### **Customer Acceptance and Use of Smart Phone Apps (SPA) as a Marketing Mix Tool for the Restaurants: A Proposed Framework**

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Abstract: The Hospitality business has been utilized the inventive innovation to maintain its administration quality for quite a long time. The persistent development in portable innovation has made an open door for the inn business to utilize Smart Phone Applications (SPA) as a promoting blend apparatus. World class inns, for example, Intercontinental, Hilton and Marriott have begun utilizing SPA as showcasing blend universally. The opportunities made accessible by SPA, the potential for advertising blend apparatuses through the utilization of SPA has not been completely abused in the restaurant business. This is because of an absence of involvement in smart phone applications promoting among restaurateurs. The eatery business is as relentless and unbelievably. At the point when the commercial center movements, successful restaurateurs can turn rapidly and put their business in the right position to succeed. Presently it has been perceived that innovation as one of vital assets for supporting intensity among restaurateurs. Regardless of developing consideration of utilization of SPA among the Malaysian client, advertising exploration stays understudied in the field of eatery showcasing. This study examine that there is solid relationship between the advanced cell applications (SPA) based eatery promoting and client acknowledgement to choose an eatery. This is amazing considering that writing promoter's eatery promoting data as key segments of client acknowledgement towards the utilization of SPA as advertising blend apparatuses for the restaurants. Subsequently, this paper adds to a theoretical structure which concentrates on restaurant advertising blend data on product, price, place and promotion as precursors of client acknowledgement of advanced smart phone applications and offers exploration suggestions. It is discussed about that the advanced smart phone applications based restaurant promoting blend data assumes a part in improving the restaurant business among the contenders.

Keywords: restaurant information, smart phone apps, customer acceptance and use of technology

#### **1. INTRODUCTION**

The technology is developing rapidly day by day by opening new unimaginative opportunities in the hospitality industry. Developments in information technology (IT) have profoundly transformed the ways in which hospitality and tourism industry operates. Piccoli (2008) stated that the hotel industry is facing a revolution that is largely driven by information technology cross the world. Similarly, O'Brien and Parker (1987) and Law and Jogaratnam (2005) argue that IT should be a major component of a hospitality business that places emphasis on high-quality service. The invention of new forms of IT through the smart phone apps has given the hoteliers and restaurant to enrich their elements of marketing apparatuses. Existing mobile apps support a wide range of functions that include providing information or map directions; and supporting picture and video sharing through email and social media apps (Dr. Kuan-Yu Chen, Dr. Yu-Lun Hsu and Dr. Chia-Chun Wu, 2012).

The world class hotels such as Intercontinental, Hilton and Marriott have started using the smart phone apps as a marketing tool globally. Intercontinental hotels group generated at least \$130 million from bookings using its mobile website and mobile apps in 2011 (Jacobs, 2011). Hilton hotels recorded 100,000 mobile app phone bookings in 2011, which significantly increased revenue by 200 percent (Heller, 2011) and Marriott international gained at least \$1.25 million from mobile app bookings (Johnson, 2011). 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. Due to recent advancements in mobile technology, along with the rapid proliferation

and inherent characteristics of mobile devices, the mobile channel has emerged as a new, potential tool for marketing activities (Bauer, Barnes, Reichardt, & Neumann 2005; Varnali & Toker, 2010).

The marketing mix helps marketing companies to develop better strategies, so that the product or service they offer would target market accurately (Alessando lannuzzi, 2013). The marketing mix is a combination of tactical marketing tools that a firm uses to satisfy the target market (Kotler & Armstrong, 2006). The tools vary, but can be grouped into four categories widely referred to as the four Ps: product, price, place, and promotion. The four Ps have also been extended to the seven Ps by further including three elements: people, process, and physical evidence, although some argue that these are already included in the four Ps (Smith & Chaffey, 2005). Many have found that the four Ps is a useful framework for assessing the impact of the Internet on marketing strategies (Allen & Fjermestad, 2001; Harridge-March, 2004; Chaffey et al., 2006; Smith & Chaffey, 2005). With the latest introductions of Apple's i-Phone, RIM's Blackberry, and Google's Android technological platforms, the penetration of smartphones is skyrocketing. (Ref. TMM). Twenty years ago, DeLone and McLean (1992) reviewed 180 research studies and determined that information quality plays a dominant role in the success of an information system. Information quality comprises the characteristics of the output offered by the information system, including accuracy, timeliness, and completeness (Petter & McLean, 2009). Restaurant menu are 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 sales (Ellson, 2009; Mills & Thomas, 2008). In order to provide customers with more information of the dishes, related description, nutrition facts and visual aid were included into the content of the menu. Many studies showed that information quality directly affects behavior intention when using an information system (H. F. Lin, 2007). Information quality should thus directly and indirectly affect the user acceptance of a new information technology.

