

Do the Tour Plants Affect Customer Purchase Behavior and Affiliated Firm's Performance?

Chin-Yi Fang
National Taiwan Normal University
Taipei, Taiwan (R.O.C.)
e-mail: chinyifang@gmail.com

Szu-Ying Chen
National Taiwan Normal University
Taipei, Taiwan (R.O.C.)
e-mail: sodoubusin@hotmail.com

ABSTRACT

The traditional small-medium manufacturing plants which had ever created the economic miracle in Taiwan confronts with survival issues because of the booming of service industry. Meanwhile, the development plan to help manufacturers become tour plant is initialized by the government in Taiwan. Empirical researches on tour plant had focused on customer satisfaction, customer loyalty, and purchase intension without emphasizing on the firm's performance issue as to the customer purchase behavior. This paper aimed to examine the impact of the growing use of factory tour on exploring customer's need and firm performance in the hospitality industry. This experiment analyzed 24 tourism factories conducted with hospitality industry in Taiwan ranging from January to March in 2011. The main implication of this study is that the establishment of tour plant has a significantly positive influence on customer purchase behavior, affiliated firm's revenue and sales growth but no significant impact on the gross margin of affiliated firm. Managerial and strategic implications for tourism factories and directions for future research are discussed.

Key Words: Tour plant, Customer Satisfaction, Customer Purchase Behavior, Firm's Performance

INTRODUCTION

The rapidly changes of global environment, generation and industrial structure have resulted in reducing the opportunities of manufacturing industries in Taiwan. According to Directorate-General of Budget, Accounting and Statistics, Executive Yuan, the ratio of total GDP for manufacture industry decreased from 32% in 1999 to 26% in 2003 which was the evidence of the increasing threats of competitors due to the globalization. In order to help traditional industry develop the sustainable business model, the Industrial Development Bureau has proposed the plan of "Tour Plant Assistant Project".

The development of social structure from agrarian economy, industrial economy, service economy and most recent experience economy has demonstrated that the new consumer generation had focus more on creating memory and interaction with products (Pine & Gilmore, 1998). The Tour Plant Assistant Project has been successful supporting to build variable tourism factories among different industries in Taiwan (Table 1). Several studies have demonstrated the relationship between consumer experience tourism and brand bonding. More noteworthy that the sustainable development of tour plant can enhance the customer loyalty level (Mitchell & Orwig, 2002).

Table 1
Category of Tour Plants

Categories	Tour Plants	
Foodstuff	Teng-Feng Fish Ball Museum.	White Wood House Gallery.
	Taiwan Mashu Theme Hall.	Union Rice Castle.
	Wan Zhuang Soy Sauce Museum.	Kokumori Vinegar Cultural Hall.
	Mother Bang's Stewed Foods.	Siho Tour plant.
	Sheng Zu Food & Beverage Corp.	Peng Zu Seafood Processing Plant.
	Taiwan Nougat Museum.	Ma's Noodle.
	Saxia Agricultural Products Cultural Hall.	Ramune Marble Soda Tour plant.
	Kuo Yuan Ye Museum of Cake and Pastry.	Shan Shui Rice Organic Crop Field.
	I-Mei Foods Production, Ecological and Lifestyle Park.	Xiang Li Energy Pork Exhibition Hall.

