

Customer Preference to Select a Restaurant through Smart Phone Applications: An Exploratory Study

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The increasing number of Smart Phone Applications (SPA) user and fast growing restaurant industry prove the great potential of using SPA as business marketing opportunity in Malaysia. The constant growth in mobile technology has created a prospect for the restaurant industry to use SPA as a restaurant promotion tool. The growing attention of use of SPA among the Malaysian customer, marketing research remains understudied in the field of SPA based restaurant promotion activities. The aim of this study is to explore the increase in customer acceptance to use SPA based restaurant promotion and to identify the customer preference to use SPA to select the restaurant. Thus, this paper mainly focuses on restaurant information on product and promotion as antecedents of customer acceptance of smart phone apps by underpinning the Unified theory of acceptance and use of technology (UTAUT) model. A conceptual model and hypotheses are tested with a sample of 116 students from a private university at Selangor district, Malaysia. The findings indicate that there is a positive relationship to increase customer acceptance level through SPA based restaurant product information and also strong relationship with the restaurant promotion information. It also indicates that customer acceptance of SPA through experience and satisfaction has a positive significant effect on customer preference to select a restaurant. Based on the results, this paper rounds off with conclusion, recommendations for future marketing research and provides a new marketing strategy to formulate among the restaurant business sector.

Keywords: *restaurant promotion, use of smart phone applications, customer acceptance and preference.*

1. INTRODUCTION

The invention of new forms of Information Technology through the smart phone apps has given the hoteliers and restaurateurs to enrich their elements of marketing apparatuses. The hotel industry is facing a revolution that is largely driven by information technology cross the world²⁶. Existing mobile apps support a wide range of functions that include providing information on hotels, restaurants and bars, as well as transportation arrangements and tourist attractions; enabling location or map directions; and supporting picture and video sharing through email and social media apps⁷. Hilton hotels recorded 100,000 mobile app phone bookings in 2011, which significantly increased revenue by 200 percent¹⁰ and Marriott international gained at least \$1.25 million from mobile app bookings¹⁰. Despite all of the opportunity made available by mobile media, the potential of marketing through the use of smart phone apps has not been fully exploited in the restaurant industry. This is due to a lack of experience in smartphone based marketing among restaurateurs. The reviewed 180 research studies determined that information quality plays a dominant role in the success of an information system⁵. Information quality comprises the characteristics of the output offered by the information system, including accuracy, timeliness, and completeness²⁵. Restaurant menu is the main channel of information source when dining in the restaurant. Thus, restaurant menus should be designed to present items in a manner that is appealing to the customer in an attempt to induce sales⁸. In order to provide customers with more information of the dishes, related description, nutrition facts and visual aid were included in the content of the menu. Many studies showed that information quality directly affects behavior intention when using an information system¹⁶. Information quality should thus directly and indirectly affect the user acceptance of a new information technology.

As smartphone app is growing rapidly at Malaysia, many studies about the use of smart phone apps as a marketing tool for the hotel, tourism and travel industry was carried out. But no study has been

conducted in the area of customer acceptance and the usage of smart phone apps as promotion tools in Malaysian restaurants. Despite growing attention of smart phone apps among the Malaysian customer, marketing research remains understudied in the field of restaurant marketing. This paper thus aims to develop a conceptual framework (see figure 1) which focuses on smart phone apps based restaurant information on product and promotion as antecedents to know the relationship with the customer acceptance of smart phone apps through experience and satisfaction. The study also discusses the customer acceptance of smart phone apps and their preference to restaurant selection.

2. LITERATURE REVIEW

The growth in wireless and mobile communications worldwide has significantly increased customers to use their mobile devices beyond personal communications purposes and treat them as a way to access content and share information, giving rise to the potential for mobile phones to become a platform that companies can employ for brand communication, transactions completion, and relationship-building purposes^{29, 31}.

