were students (5.8%), 111 were office workers (32.1%), 17 were civil servants (4.8%), 85 were self-employed workers (24.7%), 54 were workers with professional certificates (16.0%), and 11 were other employees (3.2%). The number of office workers was the highest.

Lastly, as for monthly average income, 74 people (21.5%) were under 2 million won, 135 people (39.1%) were under 4 million won, 62 people (17.9%) were under 6 million won, 32 people (9.3%) were under 8 million won, 23 people (6.7%) were under 10 million won, and 19 people (5.4%) were over 10 million won. The number of people under 4 million won was the highest.

Table 3: Demographic characteristics analyzed

Variable	Distinction	Frequency(N)	Ratio(%)
Gender	Male	171	66.8
	female	174	33.2
	Total	345	100.0
Age	20s	33	9.6
	30s	52	15.1
	40s	74	21.5
	50s	111	32.1
	60s and older	75	21.8
	Total	345	100.0
Educational background	below high school	47	13.5
	two-year college	76	22.1
	four-year college	131	38.1
	master's degree(registered or graduated)	38	10.9
	doctoral degree(registered or graduated)	32	9.3
	others	21	6.1
	Total	345	100.0
Marital status	unmarried	72	20.8
	married	273	79.2
	Total	345	100.0
Job	employed workers	111	32.1
	office workers	17	4.8
	civil servants	54	16.0
	professional certificates	85	24.7
	students	20	5.8
	housewives	47	13.5
	other employees	11	3.2
	Total	345	100.0
Monthly Average Income	under 2 million won	74	21.5
	under 4 million won	135	39.1
	under 6 million won	62	17.9
	under 8 million won	32	9.3
	under 10 million won	23	6.7
	over 10 million won	19	5.4
	Total	345	100.0

4.2. Validity, reliability analysis and correlation analysis

4.2.1. Exploratory factor analysis and reliability analysis

The KMO value of location characteristics is .826, which is close to 1, so this tool can be seen as a suitable one for factor analysis. Bartlett's unit matrix verification statistics also appeared to be 1744.649, which proved that it was not statistically unit matrix at the $p < .001$ level, indicating that it is suitable for factor analysis. The result of calculating Cronbach's α coefficient to verify the reliability of the measurement tool of location characteristics composed through factor analysis is the same as Table 4. Suitability is .853, accessibility is .835, and visibility is .840, which can be said to secure the internal consistency of the questions.

Table 4: Exploratory factor analysis results of location characteristics

Items	Factor 1	Factor 2	Factor 3	Cronbach's α
Location characteristics 11	.852	-.005	-.097	.853
Location characteristics 10	.839	.165	.187	
Location characteristics 9	.822	.214	.197	
Location characteristics 3	.150	.914	.150	.835
Location characteristics 4	.033	.887	.195	
Location characteristics 1	.355	.544	.425	
Location characteristics 2	.446	.468	.426	
Location characteristics 5	.032	.167	.887	
Location characteristics 6	.066	.188	.886	.840
Location characteristics 8	.440	.428	.570	
Eigenvalue	2.652	2.456	2.402	
Descriptive Variable (%)	26.521	24.563	24.022	
Cumulative Variance (%)	26.521	51.084	75.106	
KMO measure value= .826 Bartlett $\chi^2 = 1744.649$ ($p < .001$)				

The KMO value of customer satisfaction was .798, which is close to 1, and this tool can be seen as the data suitable for factor analysis, and the eigen value was 2.959 and the explanatory power was 73.969%. In order to verify the reliability of customer satisfaction measurement tool, Cronbach's α coefficient was calculated as .910 and it can be said to secure the internal consistency of the question. [Table 5] shows the results of exploratory factor analysis of customer satisfaction.