	Weijung Miso Brewing Cultural Hall.	Black Bridge Sausage Industry Hall.
	Shan Mai Taros Cultural Tour plant.	Agrioz Preserved Fruits Image Store.
	A-Ten Mullet Roe Tour plant.	Ma Gong Brown Sugar Cake Tour plant.
Leisure	E Tai Bathroom Tour plant.	PUHU Footwear Tour plant.
	Music 4 Fun.	Lucky Art.
	Lien Cheng Saxophone.	Taiwan Balloons Museum.
	Heatact Superconductive Heating Nano Museum.	King's Spring Bed Cultural Museum.
	SL Towel Industrial Tourism & Explore Factory.	Champion Lifestyle Aesthetics Experience Hall.
Craft	Wuguu Cultural Village.	Puli Paper Factory.
	Maestro Wu's Steel Knife Factory.	Universal Webbing Museum.
	Kuo Tai Glass Park.	Guang Xing Paper.
	Jin Lian Shing Brick Sculpture Cultural Museum.	Bantaoyao Crafts Studio of Jiao-Zhi Pottery & Chien-Nien.
	Mutou Wood Magic Carpentry Workshop.	Furniture Manufacturing Eco Museum in Tainan.
	Kinmen Hong Bo Ceramic Factory.	
Cosmetics	Zhong Yong Flower Essence Fragrance Workshop.	Arwin Charisma Museum Tourist Factory.
Lifestyle	Brand's Health Museum.	Li Kang Chinese Herb Industry Cultural Hall.
	Sun Ten Natureceutica.	
Winery	Fortune Brewery Museum.	King Car Spirit Castle
	Hu Yi Brewery.	

Source: Industrial Development Bureau, Ministry of Economic Affairs. Retrieved from <http://taiwanplace21.org/en/index.htm>. accessed 2011 December 22.

So far the implementation of this project has introduced 91 tourism factories. Based on the analysis of Industrial Development Bureau, the number of visitors amounted to 5 billion in 2010 with 30% growth rate compared to former year. The forecast of growth rate in 2011 will be 10% with the estimated value of NTD16 billions, shows the continuing growth of plant tour market. Thus, we could see the dramatic growing numbers of tourism factories in Taiwan. The government helps factories change their business model in order to improve their economic conditions. However, there has never been examined whether the tourism factories do enhance the performance of original affiliated business.

Over the past few years, several articles have been explored how the plant tour worked and thus improved the efficiency of manufacturing industries (Upton & Macadam, 1997; Voss, Ahlstrom & Blackmon, 1997). Previous research had devoted the link between consumer experience tourism and brand loyalty (Mitchell & Mitchell, 2001; Mitchell & Orwig, 2002). In recent years, a considerable number of studies had been conducted on the relationship among service quality, customer satisfaction, and customer loyalty (Mitchell & Orwig, 2002; Li & Chen, 2009). Little attention had been given to the impact of tour plant on its affiliated business's performance. Moreover, most senior executives look forward to see the financial performance in practice (Bernhardt, Donthu & Kennett, 2000). Hence, this paper intends to investigate the impact level of tour plant between customer and company performance.

So far as the term of tour plant are seldom discussed in the academic literature, but are found with different definitions. The most favorite industrial tourism sites are food manufacturing, beverage manufacturing, and wood goods manufacturing for many people (Stevens, 1988). In the research, Stevens pointed out that people will interest in different manufacturing processes. In contrast with that, Upton and Macadam (1997) suggested that tourism factories provide opportunities for manager to better understand production process.

These papers focused more on the manufacturing process which get rid of the tour aspect. In Taiwan, most of the researches use "Tour Plant Assistant Project" which is developed by Industrial Development Bureau as reference to explain what the tour plant is (Hsieh, 2003; Chang, 2003). Viewed in this light, the tour plant can be regarded as a manufacturing factories consist of educational and industry cultural values, providing the product, production process and space for the tourists.

Most of Studies focus on the relationship between customer satisfactions and repurchase intentions (Bolton, 1998; Mittal & Kamakura, 2001) in different industries. Large bodies of literature showed that customer satisfaction had the positive influence on repurchase intention (Bernhart, Donthu & Kennet, 2000; Cronin & Taylor, 1994; Soderlund, 2006). Yang, Kimes and Sessarego (2009) mentioned that existing researches had focused primarily on attitudinal effects on consumers. However, these investigations were not necessarily related on actual purchase behavior. Reynolds, Merritt & Pinckney (2005) further indicated that there is no directly relationship between customer purchase intention and customer purchase behavior. Based on these literatures, the following hypothesis is proposed:

H1. Customer satisfaction has positively impact on customer purchase behavior.