The smartphone penetration rate in Malaysia has increased to 27 percent in January – March 2013 (Nielsen, 2013). As smartphone app is growing rapidly at Malaysia, many studies about use of smart phone apps as a marketing tools for the hotel, tourism and travel industry was carried out. But no study has conducted in the area of customer acceptance and the usage of smart phone apps as marketing mix tools in Malaysian restaurants. Importantly, smart phones support thousands of mobile applications (apps; D.Wang, Park, & Fesenmaier, 2012).

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 marketing mix information on product, price, place and promotion as antecedents towards customer acceptance of smart phone apps. The study also discusses the relationship between the smart phone apps based marketing mix information and customer acceptance of smart phone apps. This paper explores the new area for the restaurant marketing through the smart phone apps, and finally the use of smart phone apps by the customer to select the restaurant to have a new dining experience.

#### 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 (Shankar, Venkatesh, Hofacker, & Naik, 2010; Sultan & Rohm, 2005).

#### 2.1. 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 (Dixon, Kimes, & Verma, 2009; Oronsky & Chathoth, 2007). The implications of the technology/marketing integration are profound for not only the customers' side but also the providers of services and products. (Nykiel, 2001). Technology has redefined, redesigned and reframed the service process with an innovative manner in hospitality organizations (Nyheim & Connolly, 2012; Nykiel, 2001). The possibilities of modern mobile technology are endless.

The idea of smartphone reservation applications evolved from the online marketing and booking of hotel room reservations. To date, technology is becoming an important strategic asset for hospitality industry to improve services and products to maintain competitiveness (Nyheim & Connolly, 2012). Oronsky and Chathoth (2007) suggested, "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 share. Several studies have done to examine the influence of technology adoption in hospitality industry. For instance, Wang and Qualls (2007) proposed a modified Technology Acceptance Model (TAM) model to describe the technology adoption process of hospitality organization. Concerning customer's perception against the technological innovation of a restaurant, Dixon et al. (2009) surveyed a sample of restaurant customers' reactions to eleven technologies innovations, which were classified into five categories: Queue management (e.g., handheld order taking), Internet based (e.g., online-reservation, online ordering), Menu, Kiosks and Payment related. Each addressed technology was found to offer benefits during stages of the dining process.

#### 2.2. Smart Phone Apps

Application is an abbreviated form of application program. Application program refers designed program to perform specific function towards users or other application program (Jae Seok Park, Pilgu Han, and Byeong Gu Kang, 2009). The below table 1shows the statistics of mobile apps user worldwide by region during the year 2012 – 2017:

	2012	2013	2017	
SPA users worldwide	1.2 billion	N/A	4.4 billion	
Asia Pacific	30 %	32 %	47 %	
Europe	29 %	28 %	21 %	
North America	18 %	17 %	10 %	
Middle East & Africa	14 %	13 %	12 %	
Latin America	9 %	10 %	10 %	
Source: Portio Research (March 2013)		via: <u>mobi</u>	via: mobiThinking	