Table 5: Exploratory factor analysis results of customer satisfaction

Item	Factor	Cronbach's α
Customer Satisfaction 4	.898	.910
Customer Satisfaction 2	.897	
Customer Satisfaction 1	.873	
Customer Satisfaction 3	.765	
KMO measure value = .798 Bartlett $\chi^2 = 726.515$ (p<.001)		

The KMO value of revisit intention was .737, which is close to 1, and this tool can be seen as the data suitable for factor analysis, and the eigenvalue was 2.869 and the explanatory power was 95.642%. In order to verify the reliability of the revisit intention measurement tool, the Cronbach's α coefficient was calculated and the internal consistency of the question was secured with .935. [Table 6] shows the results of exploratory factor analysis of revisit intention.

Table 5: Exploratory factor analysis results of revisit intention

Item	Factor	Cronbach's α
Revisit intention 3	.989	.935
Revisit intention 1	.976	
Revisit intention 2	.969	
KMO Measure Value = .737 Bartlett $\chi^2 = 1449.721$ (p<.001)		

4.2.2. Exploratory factor analysis and reliability analysis

To study the correlation between the variables used in this study, this study derived the results as follows in Table 7. As shown in Table 7, the variables used in this study are judged to have no problem with the multiple collinearity raised in multiple regression analysis, which can be seen as securing the suitability of data. Therefore, the model used in this study was judged to be suitable for the later hypothesis test because reliability and validity were secured.

Table 7: Correlation analysis results

Division	1	2	3	4	5
1. conformability	1				
2. Accessibility	.516**	1			
3. Visibility	.416**	.324**	1		
4. Customer satisfaction	.449**	.417**	.418**	1	
5. Revisit Intention	.483**	.450**	.3750**	.628**	1

***, **, * means statistically significant at 1%, 5%, and 10%, respectively

4.3. Hypothesis test

4.3.1. The relationship between location characteristics and revisit intention

The regression analysis was conducted to test hypothesis 1 that location characteristics have a significant effect on revisit intention, and the analysis results are as follows.

The F value of regression analysis of hypothesis 1 was 41.173, which was statistically significant at the significance level $p < .01$, and the total explanatory power of the model was 29.6%. And the VIF of all independent variables in the model was less than 10 standard values, indicating that there is no problem with the multicollinearity among independent variables.

The regression analysis to find out the effect of sub-variables of location characteristics on revisit intention showed that suitability ($t=3.658$, $p < .01$), accessibility ($t=4.285$, $p < .01$), and visibility ($t=3.655$, $p < .05$) were all significant.

This is judged to have a positive effect on revisit intention in all of the sub-variables of location characteristics. Therefore, hypothesis 1-1, hypothesis 1-2, hypothesis 1-3 were all adopted. These results suggest that the location of small business stores has a great influence on the customer's revisit.

Table 8: Regression analysis results of location characteristics and revisit intention

model	Nonstandardization coefficient(B)	standard error (SE)	standardization coefficient (β)	t	collinearity statistic	
					tolerance limit	VIF
conformability	.269	.073	.238	3.658***	.571	1.795
accessibility	.231	.057	.253	4.285***	.636	1.734
visibility	.189	.057	.182	3.655**	.825	1.325
R2(adj-R2)=.283(.289), F=41.173***						

***, **, * means statistically significant at 1%, 5%, and 10%, respectively

4.3.2. The relationship between location characteristics and customer satisfaction

Regression analysis was conducted to test hypothesis 2 that location characteristics factors have a significant effect on customer satisfaction, and the analysis results are as follows. The F value of regression analysis of hypothesis 2 was 42.131, which was statistically significant at the significance level $p < .001$, and the total explanatory power of the model was 30.0%. And the VIF of all independent variables in the model was less than 10 standard values, indicating that there is no problem with the multi-collinearity among independent variables.