The relationship between customer satisfaction and firm's performance has been gradually addressed for a long time. Heskett et al. (1990) demonstrated the satisfaction-profit chain and made it clear that there is a relationship between satisfaction and financial performance. Most of managers used customer feedback as the essential indicator of one company goal due to the reason that the customer satisfaction is one of the main drivers to improve the future business performance (Hauser, Sasser & Schlesinger, 1994; Ittner & Larcker, 1998). Many studies explored that there were positive relationship between customer satisfaction and overall revenues (Riechheld & Teal, 1996; Loveman, 1998). There is no doubt about using the customer satisfaction as a leading indicator for firm's performance.

Besides, several studies have worked from a slightly different angle by pointing out the increased revenue mostly come from the satisfied customers (Cooil, Keiningham, Aksoy & Hsu, 2007; Keiningham & Perkins-Munn, 2003). Many scholars believe that customer satisfaction has significant influence on firm's performance which is corresponded to Williams and Naumann (2011) mentioned. According to this literature, we expect customer satisfaction has positively impact on firm's performance:

H2. Customer satisfaction has positively impact on firm's performance.

A moderator is a variable that influences the degree of the relationship between dependent variable and independent variable (Baron & Kenny, 1986). The impact of moderator can be explained by examining the variance after the affiliation of moderator. Tourism factories are considered as the products of consumer experience tourism which create strong bonding between consumers and brands (Mitchell & Orwig, 2002). The development of tourism factories can enhance the strength of customer loyalty due to the enjoyable experience from visiting the production process (Mitchell & Mitchell, 2000). However, the influence of factory tourism on original brand has received limited direct research attention. On the basis of the research and logic recognized above, we hypothesize the following:

H3: The impact of a change in customer satisfaction of affiliated firm on change in customer purchase behavior increases with the level of customer satisfaction in tour plant.

H4: The impact of a change in customer satisfaction of affiliated firm on change in firm's performance increases with the level of customer satisfaction in tour plant.

METHODS

This experiment will analyze 24 tourism factories conducted with hospitality industry in Taiwan ranging from January to March in 2011. This paper aimed to examine the impact of the growing use of tour plant on exploring customer's need and firm performance in the hospitality industry. In this chapter, we began with the conceptual framework and research hypothesis. Then, the questionnaire development and sampling plan are introduced. Finally, data analysis procedures and methodology give a comprehensive explanation of this study.

In order to achieve the content validity of the scales, the items selected were mainly adapted from previous research. Customer purchase behavior will measured by the total check of each subject after the purchasing process (Yang, Kimes, & Sessarego, 2009). A number of performance measures including revenue, sales growth and gross margin will be collected over the two-year period from the CEOs of tourism factories (Williams & Naumann, 2011; Morgan & Rego, 2006). Customers answer their degree of satisfaction on a seven-point Likert scales (1 = strongly disagree, 7 = strongly agree).

After the completion of questionnaire, a pilot study is needed. Experts, scholars, and managers of tourism factories were selected as respondents. According to their feedback, the questionnaire was then discussed and revised. The survey implementation is designed into two parts. In the first place, we explored managers of tourism factories as respondents to understand the performance of tour plant by using the snowball sampling. In the second place, people who have been experienced in the tourism factories will be our research objects. Hair, Anderson, Tatham and Black (1998) explains that the minimum subjects to have should be at least five times as questions for the construct. Therefore, in 24 tourism factories, the investigation is expected to generate 20 respondents in each of them. Furthermore, the cashier of tour plant recorded the total check of each respondent.

In this paper, we summarized the characteristics of respondents to better understand each variable by using descriptive statistical analysis to show the means and standard deviation of each research variable. All measurement items in the questionnaire undergo the reliability and validity analysis. The study examined the relationship among customer satisfaction, original firm's performance and the satisfaction and characteristics of tour plants in Taiwan by using regression analysis. Such relationships can be examined with moderated regression analysis which consists of adapting a regression equation in the form of (1).

$$Y_i = a + bx + cz + dxz$$

Dependent variables (Y_i): $i = 1 \sim 4$

- 1 reflects customer purchase behavior
- 2 reflects revenue
- 3 reflects sales growth
- 4 reflects gross margin

Independent variables (x): Customer satisfaction

Moderator variable (z): Customer satisfaction of tourism factor

Customer satisfaction of affiliated firm is performed as dependent variables aside with customer purchase behavior and firm performance as independent variables. In order to test the hypothesis and examined the subjects in our study, we use SPSS 12.0 to perform the data analysis as well as a t-test. Meanwhile, the impact of tour plant as a moderator were illustrated by examining the interaction between customer satisfaction and customer purchase behavior as well as firm's performance.

