

# A Study on the Influence Factor of Traditional Marketplace Sales

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## Abstract

**Objectives:** This study aims to explore theoretical base on such condition and to prepare a fundamental base of future studies.

**Methods/Statistical Analysis:** To analyze factors influencing on the sales of traditional marketplace, survey for empirical studies on traditional market located at the old urban center of capital area where facility modernization implements have conducted. First, the market characteristics was analyzed by conducting a frequency analysis on age of merchant, business period, type of business and business item, after that, the analysis on the statistically significant influences of each variable on the sales has conducted through multiple regression analysis setting monthly sales as an independent variable and quantitative data as a dependent variable. For the dependent variables, quantitative data that can be measured objectively and dummy variable on identifiable nominal scale have utilized. Thus, the factor analysis and reliability analysis that are general research procedure have skipped. **Findings:** The independent variables putting a statistically significant influence on the independent variable, a sales amount, have shown to be size of store, business period, number of employees, and type of business, and customer staying time, ratio of regular customer, and age of merchant have shown to be statistically insignificant. Among statistically significant variables, the business period variable has shown to be negative (-) influence and remained variables have shown to be positive (+) influence. Especially, the reason that the size of store has shown a high standardization regression coefficient and it has shown to put significant influence on sales can be interpreted, as the demand of merchant to enlarge size of store is the most sensitive assignment to solve. In addition, the reason that business period influences negative effect (-) different from other variables can be understood that it cannot have positive influence on sales at the declined and deteriorated traditional market, and sales of merchants who have entered the market as a second mover is higher. **Improvements/Applications:** This study has its significance to prepare a base for future studies by analyzing influencing factors on sales of traditional market that were incomplete in previous studies. Through this study, the factors influencing on sales of traditional market, positive (+) and negative (-) effect can be identified, and it can be utilized as the fundamental data to establish political support direction of traditional market.

**Keywords:** Influencing Factor, Market Modernization Business, Regression Analysis, Sales, Traditional Market

## 1. Introduction

Since the 1990s, Korean distribution market has been gone through a rapid change. In 1993, the large discount mart established by major firm has appeared and in 1996, with the complete opening of distribution market, foreign distribution firm has entered Korean market. With<sup>1</sup> the development of media, as TV home shopping and internet shopping mall has rapidly developed, traditional

market operating based on existing traditional method has declined, and such trend has continued until present times. The<sup>2</sup> traditional market refers to a place establishing spontaneously or with economic and social needs and place built in a traditional way based on mutual trust<sup>2</sup>. In August 2014, a number of the present national traditional market has been researched to be 1,536 and among them, 767 (49.9%) were a registered market, 631 (41.4%) were an accepted market, 138 (9%) were unregistered market,

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and 1,032 which are 67.2% of total market were a small-sized market. For the present condition of management, an average daily sale per market was 44,718 million won and an average daily sale per store was 275,000 won, which is a small amount. At<sup>3</sup> the sales estimation of traditional market, total sales that were nearly 32.7 trillion won in 2005 have declined gradually to reach 20.9 trillion won in 2014 and such phenomenon can be a situation requiring political countermeasure, and along with the market modernization business, various policies have been implemented by government and local government. However, a limitation on efficient support policy has shown in reality because there is insufficient amount of studies on the factor influencing directly on sales of traditional market. To solve this, the study has attempted to explore theoretical base for traditional market support policy by conducting an empirical analysis of influencing factor on sales of market that is prepared to go through a market modernization business.

Existing studies on traditional market can be divided into four parts: a study on policy of vitalization, a study on form of traditional market consumer, a study on influences of appearance of large discount mart on traditional market, and an empirical study on management achievement of traditional market. In<sup>4</sup> have conducted a regression analysis by setting annual sales, sales per unit area, and annual profit as a dependent variable, and location property variable and operation property variable as an independent variable. In<sup>5</sup> the study on influencing factor of department sales,<sup>5</sup> have concluded that the influences of non-location factor are relatively higher than that of location factor by conducting a multiple regression analysis to investigate the influencing degrees of both location and non-location factor. In<sup>6</sup> have mentioned that the most precedent studies are focused on political support and decline reasons of traditional market, and it is difficult to find an empirical study analyzing sales determining factor. Based on traditional markets of Seoul, they have analyzed the influences of market characteristics, commercial characteristics, and economical factors on the increase rate of sales through ordered probit model. In<sup>7</sup> have divided determining factor of traditional market's sales increase rate into environmental enhancement business, customer convenience facility business, management innovation business, and marketing invigoration business, and identified financial achievement influencing statistically significant by conducting an empirical study

of factors and relevance to management achievement with 'Daegu seomun market' as an example. However, they have revealed that image invigoration business has not influenced on the financial achievement. In<sup>8</sup> have conducted a survey targeting the Micro Merchants and consumers in Seoul for assess how the introduction of semimonthly Sunday off system of mega market & SSM affect the sales growth of micro-merchants<sup>9,10</sup>.