Table 9: Regression analysis of location characteristics and customer satisfaction

model	Nonstandardization coefficient (B)	standard error (SE)	standardization coefficient (β)	t	collinearity statistic	
					tolerance limit	VIF
conformability	.215	.054	.229	3.972***	.597	1.813
accessibility	.162	.043	.178	3.153**	.633	1.604
visibility	.203	.043	.228	4.482***	.812	1.137
R2(adj-R2)=.307(.291), F=42.131***						

***, **, * means statistically significant at 1%, 5%, and 10%, respectively

The multiple regression analysis to find out the effect of sub-variables of location characteristics on customer satisfaction showed that suitability ($t=3.972$, $p < .01$), accessibility ($t=3.153$, $p < .05$), and visibility ($t=4.182$, $p < .01$) were all significant. This shows that all the sub-variables of location characteristics have a positive (+) effect on customer satisfaction. Therefore, hypothesis 2-1, hypothesis 2-2, and hypothesis 2-3 were all adopted according to hypothesis 2 and sub-variables. These results suggest that suitability, accessibility, and visibility among location characteristics are very important factors when customers want to visit stores when opening new stores or transferring stores.

4.3.3. the relationship between customer satisfaction and intention to revisit

The regression analysis was conducted to test the hypothesis 3 that customer satisfaction has a significant effect on intention to revisit, and the analysis results are as follows. The F value of regression analysis of hypothesis 3 was 681.791, which was statistically significant at the significance level $p < .001$, and the total explanatory power of the model was 68.6%. And the VIF of all independent variables in the model was less than 10 standard values, indicating that there is no problem with the multi-collinearity among independent variables.

The effect of customer satisfaction on intention to revisit ($t=31.315$, $p<.01$) was significant, and it is judged that customer satisfaction has a positive effect on revisit intention. Thus, hypothesis 3 was adopted. In light of these results, small business owners should be careful about continuous efforts and selection of location to improve service quality in order to increase customer satisfaction.

Table 10: Regression analysis result of customer satisfaction and intention to revisit

model	Nonstandardization coefficient (B)	standard error (SE)	standardization coefficient (β)	t	collinearity statistic	
					tolerance limit	VIF
customer satisfaction	1.145	.041	.851	31.315***	.681	1.891
R2(adj-R2)=.675(.653), F=687.791***						

***, **, * means statistically significant at 1%, 5%, and 10%, respectively

4.4. Mediating effects of customer satisfaction

In order to test the mediating effect of customer satisfaction, the analysis was conducted according to the procedure and standard of Baron et al.(1986).

4.4.1. The mediating effect of customer satisfaction on the relationship between suitability of location characteristics and intention to revisit

The results of verifying the mediating effect of customer satisfaction in the relationship between the suitability of the sub-variables of location characteristics and the intention to revisit are as shown in [Table 11].

Table 11: The mediating effect of customer satisfaction on the relationship between conformability and revisit intention

stage	independent variable		dependent variable	B	SE	β	t
first stage (Independent → Mediating)	conformability	→	customer satisfaction	.417	.045	.435	9.221***
				F=85.733*** R2(adj-R2)=.231(.225)			
second step (Independence → subordination)	conformability	→	revisit intention	.534	.057	.453	9.237***
				F=87.325*** R2(adj R2)=.216(.235)			
third step (Independent, Mediation → subordination)	conformability	→	revisit intention	.189	.039	.127	3.257**
	customer satisfaction	→	revisit intention	.963	.043	.791	23.468***

		F=343.670*** R2(adj-R2)=.673(.671)
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***, **, * means statistically significant at 1%, 5%, and 10%, respectively

As a result of analysis, in the first step, suitability as an independent variable predicted significantly customer satisfaction as a mediating variable ($=.435, p<.01$), and in the second step, suitability as an independent variable predicted significantly the intention to revisit as a dependent variable ($=.453, p<.01$). In the third stage test, customer satisfaction as a mediating variable had a significant effect on revisit intention as a dependent variable ($=.791, p<.01$). In addition, the influence of independent variables on dependent variables was significant in the third stage, and the value in the third stage decreased compared to the second stage (2 step = $.453 > 3 \text{ step} = .127$).

