

The Effect of Kiosks Service Quality and Kiosks Product Quality on Customer Satisfaction

Nitchara Saeheng

Faculty of Commerce and Accountancy, Thammasat University, Thailand

Email: nitchara_cho@hotmail.com

Atcharawan Ngamyarn

Faculty of Commerce and Accountancy, Thammasat University, Thailand

Email: a_ngamyarn@yahoo.com

Jittaporn Sriboonjit

Faculty of Commerce and Accountancy, Thammasat University, Thailand

Email: jittaporn@hotmail.com

ABSTRACT

Kiosk is a small retail that locates in high traffic space. The study adopted well-known theory of retail service quality and product quality to examine the impacts of the kiosk service quality dimension (that is, personal Interaction, policy, physical aspects, reliability and problem solving) and the kiosk product quality dimension (including features, aesthetics and customer-perceived quality) on customer satisfaction. The questionnaire was developed from previous studies. All scale items were measured via a five point Likert scale, ranging from 1 (highly disagree) to 5 (highly agree.). It focuses on the kiosks in shopping centers that have no chain, obscurity and must not sell food, cosmetics and supplementary food. A survey was conducted with the samples that have experience in shopping with kiosk. Data were collected through the online questionnaire. The total of 216 respondents participated. An Exploratory Factor Analysis was performed and the results from the regression analysis showed kiosk product quality has more impact with customer shopping satisfaction than kiosk service quality. And four dimensions, namely customer-perceived quality, policy, product aesthetics and problem solving had direct relationship with customer satisfaction. Findings provide practical information to mall managers by understanding that what kiosk's characteristics positively affect shopper satisfaction. Thus, mall managers need to pay more attention to these dimensions for choosing kiosk in the shopping centers to meet shopper satisfaction. In addition, kiosk owners can apply this study to improve their performance for surviving in shopping centers. And this helps shopping center to reduce the cost of finding new kiosks.

Keywords Kiosk, Shopping centers, Service Quality, Product Quality, Customer Satisfaction

1. INTRODUCTION

People always use shopping center for relaxing (Eroglu, Machleit, & Feldman Barr, 2005) and doing many activities. Nowadays there are many shopping centers with highly competition. So, they have to find new strategies to maintain current customers and create new customers (González-Hernández & Orozco-Gómez, 2012). Atmosphere in shopping center can attract customer too (Babin & Attaway, 2000).

Kiosks are tool that managers use to create atmosphere in shopping centers because they can increase traffic and induce customers to shopping at the walkway more than just only the shops (Runyan, Kim, & Baker, 2012). Customers will not be boring when they are walking between the shops.

Moreover, kiosks can make the total revenue of shopping centers increase because they create rental space from walkway that shopping center cannot receive rent from it. And their rent per square meter is higher than other retails because they have small space, short lease and they depend on traffic of shopping center.

In Thailand, every shopping center has kiosks but kiosk cannot survive. Many shopping centers have to find new kiosk for replacement. This makes lease rollover cost for them. This research will find what factors influence to customer satisfaction with kiosk.

Next section describes the framework and hypotheses. The section following show the research methodology, results and discussion. The conclusion is in the final part.

2. RESEARCH MODEL

Kiosks in shopping centers

Kiosk is a small retail that always locate in highly traffic space. They have many special characteristic. They use small space about 2-3 square meters and they have 1 or 2 staff for selling the products. Furthermore, their characteristics are different in each shopping center because of the policy. Kiosks are always in booth or cart and sell various types of product such as drink, gift shop, cosmetics and jewelry.

Although kiosks have many advantages for shopping centers, customers do not satisfy. Kim and Runyan (2011) found that customers avoid kiosks and walked close to the wall. Moreover, customers cannot move freely because of kiosks.

In recent year, there are many researches that study about the impact of kiosks in shopping centers. Kiosks have a negative effect on pleasure of shopping centers' atmosphere and non variety-seeker customer will have bad attitude with kiosks (Krishen, Bui, & Peter, 2010). Bui, Krishen, and Latour (2012) found that female can perceive highly risk and low satisfaction about kiosks when comparative with department stores.

Kiosk Service Quality Dimension

This study adapts retail service quality (Beneke, Hayworth, Hobson, & Mia, 2012; Dabholkar, Thorpe, & Rentz, 1996) that include five dimensions to define the definition. Five dimensions are following.