## 2. Proposed Work

In this study, to analyze factors influencing on sales of traditional market, the survey has conducted for an empirical study on traditional market located at the old metropolis of capital city where facility modernization business promotes. First, by conducting a frequency analysis on merchant age, years of business, type of business, and item, the characteristics of market have analyzed, and after that, by conducting a multiple regression analysis by setting monthly sales as a dependent variable and measurable quantitative data as an independent variable, statistically significant influence of each variable on sales has studied. The quantitative data including size of store, business period, merchant age, number of employee, number of visitor, customer staying time, and rate of regular customer have used, and the nominal scale has utilized by the dummy parameterizations. The factor analysis and reliability analysis that are general research procedure have skipped, because independent variables are based on measurable data. Suggested study model show in (Figure 1)

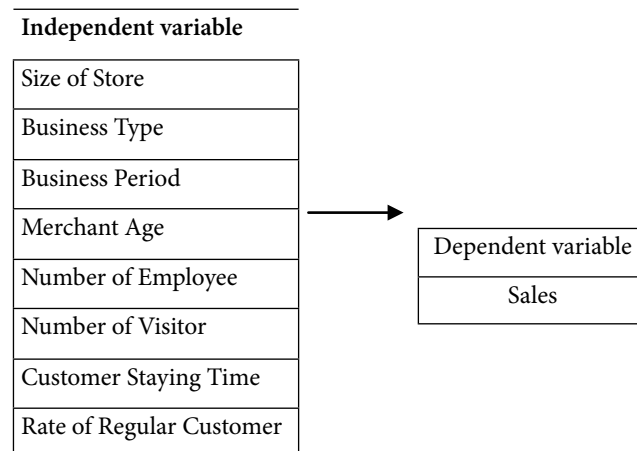


Figure 1. Model of this study.

**Table 1.** Demographic characteristics of sample

	Subsection	Frequency	%		Subsection	Frequency	%
Gender	Male	25	48.1	Number Of Employee (Person)	1	18	34.6
	Female	27	51.9		2	15	28.8
	Total	52	100		3	13	25
Age	30~39	1	1.9	Business Type	4	2	3.8
	40~49	15	28.8		5	3	5.8
	50~59	14	26.9		6 and over	1	1.9
	60~69	12	23.1		Total	52	100
	70~79	7	13.5		Service	1	1.9
	80 and over	3	5.8		Restaurant	13	25
	Total	52	100		Primary Food	14	26.9
Business Period (years)	1~5	0	0		Processed Food	11	21.2
	6~10	1	1.9		Clothing Goods	9	17.3
	11~15	3	5.8		Blanket	3	5.8
	16~20	6	11.5		Jewelry	1	1.9
	21 and over	42	80.8		Total	52	100
	Total	52	100				

For the demographic characteristics of sample from survey, as shown in Table 1, in case of gender of merchant, male and female participants were similar as male participants were 25(48.1%), and female participants were 27 (51.9%). In addition, in case of age, the forties (28.8%), fifties (26.9%), and sixties (23.1%) have taken most possession; however, elderly over seventies have also taken 19.3%. The business period has shown to be long-term as most of merchants worked over 21years (80.8%). For the number of employee, one employee was 34.6%, 2 employees were 28.8%, and 3 employees were 25%, and for the business type, merchants involved in a restaurant business was 13 (25%), primary food was 14 (26.9%), and processed food was 11 (21.2%).

Table 2 shows that all elements including type of business, number of customer, merchant age, customer staying period, business period, rate of regular customer, size of store, and number of employee have input.

**Table 2.** Input/removed variable

Model	Input Variable	Removed Variable	Method
1	Size of Store, Business Type, Business Period, Merchant Age, Number of Employee, Number of Visitor, Customer Staying Time, Rate of Regular Customer <sup>b</sup>	.	Enter

a. Dependent variable: sales

b. All requested variables are input

Table 3, the correlation between dependent and independent variable was 0.787, which is relatively high. In addition, it has been shown that  $R^2=.619$  meaning that independent variables including type of business, number of customer, merchant age, customer staying period, business period, rate of regular customer, size of store, and number of employee explains 61.9% of dependent variable, sales. Durbin-Watson has displayed with the numerical value of 2.102 meaning that it can be suitable for a regression model because 2.102 is close to 2 and it is neither close to 0 nor 4 and there is no correlation between residuals.