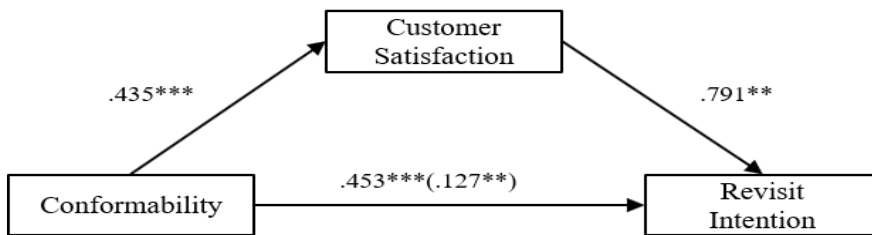


Fig. 2: The model of moderating effects of conformability → customer satisfaction → revisit intention

In order to find out whether the difference in influence is significant, the result of testing by the method that Sobel(1982)'s proposed shows that the difference was significant at $p<.01$ level, and the partial mediating effect of customer satisfaction was verified ($z=8.739, p<.01$)

Table 12: The result of soble test verification of conformability → customer satisfaction → revisit intention

path	b	z	p
Conformability → Customer Satisfaction → Revisit Intention	-.313	8.739	.000

4.4.2. The mediating effect of customer satisfaction on the relationship between accessibility and revisit intention of location characteristics

The results of verifying the mediating effect of customer satisfaction in the relationship between accessibility and revisit intention, which are sub-variables of location characteristics, are as follows in Table 13.

Table 13: The mediating effect of customer satisfaction on the relationship between accessibility and revisit intention

stage	independent variable		dependent variable	B	SE	β	t
first stage (Independent → Mediating)	accessability	→	customer satisfaction	.334	.037	.431	8.125***
				F=70.237*** R2(adj-R2)=.193(.190)			
second step (Independence → subordination)	accessability	→	revisit intention	.426	.046	.440	9.236***
				F=87.260*** R2(adj-R2)=.203(.201)			
third step (Independent, Mediation → subordination)	accessability	→	revisit intention	.118	.031	.128	3.680***
	customer satisfaction	→	revisit intention	.956	.042	.756	23.531***
				F=363.432*** R2(adj-R2)=.713(.711)			

***, **, * means statistically significant at 1%, 5%, and 10%, respectively

As a result, in the first step, accessibility as an independent variable significantly predicted customer satisfaction as a mediating variable ($=.431, p<.01$), and in the second step, accessibility as an independent variable significantly predicted revisit intention as a dependent variable ($=.440, p<.01$). In the third stage, customer satisfaction as a mediating variable had a significant effect on revisit intention as a dependent variable ($=.756, p<.01$). In addition, the influence of independent variables on dependent variables was significant in the third stage, and the value in the third stage decreased compared to the second stage (2nd stage = $.440 >$ 3rd stage = $.128$).

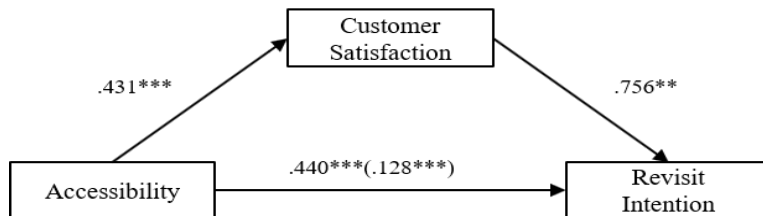


Fig. 3: The Model of Moderating Effects of Accessibility → Customer Satisfaction → Revisit Intention

In order to find out whether the difference in influence is significant, the test results were verified by Sobel(1982)'s method, and the difference was significant at

the level of $p < .01$, so the partial mediating effect of customer satisfaction was verified ($z = 7.627$, $p < .01$).