Personal Interaction (PI) The concept of personal interaction is employee at kiosks can provide courteous services, prompt to help and understand customer behavior.

Physical Aspects (PA) It means kiosks' appearance. It also includes store layout, facilities and cleanness.

Reliability (RE) This is the kiosk's ability to deliver the service and keep promise to customers.

Problem Solving (PS) Problem solving refers to kiosks' capability of managing customers' problems and complaints. It also includes capability of handling returns.

Policy (PO) This means kiosks policy such as product policy and hours operation.

Jahanshahi, Gashti, Mirdamadi, Nawaser, and Khaksar (2011) found direct effect between customer service quality and customer satisfaction. Therefore, we hypothesize that:

H1: Kiosks service quality has a direct effect on shopping satisfaction with kiosk.

Kiosk Product Quality Dimension

Product quality dimension by Garvin (1984) has total eight dimensions. But there are only three dimensions that can adapt to kiosks' products (Yuen & Chan, 2010). These dimensions are:

Product Features (KPF) The kiosks product features are the bells and whistles of the product.

Product Aesthetics (KPA) This dimension means how the products that kiosks sell can attract the customers' five senses.

Customer-Perceived Quality (CP) The concept of this dimension is customer perception about the quality of products that the customers bought at the kiosks.

Product quality influences customer satisfaction in (Jahanshahi et al., 2011). Then, the following hypothesis is proposed:

H2: Kiosks product quality has a direct effect on shopping satisfaction with kiosk.

Shopping Satisfaction with Kiosks (SS)

Shopping Satisfaction is important for marketing because retails can use this to response customer needs and compete with rivals (Machleit & Mantel, 2001). In this research, shopping satisfactions with kiosks is defined as the experience that the customers evaluate after they shopped at kiosks ; or Expectancy-Disconfirmation model (Oliver, 1980).

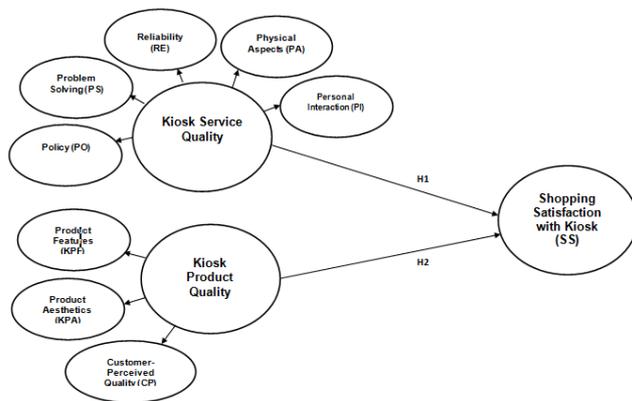


Figure 1. The model and hypotheses

3. RESEARCH METHODOLOGY

The questionnaire was developed from previous studies. All scale items were measured via a five point Likert scale, ranging from 1 (highly disagree) to 5 (highly agree.). A survey was conducted with the Thai samples that have experience in shopping with kiosk. Data were collected through the online questionnaire.

4. RESULTS AND DISCUSSION

4.1 Results

The total of 216 respondents who have experience in shopping with kiosk participated. In this amount, 69 percent of respondents are female. Age between 20-29 is the most portions, 74 percent of the total and most respondents are employees.