Table1. User of SPA worldwide by region 2012-2017 according to Portio Research

As mobile contents making environments constituted where anyone can develop application freely, the number of application registration case has been abruptly increased that accumulated registration case in Appstore in Apple increased from around 50,000 cases in Mar. 2009 to accumulated registration case 260,000 during Sept. 2010 with increases rate around 20 times. The number of accumulated registration case in Google Android Market also increased from around 4,900 cases during Mar. 2009 to the figure 98,000 cases during Sept. 2010 with increase rate around 20 times. 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. Working without a Wire (2009) talks about some of the first uses for smartphones and mobile devices developed by hotels as they follow technology trends. Watkins (2010) mentions in his article that at the Hotel Industry Technology Exposition & Conference it was mentioned that 20-25% of travel companies were planning on adding mobile booking capabilities to their marketing tactics in 2010, with 24% of them planning to create iPhone applications. 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. USA Today (2012) 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. The purpose of this report will be to analyze a collection of hotel's offering hotel specific applications according to the financial performance before and after the introduction of the smartphone applications.

#### 2.3. 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. The experiences of these three hotels serve as guide for other hotels in deciding on whether to develop mobile phone apps of their own. Companies like Dunkin Donuts, McDonalds, Adidas, Apple, Pepsi, and Burger King were among the early adopters of this digital philosophy, more and more companies are beginning to catch up. 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 its 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 Tabbedout, Friday's technology partner that developed the app, more than 250,000 people have downloaded the My Friday's app this year (2013) and 70 percent of the Friday's system now supports customer using it (Mark Brandau, 2012).

#### 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 advancements (Nykiel, 2001; Wang & Qualls, 2007). Huber et al. (2010) presented 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 industry. The results found that in all categories, the more successful restaurants are keen to use technology for analysis while decisionmaking. In sum, restaurant operator should be positive and assertive to restaurant technology and would eventually receive better performance as return. People usually carry their mobile phones wherever they go. Moreover, there are more than 1 billion mobile Internet users worldwide, which should increase to 2.89 billion by 2015 to represent a penetration rate of 37 percent (Research and Markets, 2011). Existing smart phone apps facilitate transactions, content dissemination, social networking, personal productivity and leisure (Gasimov, Tan, Phang & Sutanto, 2010). 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 use behavior for mobile apps, Ho and Syu (2010) 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 learning. 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.

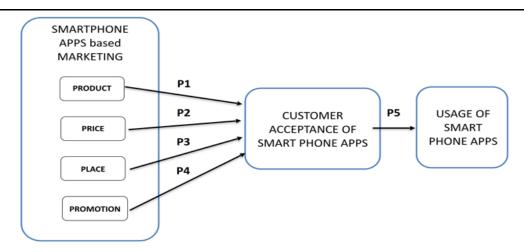
#### 2.5. The Underpinning Theory: Unified Theory of Acceptance & Use of Technology (UTAUT)

This research aims to study the customer acceptance and use of smart phone apps as a marketing tool for the restaurants by underpinning the Unified Theory of Acceptance and Use of Technology (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. The study covers only the four Ps: product, place, price and promotion under the information quality elements in marketing mix, even though it also has been extended to the seven Ps by further including three elements: people, process, and physical evidence. Many have found that the four Ps is a useful framework for assessing the impact of the smart phone apps on marketing strategies (Allen & Fjermestad, 2001; Harridge-March, 2004; Chaffey et al., 2006; Smith & Chaffey, 2005). The information quality of SPA based marketing mix information used to identify the customer acceptance level and the higher level of acceptance is discussed as the customer acceptance towards the use of SPA as a marketing mix tools for the restaurants and also to select the restaurant for new dining experience.

#### 3. CONCEPTUAL FRAMEWORK AND RESEARCH PROPOSITIONS

The conceptual frame work focus on the importance of the restaurants to explore of new marketing area to grab the attention of the customer among the competitors.

Customer Acceptance and Use of Smart Phone Apps (SPA) as a Marketing Mix Tool for the Restaurants: A Proposed Framework



**Figure1.** A Proposed Conceptual Framework of Customer Acceptance & Use of Smart Phone Apps (SPA) as a marketing mix tool for the restaurants

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

Whether the smart phone apps based marketing mix information on product, price, place and promotion about the restaurant plays an important role to select a restaurant for dining among the Malaysian customers?

The research propositions proposes that smart phone apps based information quality about the four P's – product, price, place and promotion of restaurant marketing mix are directly related to customer acceptance and usage of smart phone apps to select a restaurant for dining.