RESULTS

Summary results from regression by controlling for tour plant's size, employee and age of tour plant are explained below. After controlling for all the covariates mentioned above, the overall tour plant effect on customer satisfaction and firm performance were significant ($p < 0.05$). Tour plant showed moderately significant effects on the customer purchase behavior and firm's performance. The results of this experiment some point of views toward the establishment of tour plant. First, the affiliated firms can improve their performance by establishing tour plants which help to satisfy their customers. Second, after the visiting of tour plant, customer can understand more about tour plant and then do have actual purchase behavior.

The main implication of this study is that the establishment of tour plant had a significantly positive influence on customer purchase behavior, affiliated firm's revenue and sales growth but no significant impact on the gross margin of affiliated firm. Managerial and strategic implications for tourism factories and directions for future research are discussed.

According to the statistical analysis from Industrial Development Bureau in Taiwan, the growth rate of tourism factories in Taiwan had been increased rapidly. Most proprietaries of food and restaurant industries expect to increase revenue and profit of the affiliated firms through the establishment of tourist factories. Existing studies had been worked on the relationship between customer satisfaction and loyalty for the establishment of the tourism factory. Little is known about the impact of tourism factory toward the original firm's performance and customer satisfaction (Mitchell & Orwig, 2002; Li & Chen, 2009). Therefore, the contribution of this paper is the first one to examine the effect of the tourism factories toward the customer satisfaction and the performance of affiliated business as far as the author's knowledge.