Table 14: The result of Sobel test verification of accessibility → customer satisfaction → revisit intention

path	b	z	p
Accessibility → Customer Satisfaction → Revisit Intention	-.324	7.627	.000

4.4.3. The mediating of customer satisfaction on the relationship between visibility and revisit intention of location characteristics

The results of verifying the mediating effect of customer satisfaction in the relationship between the sub-variables of location characteristics and the intention to revisit are as follows in Table 15.

Table 15: The mediating effect of customer satisfaction on the relationship between visibility and revisit intention

stage	independent variable		dependent variable	B	SE	β	t
first stage (Independent → Mediating)	visibility	→	customer satisfaction	.351	.043	.427	8.382***
				F=67.356*** R2(adj-R2)=.184(.181)			
second step (Independence → subordination)	visibility	→	revisit intention	.403	.054	.341	7.128***
				F=87.260*** R2(adj-R2)=.203(.201)			
third step (Independent, Mediation → subordination)	visibility	→	revisit intention	.031	.035	.028	.803
	customer satisfaction	→	revisit intention	1.047	.042	.831	25.385***
				F=321.852*** R2(adj-R2)=.695(.693)			

***, **, * means statistically significant at 1%, 5%, and 10%, respectively

As a result, in the first step, visibility as an independent variable significantly predicted customer satisfaction as a mediating variable ($=.427$, $p < .01$), and in the second step, the visibility as an independent variable significantly predicted revisit intention as a dependent variable ($=.341$, $p < .01$). In the third stage test, customer satisfaction as a mediating variable had a significant effect on revisit intention as a dependent variable ($=.831$, $p < .01$). However, in the third stage, the influence of

independent variables on dependent variables was not significant, so the mediating variables had a complete mediating effect.

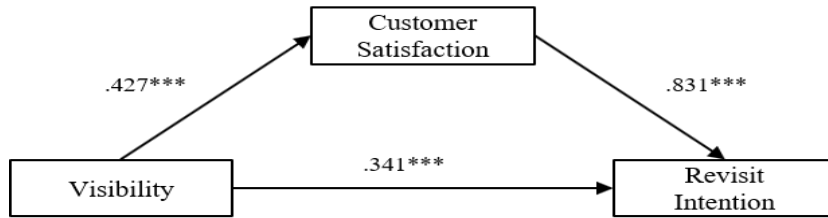


Fig. 4: The model of moderating effects of visibility → customer satisfaction → revisit intention

In order to find out whether the difference in influence is significant, the test results were verified by Sobel(1982)'s method, and the difference was significant at $p < .01$ level, so the full mediating effect of customer satisfaction was verified ($z = 7.487, p < .01$).

Table 16: The result of soble test verification of accessibility → customer satisfaction → revisit intention

path	b	z	p
Visibility → Customer Satisfaction → Revisit Intention	-0.375	7.487	.000

5. Conclusions

The inefficiency of small business owners is becoming a social problem. In addition, many previous studies on the management performance of small business owners have been conducted for small business owners in the start-up stage, and have been developed as a study reflecting the actual business operation and performance creation process of small business owners by analyzing fragmentary sales and profitability.

Researches for the activation of small business have recently been increasing. The reason for this is that the future of small business owners is increasing due to the economic downturn and intense competition, compared to the continuous growth of department stores, discount stores, and convenience stores as expanded areas of large corporations. Despite this reality, academic research on small business owners is scarce, and the suggestion of practical implications for the success of small business owners has limitations.

Therefore, this study subdivides the relationship between location characteristics and satisfaction of small business stores further, and proceeds with analysis based on

the results of subdivision. For this purpose, it is necessary to understand and approach small business owners by combining the location characteristics of real estate, so the following research purposes are presented.