**Table 3.** Model summary

Model	R	R square	adjusted R square	estimated value error	Durbin-Watson
1	.787 <sup>a</sup>	.619	.544	1711.11519	2.102

a. Predictor variable: (Constant), Size of Store, Business Type, Business

Period, Merchant Age, Number of Employee, Number of Visitor,

Customer Staying Time, Rate of Regular Customer

b. Dependent variable: sales

At the variance analysis of Table 4, F value was shown to be 8.316, and significance probability was shown to be .000( $p<.05$ ), thus, it can be concluded that a regression line fits to a model.

In Table 5, the dependent variables put statistically significant influence on the sales. The dependent variables are shown to be: size of store ( $p=.003$ ), business period

**Table 4.** Variance analysis

Model	Sum of squares	df	Mean square	F	Significance level
1 Regression analysis	194799964.499	8	24349995.562	8.316	.000 <sup>b</sup>
Residual	120044523.501	41	2927915.207		
<b>Total</b>	<b>314844488.000</b>	<b>49</b>			

a. Dependent variable: sales

b. Predictor variable: (Constant), Size of Store, Business Type, Business Period, Merchant Age, Number of Employee, Number of Visitor, Customer Staying Time, Rate of Regular Customer

**Table 5.** Coefficient

Model B		Nonstandard coefficient		Normal coefficient	t	Significance level	Tolerance	
		Standard error	Beta				limit	statistics
1	(Constant)	-563.540	3413.293		-.165	.870		
	Size of Store	32.283	10.078	.386	3.203	.003	.640	1.561
	Business Period	-1231.719	379.671	-.329	-3.244	.002	.903	1.108
	Number of Employee	943.406	253.034	.487	3.728	.001	.544	1.837
	Customer Staying Time	-3.826	11.478	-.034	-.333	.741	.894	1.119
	Rate of Regular Customer	238.800	224.973	.106	1.061	.295	.928	1.077
	Number of Visitor	3.846	1.847	.208	2.082	.044	.936	1.069
	Merchant Age	185.671	206.397	.091	.900	.374	.904	1.106
	Business Type	.038	.016	.240	2.349	.024	.889	1.124

a. Dependent variable: sales

( $p=.002$ ), number of employee ( $p=.001$ ), number of customer ( $p=.044$ ) and type of business ( $p=.024$ ). The dependent variable putting statistically insignificant influence on the sales are shown to be: customer staying time ( $p=.741$ ), rate of regular customer ( $p=.295$ ), and merchant age ( $p=.374$ ). Among statistically significant variables, business period was shown to have negative (-) influence, and remained variables were shown to have positive (+) influence. Because all of the tolerances show numerical values over 0.1, there is no problem with multicollinearity between independent variables.

### 3. Conclusion

This study has its significance to analyze influencing factors on sales of traditional market empirically that was unsatisfactory in previous studies. Through an empirical study, it can be confirmed that sales increase as store size and number of employee increases. In addition, it can

also be found out that sales can be influenced by type of business. Such results can be interpreted as a reason for market merchants request expansion of store size during the market modernization business. The sales period has shown to have negative (-) influence on sales. Although it can be interpreted as, the merchants who have entered market as a second mover while responding to recent market circumstance and trend have higher sales compared with merchants who have maintained business with traditional way. However, the significance on merchant age that is expected to relate has not confirmed.

This study has analyzed sales influencing factors of major variables related to business activities in a traditional market. Although data collected through survey, its objectivity can be secured by utilizing measurable quantitative data. The reasons that previous studies have not focused on the influencing factors on sales of traditional market are unlike large sized distribution businesses, systemic sales management has

not established, it is difficult to figure out actual sales because of restricted credit card use, and it is difficult to check data relevant to influencing factor variables from merchant coincidentally.

This study has its aim to establish base to overcome limitations of previous studies by analyzing direct influencing factor variables on sales of traditional market. However, there are few limitations that this study cannot conduct a time series analysis since it has conducted a cross-section study on a single market, and the number of restricted sample due to a removal of missing value may be remained as a limitation. To investigate influencing factors of sales of actual traditional market is required to have a successful establishment of market modernization business and political direction setting of support business of traditional market through wide research and regular repeated research that adds various variables.

## 4. Acknowledgement

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