Table 1 Factor loadings, %Variance and Cronbach's Alpha for Each Construct

Items	Factor Loading	% Variance	Cronbach's Alpha
1. Personal Interaction			
Kiosk employees have the knowledge to answer my questions.	.643	55.275	.823
Kiosk employees give prompt service.	.830		
Kiosk employees are never too busy to respond my request.	.846		
Kiosk gives customers individual attention.	.628		
2. Physical Aspects			
Kiosk has attractive appearances.	.531	40.749	.727
Kiosk layout makes it easy for customer to find what they need.	.627		
Kiosk is clean	.707		
Kiosk has modern-looking equipment and fixtures.	.675		
3. Reliability			
Kiosk always has products in stock	.446	48.816	.694
Kiosk performs the service right since the first step	.792		
Kiosk provide the services at the time it promise to do so	.799		
4. Problem Solving			
Kiosk employees are able to handle customer's complaints.	.821	67.177	.856
Kiosk can solve my problem efficiently.	.886		
When a customer has a problem, kiosk shows a sincere interest in solving it.	.746		
5. Policy			
Kiosk has operating houses convenient to customers.	.478	50.694	.708
Kiosk has returns and exchanges policy.	.700		
Kiosk offer high quality merchandise.	.896		
6. Kiosk Product Features			
Kiosk provides many types of products.	.676	52.859	.761
Kiosk provides many products' price range.	.842		
Kiosk provides a wide selection of material in the same product.	.648		
7. Kiosk Product Aesthetics			
Kiosk products are stylish.	.668	62.258	.889
Kiosk products are creative.	.785		
Kiosk products have appealing appearances.	.862		
Kiosk products are interesting.	.843		
Kiosk products are beautiful.	.773		
8. Customer-Perceived Kiosk Quality			
Kiosk products have good brand.	.645	59.563	.796
Kiosk products quality meets my expectation.	.717		
Kiosk products have standard.	.926		
9. Shopping Satisfaction with Kiosk (Dependent Variable)			
I was impressive with my shopping experience at kiosk.	.777	65.423	.882
Overall, I satisfied kiosk.	.864		
I will recommend other people to shop at kiosk.	.791		
Shopping at kiosk is the right decision.	.801		

We used Cronbach's Alpha for reliability assessment. The Cronbach's Alpha coefficient for independent and dependent variables were above 0.50, exceeding level of 0.50 is acceptable as shown in Table 1.

An Exploratory Factor Analysis was performed with kiosk service quality and kiosk product quality construct. We used principal axis factoring as extraction method and direct-oblimin was used as rotation method. In the kiosk service quality construct, we cannot extract five dimensions according to literature review. There were only three factors extracted as shown in appendix . In Khare (2013) research that study about retail service quality in Indian small retail cannot extracted retail service quality construct in five dimensions too. The Factor Analysis revealed that retail service quality was not valid in Thai kiosk. Therefore, we find factor scores of kiosk service quality and kiosk product quality dimensions and use them for finding factor scores as shown in Table 2.

Table 2 Factor Loadings and %Variance for Kiosk Service Quality and Kiosk Product Quality Constructs

Items	Factor Loading	% Variance
1. Kiosk Service Quality		47.027
Factor of Personal Interaction	.644	
Factor of Physical Aspects	.597	
Factor of Reliability	.839	
Factor of Problem Solving	.771	
Factor of Policy	.532	
2. Kiosk Product Quality		39.996
Factor of Kiosk Product Features	.637	
Factor of Kiosk Product Aesthetics	.620	
Factor of Customer-Perceived Kiosk Quality	.640	

Factor scores of kiosk service quality construct and kiosk product quality construct were used as independent constructs and factor scores of shopping satisfaction with kiosk was used as a dependent construct in finding a relationship within the hypothesized model in a subsequent process. The estimated regression equation is as follows.

$$SSK = .379(KSQ) + .494(KPQ)$$

$$(6.118)^{**} \quad (7.068)^{**}$$

$$R=0.718, R^2=0.515, \text{Adj } R^2=0.511, F=113.697, \text{Sig } F=0.000$$

Note: ** = The coefficient is statistically significant at p value ≤ 0.01 .

Where

- SSK = Factor scores of shopping satisfaction with kiosk
- KSQ = Factor scores of kiosk service quality
- KPQ = Factor scores of kiosk product quality
- (...) = t-value of each independent factors.

The result from multiple regression shows that kiosk product quality has more impact with customer shopping satisfaction than kiosk service quality. The reason that can explain this is Thai kiosk always give precedence in products more than services.