2.1. Smart Phone Apps

Application program refers designed program to perform specific function towards users or other application program¹³. One of the industries that have always tried to stay ahead of the curve with the use of new technologies and conveniences is the hospitality industry, especially the hotel companies. Hoteliers were told that mobile webpages weren't the best way to go but specialized smartphone apps with the ability to make bookings and manage reservations would be the best way to utilize smartphone technology as a method of hotel marketing. In 2012, USA reports that after launching a hotel specific smartphone application in November 2009 that mobile based sales increased 200%, comparing 10 May 2010's mobile bookings to May 2009's bookings.

2.2. Smart Phone Apps and Hotel Industry

Mobile phone app for hotels is a relatively new marketing development. Hilton was the first to introduce its mobile app for iPhone in November 2009. IHG followed suit a few months later in April 2010 for iPhone and July 2010 for Android phones. Marriott later introduced its mobile app in August 2011. As first-mover, Hilton's mobile app gained instant popularity. As followers, IHG and Marriott attracted customers to their mobile apps by making better versions. IHG, Hilton and Marriott are three large international hotels that are using mobile phone apps as marketing tools. Restaurants continue to adopt new smartphone apps, and brand leaders insist that improved app functionality-not improved development costs. T.G.I. Friday's rolled out their My Friday's app in April, 2013 and the functionality possible with today's smartphone apps, rather than improvements in development costs or the proliferation of smartphones. According to Tabbed out, Friday's technology partner that developed the app, more than 250,000 people have downloaded the My Friday's app in the year 2013 and 70 percent of the Friday's system now supports customer using it¹⁷.

2.3. Smart Phone Technology Acceptance in the Restaurant

In the past years, rapid developed restaurant technology has played decisive roles in changing customers' dining experience, such as the way the meal is presented, prepared and delivered, just to name a few^{6, 22}. The implications of the technology/marketing integration are profound for not only the customers' side but also the providers of services and products²¹. The technology has redefined and redesigned the service process with an innovative manner in hospitality organizations^{19, 21}. The possibilities of modern mobile technology are endless. To date, technology is becoming an important strategic asset for hospitality industry to improve services and products to maintain competitiveness¹⁹. "Technology orientation is a process and not an outcome". Only those who stay on top of technological developments and implement new technologies are likely to retain existing clients, attract new business and obtain market share²². Several studies have done to examine the influence of technology adoption in hospitality industry. For instance, ³⁴proposed a modified Technology Acceptance Model (TAM) to describe the technology adoption process of hospitality organization.

2.4. Smart Phone Apps as Marketing Mix

It has been heavily emphasized that hospitality organization must address its technology shortcomings proactively and comprehensively if it hopes to benefit from the continuing revolution in a marketplace heavily influenced by technology advancements²¹. A classification scheme focused on management

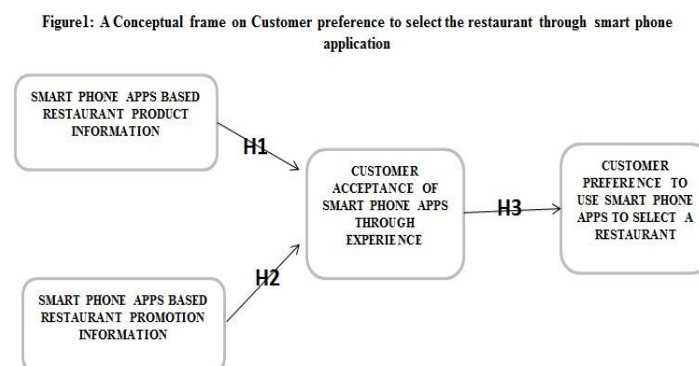
decision-making: cost analysis, forecasting, administrative, service, and advanced technologies to determine the current usage of various type of technology being used in the restaurant industry¹². Moreover, there are more than 1 billion mobile Internet users worldwide, which will increase to 2.89 billion by 2015 to represent a penetration rate of 37 percent²⁷. Existing smart phone apps facilitate transactions, content dissemination, social networking, personal productivity and leisure⁹. Smart phone apps support the marketing offers of hotels through information sharing, choice selections, games, maps, and other apps that support travel planning. In studying the use behavior of mobile apps, the author found that the main motives and sought-after rewards in using smart phone apps are entertainment, functionality, information, socialization, intellectual stimulation, following a trend, and learning¹¹. The factors that determine consumer use of smart phone apps can also serve as areas of focus in evaluating the marketing effectiveness of hotel and restaurant mobile apps.