REFERENCES

- Andaleeb, S. S. & Conway, C. (2006). Customer satisfaction in the restaurant industry: an examination of the transaction-specific model. *Journal of Services Marketing*, 20(1), 3-11.
- Baker, D. A. & Crompton, J. L. (2000). Quality, satisfaction and behavioral intentions. *Annals of Tourism Research*, 27(3), 785-804.
- Bernhardt, K. L., Donthu, N., & Kennett, P. (2000). A longitudinal analysis of satisfaction and profitability. *Journal of Business Research*, 47(2), 161-171.
- Blumenthal, D. & Bergstrom, A. J. 2003. Brand councils that care: towards the convergence of branding and corporate social responsibility. *Brand Management*, 10(4-5), 327-341.
- Bolton, R. N. (2005). A dynamic model of the duration of the customer's relationship with a continuous service provider: the role of satisfaction. *Marketing Science*, 17(4), 45-65.
- Baron, R. M., & Kenny, D. A. (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.
- Chang, H. & Hsieh, H. (2003, September). A study on the community planner system in Taiwan (in Chinese), The 7th International Congress of Asian Planning Schools.
- Cooil, B., Keiningham, T. L., Aksoy, L., & Hsu, M. (2007). A longitudinal analysis of customer satisfaction and share of wallet: investigating the moderating effect of customer characteristics. *Journal of Marketing*, 71(1), 67-83.
- Cronin, J. J., Brady, M. K. & Hult, G. T. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, 76(2), 193-218.
- Darrow, A. L. & Kahl, D. R. (1982). A comparison of moderated regression techniques considering strength of effect. *Journal of Management*, (8), 35-47.
- Denekamp, J. G. (1995). Intangible assets, internationalization and foreign direct investment in manufacturing. *Journal of International Business Studies*, 26(6), 493-504.
- Hair, J. F., Anderson, R. E., Tatham, R. L. & Black, W. C. (1998). *Multivariate Data Analysis with Readings*, 5th edition. Macmillan, Inc., New York.
- Hauser, J. R., Simester, D. I. & Wernerfelt, B. (1994). Customer satisfaction incentives. *Marketing Science*, 13(4), 327-350.
- Heskett, J. L., Sasser, W. E. & Schlesinger, L. A. (1994). *The service profit chain: how leading companies link profit and growth to loyalty, satisfaction, and value*. New York: The Free Press.
- Ittner, C. & Larcker, D. (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research*, 36(1), 1-35.
- Keiningham, T. L. & Perkins-Munn, T. (2003). The impact of customer satisfaction on share-of-wallet in a business-to-business environment. *Journal of Service Research*, 6(1), 27-50.
- Koh Y., Lee S., & Boo S. (2009). Impact of brand recognition and brand reputation on firm performance: U.S.-based multinational restaurant companies' perspective. *International Journal of Hospitality Management*, 28(4), 620-630.
- Laroche, M., Kim, C., & Zhou, L. (1996). Brand familiarity and confidence as determinants of purchase intention: an empirical test in a multiple brand context. *Journal of Business Research*, 27(2), 115-120.
- Loveman, G. W. (1998). Employee satisfaction, customer loyalty, and financial performance: an empirical examination of the service profit chain in retail banking. *Journal of Service Research*, 1(3), 18-31.
- Magid, J. M., Cox, A. D., & Cox, D. S. (2006). Quantifying brand image: empirical evidence of trademark dilution. *American Business Law Journal*, 43(1), 1-42.
- Mitchell, M. A. & Mitchell, S. J. (2001). Consumer experience tourism in the nonprofit and public sectors. *Journal of Nonprofit & Public Sector Marketing*, 9(3), 21-34.
- Mitchell, M. A. & Orwig, R. A. (2002). Consumer experience tourism and brand bonding. *Journal of Product & Brand Management*, 11(1), 30-41.
- Mittal, V. & Kamakura, W. A. (2001). Satisfaction, repurchase intent and repurchase behavior: investigating the moderating effect of customer characteristics. *Journal of Marketing Research*, 38(1), 131-142.
- Morgan N. A. & Rego L. L. (2006). The value of different customer satisfaction and loyalty metrics in predicting business performance. *Marketing Science*, 25(5), 426-431.
- Park, C. W., Jaworski, B. J., & MacInnis, D. J. (1986). Strategic brand concept-image management. *Journal of Marketing*, 50(4), 135-145.
- Pine II, B. J. & Gilmore, J. H. (1998). Welcome to the experience economy, *Harvard Business Review*, 97-105.
- Reichheld, F. F. & Teal, T. (1996). *The loyalty effect: the hidden force behind growth, profits, and lasting value*, Harvard Business School Press, Boston, MA.
- Reynolds, D., Merritt, E. A. & Pinckney, S. (2005). Understanding menu psychology: an empirical investigation of menu design and consumer response. *International Journal of Hospitality & Tourism Administration*, 6(1), 68.

- Schiffman, L. G., & Kanuk, L. L. (2000). *Consumer Behavior* (9th ed.). Upper Saddle River, NJ: Pearson Education.
- Stevens, T. (1988). Work watching: the growth of industry tourism. *Leisure Management*, 8(12), 40-43.
- Upton, D. M. & Macadam, S. E. (1997). Why (and how) to take a plant tour. *Harvard Business Review*, 75(3), 97-106.
- Voss, C. A., Ahlstrom, P. & Blackmon, K. (2007). Benchmarking and operational performance: some empirical results. *International Journal of Operations & Production Management*, 17(10), 1046-1058.
- Williams P. & Naumann E. (2011). Customer satisfaction and business performance: a firm-level analysis. *Journal of Services Marketing*, 25(1), 20-32.
- Yang, S. S., Kimes, S. E. & Sessarego, M. M. (2009). Menu price presentation influences on consumer purchase behavior in restaurants. *International Journal of Hospitality Management*, 28, 157-160.
- Industrial Development Bureau, Ministry of Economic Affairs. (2011, December 22). Re: Factory tours, let's go!. Retrieved from <http://taiwanplace21.org/en/index.htm>
- Industrial Development Bureau, Ministry of Economic Affairs. (2011, December 22). Re: Welcome to tour plant of Taiwan. Retrieved from <http://taiwanplace21.org/factory/index.htm>