Table 3 Estimated Models from Multiple Regressions

Construct (Mean of Composite Index)	β coefficient (t-values, p-values)
Factor Scores of Personal Interaction	0.115 (1.880,0.061)
Factor Scores of Physical Aspects	-0.055 (-0.749,0.455)
Factor Scores of Reliability	0.114 (1.623,0.106)
Factor Scores of Problem Solving	0.144 (2.109,0.030)*
Factor Scores of Policy	0.216 (3.466,0.001)**
Factor Scores of Kiosk Product Features	-0.037 (-0.632,0.528)
Factor Scores of Kiosk Product Aesthetics	0.164 (2.696,0.008)**
Factor Scores of Customer-Perceived Quality	0.383 (6.896,0.00)**
R_{adj}^2	0.577

* Significant at $p \leq 0.05$, ** Significant at $p \leq 0.01$

Moreover, this research used multiple regression analysis to examine relationships between the dependent and the independent variables (factor scores of eight dimensions) for finding what dimension has the most effect with kiosk satisfaction as shown in Table 3. The first model tests relationships of all independent variables and the second model tests only significant variables. The model found that eight independent variables can explain 57.7% of shopping satisfaction with kiosks. In the model, there are only four independent variables, which are problem solving, policy, kiosk product aesthetics and customer-perceived quality, are significant.

4.2 Discussion

In Table 3, the results show that customer-perceived quality is the most positive influence to the shopping satisfaction with kiosk. Policy, product aesthetics and problem solving are following in order. These can be explained by the following reasons. Customers' perceiving kiosk products quality and kiosks policy can increase the consumers' confidence about kiosk and this leads to increase shopping satisfaction. Next, kiosks always sell impulse goods. Aesthetics of kiosk products will encourage customers to buy products easily. When customers like their products, satisfaction will be happen. Lastly, because this research studies about kiosks that have no chain, their products and services are not standard. Customers may always have the problem with them. Hence, this dimension is sensitive with customers. If kiosk can handle or solve customers' problems, customers will be more impressive than when they have no problems.

However, personal interaction, physical aspects, reliability, and product features are not significant. These can be explained by many reasons. First of all, Thai customers will not participate with kiosk employee until they are confident enough for buying the products. Next, Thai shopping centers always design kiosk physical characteristics therefore physical aspects of kiosks are not different in customers point. The difference is only in products. Then because this research study non chain kiosks, customers do not pay attention to reliability like chain kiosks. Finally, kiosks are small and they always sell impulse goods because they are not destination of shopping centers. Kiosk's goods are not various and they have no need to stock the products like store that sell shopping goods. These reasons may make these factors are not significant.

5. CONCLUSIONS

5.1 Conclusion and Implication

There is no research to examine the impacts of the kiosk service quality dimension and the kiosk product quality dimension on Thai customer's satisfaction. The findings of this study have important implications for both shopping center managers and kiosk owners. For shopping center managers, findings provide practical information by understanding that what kiosk's characteristics positively affect shopper satisfaction and they can use this results for choosing kiosk that meet shopper satisfaction. Thus, shopping center managers need to pay more attention to kiosk that has these dimensions and this helps shopping center to reduce the cost of finding new kiosks. For kiosk owners, this research can help them to improve the performance for surviving in shopping centers. For example, kiosk owners should improve customer-perceived quality aspect first because it has the most impact for customers shopping satisfaction with kiosk.

5.2 Limitation and Suggestion for Future Research

5.2.1 Limitation

This research mainly focuses on kiosks in shopping center only that have no chain and do not sell food, cosmetic and supplementary food.

5.2.2 Future Research

In future research may focus on other types of kiosks such as chain kiosks or kiosks that sell food, cosmetic and supplementary food. Moreover, future research should consider how shopping satisfaction with kiosk can affect the shopping center in overall by adding the constructs that are the consequence of shopping satisfaction with kiosk such as shopping center loyalty, overall spending and repatronage intention. Finally, the study about what factors that can increase kiosk loyalty is recommended in future research.