2.5. The Underpinning Theory: Unified Theory of Acceptance & Use of Technology (UTAUT)

This research aims to study the customer acceptance and use of smart phone apps as a restaurant marketing mix by underpinning the UTAUT. In this study, the UTAUT is modified by considering smartphone apps based information quality elements in marketing mix as antecedents to know the customer acceptance of smart phone apps for the restaurant. This study mainly focuses on restaurant promotion context so it covers only the two Ps: product and promotion under the information quality elements in marketing mix.

3. CONCEPTUAL FRAMEWORK AND RESEARCH HYPOTHESES DEVELOPMENT

The conceptual framework focuses on the importance of the restaurants to explore the new marketing area to grab the attention of the customer among the competitors.



The above conceptual framework supports to shed light on the following research hypothesis:

H1: There is a positive relationship to increase customer acceptance level through smart phone apps based product information.

In any restaurant industry, the product is mainly about the type of menu offered in that particular restaurant. In order for the menu to execute its roles as a profit generator and communication and sales tool, restaurants need to focus on the appearance of the menu. The fonts, colors, layout and the design of menu in a restaurant may be critical factors affecting customer acceptance²⁸. Information quality about the product should thus directly and indirectly affect the customer acceptance of a new information technology.

H2: There is a positive relationship to increase customer acceptance level through smart phone apps based promotion information.

One of the pioneers of mobile marketing was Dunkin' Donuts with its successful SMS campaign carried out in Italy in 2002. The development of technology has not only enhanced the communication ability of existing promotional tools (e.g., advertising, sales promotion and direct marketing), but has also provided new channels for which these tools can be used. When the customers wake up in the morning, the promotion reminder feature in the smart phone apps is already delivering good news and an update on all of the promotions and specials that nearby restaurants are running¹⁴. The smart phone apps really make the customer to get the best deal of promotion in the restaurant market of the day through the above-mentioned features. Therefore, the higher information about the best promotion deals will directly influence to increase the customer acceptance level.

H3: The increased level of customer acceptance of smart phone apps based marketing mix information will increase the customer use of smart phone apps to select the restaurant.

Previous studies stated that use behavior is used in the research as the indicators of user acceptance; as it is quite challenging to have data about actual usage¹⁵. The behavioral intention construct was introduced to the Management Information System discipline through the technology acceptance model, an extremely important construct in the information management, due to its importance; it is referred to “as a key criterion in user acceptance research³³. Whenever the customer acceptance level increases definitely use of new technology by the customer will also increase. Therefore the increased level of customer acceptance of smart phone apps based marketing information will increase the customer use of the new way of selecting the restaurant through smart phone apps.

4. RESEARCH METHODOLOGY

Research methodology refers to the nature of research design and methods. Methodology guides the way researcher gain knowledge about the world and instructs the researchers in the way the research is constructed and conducted³⁰. In order to serve the aims and objectives of the study, the current study mainly relies on quantitative research approach. According to³², the quantitative research it involves the gathering and analysis of numerical data. The sample population of the study comprises undergraduate and postgraduate students of private university at Selangor district, Malaysia, enrolled in hospitality and culinary arts courses during the academic year 2013. All participates were targeted with a non-probability convenience sampling technique¹, the most practical method in order to gather primary data. There were 195 surveys collected. However, only n=116 (sample size) surveys were found to be useful, representing 59.5% response rate from the original sample (n=195).

5. DATA ANALYSIS & FINDINGS

It is a quantitative analysis that is calculated in SPSS, measuring frequency, mean and standard deviation. The customer acceptance and use of smart phone apps in the restaurant marketing mix were analyzed by using 5 points Likert-scale. Demographics of the Sample: Results showed that most of the respondents were above the age 20 (94.8%) where only (5.2%) respondents were between the age 18-20. With respect to education level (56.9%) were postgraduate students followed by undergraduate – degree (41.4%) and only (1.7%) were enrolled for diploma programme.