First, the location characteristics of small business stores are classified as the main factors of sales increase, and it is intended to confirm whether each factor has a significant effect on customer satisfaction and revisit intention. In addition, by emphasizing the importance of customer satisfaction visiting small business stores, it will contribute to the income increase and development of small business stores in the future. Second, the other purpose of this study is to identify the differences in the impact of the location characteristics of small business owners on customer satisfaction and revisit intention, and to suggest ways to secure the competitiveness of store operation by grasping customer satisfaction, customer revisit intention and the important matters necessary for preparing the store operation and opening of small business owners.

In order to meet the purpose of this study, the study aims not only to test the theoretical basis of location characteristics, customer satisfaction, and revisit intention of small business stores through domestic and overseas literature and previous studies but also to establish research models and research hypotheses based on this for verifying them through empirical research. The empirical study confirmed the suitability of the questionnaire through previous studies and asked the customers who are using the small business stores in the domestic metropolitan area to write the questionnaire directly for 21 days from July 11, 2020 to July 31, 2020. A total of 400 questionnaires were distributed and 368 questionnaires were collected. Of the collected questionnaires, 345 questionnaires were used as the final analysis data except for 23 questionnaires that were unfaithful. Therefore, this study examined the effects of location characteristics (suitability, accessibility, and visibility) as independent variables, customer satisfaction as a parameter, and revisit intention as a dependent variable, and the mediating effects of customer satisfaction.

As a result of verification of hypothesis 1, location characteristics (suitability, accessibility, and visibility) had a significant positive (+) effect on revisit intention. As a result of verification of hypothesis 2, it was found that location characteristics (suitability, accessibility, and visibility) had a significant positive effect on customer satisfaction. As a result of verification of hypothesis 3, customer satisfaction had a significant positive effect on revisit intention. The result of verification of hypothesis 4 showed that customer satisfaction had a mediating effect on the relationship between location characteristics (suitability, accessibility, and visibility) and intention to revisit. Therefore, hypothesis 1, hypothesis 2, hypothesis 3, hypothesis 4 were all adopted.

The implications of this study are that suitability, accessibility, and visibility among location characteristics are very important factors for customers when opening or transferring new stores. Therefore, it is suggested that simple approach of just

selling goods should be avoided in the process of operating small business stores or preparing for opening, and that knowledge on customer-oriented movement plan, product display, and sales items should be acquired in advance before opening stores. In addition, it means that the consideration of location characteristics and customer satisfaction should be done at the same time in order to increase sales of small business stores.

Based on the limitations of the process of this study, I would like to propose a follow-up study.

In this study, the characteristics of the location of small business stores, service quality, customer satisfaction, and revisit intention were constructed and measured by qualitative evaluation through questionnaires. In future studies, it is necessary to analyze it in objective and diverse aspects based on quantitative basis by using factors like amount of sales. And it is necessary to study the detailed location characteristics and service quality considering the environmental factors where small business stores are located or the economic level of customers.

This study is the result of the study on customers who visited small business stores regardless of sales or industry of small business stores. Therefore, it has a limitation in providing the results of the study on the characteristics of store location or service quality that combines industry or sales. Considering these points, further studies are needed to be conducted by combining the types of small business owners' stores by industry.

References

- Baker, D. A. & Crompton, J. L. (2000). Quality, satisfaction and behavioral intentions. *Annals of Tourism Research*, 27(3), 785-804. DOI:[https://doi.org/10.1016/S0160-7383\(99\)00108-5](https://doi.org/10.1016/S0160-7383(99)00108-5).
- Baron, R. M., A. David & Kenny. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- David, K. T. & Wilton, P. C. (1988). Models of consumer satisfaction formation: An extension. *Journal of Marketing Research*, 25(2), 204-212. DOI:<https://doi.org/10.1177/002224378802500209>.
- Dick, A. S. & Basu, K. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(2), 99-113. DOI:<https://doi.org/10.1177/0092070394222001>.
- Engel, J., Blackwell, R., & Miniard, P. (1995). Consumer behavior. *Forth Worth, The Dryden Press*.
- Garbarino, E. & Johnson, M. S. (1999). The different roles of satisfaction, trust and

commitment in customer relationship. *Journal of Marketing*, 63(2), 70-87. DOI:<https://doi.org/10.1177/002224299906300205>.