REFERENCES

- Babin, B. J., & Attaway, J. S. (2000). Atmospheric Affect as a Tool for Creating Value and Gaining Share of Customer. *Journal of Business Research*, 49(2), 91-99. doi: [http://dx.doi.org/10.1016/S0148-2963\(99\)00011-9](http://dx.doi.org/10.1016/S0148-2963(99)00011-9)
- Beneke, J., Hayworth, C., Hobson, R., & Mia, Z. (2012). *Examining the effect of retail service quality dimensions on customer satisfaction and loyalty: The case of the supermarket shopper* (Vol. 12).
- Bui, M., Krishen, A. S., & Latour, M. S. (2012). When Kiosk Retailing Intimidates Shoppers. *Journal of Advertising Research*, 52(3), 346-363. doi: 10.2501/JAR-52-3-346-363
- Dabholkar, P. A., Thorpe, D. I., & Rentz, J. O. (1996). A measure of service quality for retail stores: scale development and validation. *Journal of the Academy of Marketing Science*, 24(1), 3-16. doi: 10.1177/009207039602400101
- Eroglu, S. A., Machleit, K., & Feldman Barr, T. (2005). Perceived retail crowding and shopping satisfaction: the role of shopping values. *Journal of Business Research*, 58(8), 1146-1153. doi: 10.1016/j.jbusres.2004.01.005
- Garvin, D. A. (1984). What does product quality really mean? *Sloan Management Review*, 26, 25-45. doi: citeulike-article-id:6106421
- González-Hernández, E. M., & Orozco-Gómez, M. (2012). A segmentation study of Mexican consumers based on shopping centre attractiveness. *International Journal of Retail & Distribution Management*, 40(10), 759-777. doi: 10.1108/09590551211263173
- Jahanshahi, A. A., Gashti, M. A. H., Mirdamadi, S. A., Nawaser, K., & Khaksar, S. M. S. (2011). Study the Effects of Customer Service and Product Quality on Customer Satisfaction and Loyalty. *International Journal of Humanities and Social Science*, 1(7), 253-260.
- Khare, A. (2013). Retail service quality in small retail sector: the Indian experience. *Facilities*, 31(5), 208-222. doi: 10.1108/02632771311307089
- Kim, J.-H., & Runyan, R. (2011). Where did all the benches go? The effects of mall kiosks on perceived retail crowding. *International Journal of Retail & Distribution Management*, 39(2), 130-143. doi: 10.1108/09590551111109085
- Krishen, A. S., Bui, M., & Peter, P. C. (2010). Retail kiosks: how regret and variety influence consumption. *International Journal of Retail & Distribution Management*, 38(3), 173-189. doi: 10.1108/09590551011027113
- Machleit, K. A., & Mantel, S. P. (2001). Emotional response and shopping satisfaction: Moderating effects of shopper attributions. *Journal of Business Research*, 54(2), 97-106. doi: [http://dx.doi.org/10.1016/S0148-2963\(99\)00093-4](http://dx.doi.org/10.1016/S0148-2963(99)00093-4)
- Oliver, R. L. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, 17(4), 460-469.
- Runyan, R., Kim, J.-H., & Baker, J. (2012). The mall as bazaar: How kiosks influence consumer shopping behaviour. *Journal of Marketing Management*, 28(1/2), 85-102. doi: 10.1080/0267257X.2011.621442
- Yuen, E. F. T., & Chan, S. S. L. (2010). The effect of retail service quality and product quality on customer loyalty. *Journal of Database Marketing & Customer Strategy Management*, 17(3/4), 222-240. doi: 10.1057/dbm.2010.13

Appendix

This table below shows pattern matrix of all kiosk service quality items from EFA. The seventeen items cannot extract in five dimensions of kiosk service quality according to literature review, but they are extracted in three dimensions as shown in table below. Although these items are not divergent between different traits, the items of each dimension are reliable as show in Tables 1. Then we decide to remain all of seventeen items and find factor scores for each dimension. After that, we use factor score of each dimension to find factor score of kiosk service quality. We also use the same way to find kiosk product quality.

Pattern Matrix^a

	Factor		
	1	2	3
PI Kiosk employees are never too busy to respond my request.	.827		
PI Kiosk employees give prompt service.	.800		
PI Kiosk employees have the knowledge to answer my questions.	.614		
PI Kiosk gives customers individual attention.	.574		
PS Kiosk employees are able to handle customer's complaints.	.544	.471	
RE Kiosk provide the services at the time it promise to do so	.529		
PS When a customer has a problem, kiosk shows a sincere interest in solving it.	.503	.455	
RE Kiosk performs the service right since the first step	.384		
PO Kiosk has returns and exchanges policy.		.678	
PO Kiosk offer high quality merchandise		.645	.315
PS Kiosk can solve my problem efficiently.	.577	.582	
PA Kiosk has modern-looking equipment and fixtures.			.664
PA Kiosk is clean			.652
PA Kiosk layout makes it easy for customer to find what they need.			.612
PA Kiosk has attractive appearances.			.426
RE Kiosk always has products in stock			.375
PO Kiosk has operating houses convenient to customers.		.324	.360

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 19 iterations.