Table1. Demographic Breakdown of the Sample (n = 116)

	Frequency(F)	Percentage (%)
Age		
18-20	6	5.2
20 and above	110	94.8
Total	116	100.0
Education Level		
Diploma	2	1.7
UG Degree	48	41.4
PG Degree	66	56.9
Total	116	100.0

Table2. Reliability of the Study (n = 116)

Variables	Cronbach Aloha (α)	Number of Items	Mean
Product	0.76	6	4.29
Promotion	0.91	6	4.05
Customer’s Experiences	Single Item Variable		
Customer’s Preferences	Single Item Variable		
Customer’s Satisfaction	Single Item Variable		
Overall	0.92	15	

Reliability of the Study: Table 2 demonstrates that the overall reliability (internal consistency) of the study was found to be coefficient alpha 0.92, which is deemed acceptable⁴, which suggests that, the “measures [were] free from random error and thus reliability coefficients estimate the amount of systematic variance²⁹”. Reliability analysis is well known as to test the ‘degree of consistency between measures of the scale¹⁸, when each factor (study variables) such as ‘Product’, and ‘Promotion’ were examined, it was found to be reliable with coefficient alpha more than 0.70 at aggregate level, cut-off point^{3, 20}. The high alpha values indicated good internal consistency among the items, and the high alpha value for the overall scale indicated that convergent validity was met²³.

Correlations of the Study Variables

In the present study correlation analysis was employed since “correlation analysis involves measuring the closeness of the relationship between two or more variables; it considers the joint variation of two measures⁴”. In Table 3, the results of correlation analysis are significant at the 0.01 level. When the correlation coefficients matrix between study variables is examined, no correlation coefficient is equal to 0.90 or above. This examination provides support for the discriminant validity about this study, which means that all the constructs are different / distinct². The results in the Table 3 show that there is positive relationship to increase customer acceptance level through smart phone applications based restaurant product information and also strong relationship between smart phones applications based restaurant promotion information and customer acceptance. Hence hypothesis H1 and H2 are accepted.

Table3. *Correlation of the Study*

Scale	1	2	3	4	5
Restaurant Product Information	1				
Restaurant Promotion Information	0.653**	1			
Customer’s Experiences	0.497**	0.549**	1		
Customer’s Preferences	0.533**	0.654**	0.694**	1	
Customer’s Satisfaction	0.684**	0.570**	0.609**	0.491**	1

Note:** All the Correlations are significant at the 0.01 level (2 – tailed)

Regression Analysis: The results in Table 4, validates that there was a positive correlation with a R² of 0.576 and “F” value of 154.9 at a significance level of p < 0.000. Customer acceptance of smart phone apps through experience and satisfaction (β = 0.759) has positive significant effect on “the customer preference to use smart phone applications to select a restaurant”. Moreover, constructs jointly explain 57% of the variance (R²), which is considered as very good. There is not such autocorrelation as the Durbin-Watson value is 2.11 and variance inflations factor is also below 3, which is clearly showing that there is no multicollinearity problem.

Table4. *Regression Analyses*

Dependent Variable: Customer preference to use smart phone apps to select a restaurant				
Independent Variable	β	t-value	pb	Hypothesis
H3: Customer acceptance of smart phone apps through experience and satisfaction	0.759	12.44	0.000	Accepted

Note: R² = 0.576, F = 154.9, P < 0.000^b

6. CONCLUSION

The tested hypothesis allows a systematic approach to this complex phenomenon, the application of this conceptual framework might assist restaurateurs to improve their marketing mix tools and consequently increase the customer to select their restaurant. This study offers insight on the customer acceptance towards the use of smart phone apps as a promotion tools for the restaurant. The main objective of this paper was to identify the antecedents of marketing mix information through the use of smart phone apps in restaurant and to test the developed hypothesis based on the conceptual framework which can be used to fill in the theoretical gaps in the literature and use of smart phone apps as new marketing mix tools in the restaurant industry.

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