Gibbert, E. & Cavalletti, R. (2021). Research on consumer risk perception and trust transmission between channels. *International Journal of Smart Business and Technology*, Global Vision Press, 9(1), 29-38. DOI:10.21742/IJSBT.2021.9.1.03.

Hosany, S. & Witham, M. (2010). Dimensions of cruisers experiences, satisfaction and intention to recommend. *Journal of Travel Research*, 49(3), 351-364. DOI:<https://doi.org/10.1177/0047287509346859>.

Jeon, B. -D., Park, C. -Y., & Kim, J. -D. (2000). A study on the distribution of microbusiness in korea and its socioeconomic implications. *Small and Medium Business Research*, 22(1) 147-168, UCI(KEPA) : I410-ECN-0102-2009-320-007659386.

Jo, I. -S., Cho, K. -Y., & An, S. -B. (2016). A study on food service franchise location factors and quality of service factors, the impact on customer satisfaction. *Asia-Pacific Journal of Business Venturing and Entrepreneurship*, 11(5), 77-90. ISSN 1975-7557 eISSN 2671-9509.

Kim, M. -J. (2014). Study on effects of support programs for business performances of small enterprises: Focusing on Gyeonggi area. *Ho-Seo University Master Thesis*, 11.

Kwon, K. -H. (2016). Research on methodology of designing for competitiveness of small & micro business. *Hong-Ik University Master Thesis*, 6.

La, S. -N. & Yi, Y. -J. (2015). A critical review of customer satisfaction, customer loyalty, relationship marketing, and customer relationship management. *Journal of Korean Marketing Association*, 30(1), 53-104. DOI:10.15830/kmr.2015.30.1.53.

Lee, H. -B. (2005). Real estate location theory. *Hyungseol Publishing House*, Seoul, 26.

Nam, Y. -H. (2022). The case of the precious metal and jewelry industry: A study on the characteristics of Korean family businesses. *Small and Medium Business Research*, 24(4), 201-224. UCI(KEPA) : I410-ECN-0102-2009-320-004338433.

Nelson, Jr, R. A. (1958). An alternative mechanism for the properdin system. *The Journal of Experimental Medicine*, 108(4), 515-535. DOI:<https://doi.org/10.1084/jem.108.4.515>.

Parasuraman, A., Zeithaml, A. V., & Leonard, L. B. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 17(4), 41-50. DOI:<https://doi.org/10.1177/002224298504900403>.

Park, J. –K. (2002). An empirical study on the success factors of a small business straring-up. *Dong-Eui University Ph.D Thesis*, 15.

Sun, Z. –J. (2010). A Study on the relationship between store attributes and store choice behavior. *Woosuk University Master Thesis*, 29.

Swan, J. E. & Oliver, R. L. (1989). Consumer perceptions of interpersonal equity and satisfaction in transactions: A field survey approach. *Journal of Marketing*, 53(2), 21-35. DOI:<https://doi.org/10.1177/002224298905300202>.

Tian, H. & Lee, Y. S. (2020). Research on the influence of fashion shopping app characteristics on satisfaction and loyalty: Focusing on the adjustment effect of fashion involvement. *International Journal of Smart Business and Technology*, Global Vision Press, 8(2), 15-20. DOI:10.21742/IJSBT.2020.8.2.03.

Yan, B. & Yunyi, M. (2020). The relationship of consumer perceived value, online word-of-mouth and behavioral intention in mobile e-commerce. *International Journal of Smart Business and Technology*, Global Vision Press, 8(1), 13-20. DOI:10.21742/IJSBT.2020.8.1.03.