**P1:** The relationship between restaurant product information and customer acceptance is curvilinear. The use of smart phone apps based restaurant product information allows to increase the customer acceptance level through interactive menu.

In any restaurant industry, the product is mainly about the type of menu offered in that particular restaurant. The quality of information about the menu is an important component of the product element of restaurant marketing mix and is often incorporated into communication regarding the product (Ismet Anitsal, Tulay Girard & Meral Anitsal, 2012). 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 (Nadria, 2011). The product category covers decisions about the products (and services) that you want to sell to young customers. For restaurants product decisions include the items on the menu, the quality of ingredients used, the quality of preparation, appearance of the items, what ingredients they contain and policies regarding customer acceptance with items purchased (NRAEF, 2007). The study conducted by Reynolds et al. (2005) explored whether the fonts, colors, layout and the design of menu in a restaurant may be critical factors affecting customer acceptance. The influence of technology toward restaurant industry is not only on how the products are produced but also how products are presented on the menu (Bitner, 2001). Information quality about the product should thus directly and indirectly affect the customer acceptance of a new information technology. The interactive menu through the use of smart phone apps helps the restaurant menu information (visual appearance, menu variety, beverage list, etc.) in a manner that is interesting towards the customer acceptance of new technology. So, the restaurant menu information in a interactive menu

**P2:** The lower the restaurant price has a significant relationship on customer acceptance level. The use of smart phone apps in restaurant marketing provides customer an easy access to find the lower price in the market and value for money.

According to Dillard's web page, "The word value has become a staple in retailing used and perhaps overused, more than any terms in describing what retailers bring to the table" (Ismet Anitsal, Tulay Girard & Meral Anitsal, 2012). The cost and pricing structure may have a significant relationship on customer technology use, there is evidence that the popularity of short messaging devices in China is due to the low pricing to other types of mobile internet applications (Chan et al. 2008). A digitally enabled voice tells you everything you need to know about this day: weather forecast, traffic updates, suggestions as to what to wear, where to find the cheapest cup of coffee and more (Ksenia

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Mitselmakher, 2010). Your smart phone tells you the optimal location to choose with the cheapest price and /or the highest price. As you do by Starbucks, your smart phone beeps, you just got a promotion for half price latte (Ksenia Mitselmakher, 2010). In Dunkin' Donuts store across the united stated by scanning the smartphone apps at point-of-purchase, there speed up transaction times. The smartphone apps also enables customers to purchase, store or reload mobile Dunkin' cards to get a lower price and avoid plastic membership cards (Paul Frumkin, 2012). The smartphone apps features such as pop-ups of special discounts, special price for customer ordering through smartphone apps makes the customer to accept that the product price is value for money. The above features explains how smart phone apps based restaurant price information helps to indicate the customer about the lower price of menu items in the market to increase the customer acceptance level.

**P3:** The more valuable information about the restaurant location strongly increases the customer acceptance level. The restaurant location information through the use of smart phone apps will be more of value due to online ordering system and access from anywhere.

In customer acceptance, the most factors for restaurant selection are said to be "location" and "access" to the ordering system Ismet Anitsal, Tulay Girard & Meral Anitsal, 2012). Smartphone apps can be used to track current locations of the restaurant. Technology can speed service by reducing the ordertaking time through the use of preorders or handled devices (Sheryl, 2008). Online reservations allow customers to quickly make a reservation at unfamiliar restaurant (Layton, 2006). Online ordering helps restaurants by providing an additional distribution channel (customers may order just because it is easier), provides more opportunities for consistent upselling, and gives restaurants the opportunity to streamline (Webb. 2006). The advent of new technology and smartphones, capable of handling richer information has undoubtedly triggered developments of new mobile contents in various formats, particularly in high resolution video Senn, 2000), so the smartphone apps allows the customer to watch the ambience of restaurant in their own smartphone apps. The Global Positioning System (GPS)-enabled smartphone tells the customer the brand nearest restaurant locations and prices information. (Ksenia Mitselmakher, 2010). The smartphone apps provide the customer to know the parking space available, GPS online order delivery tracking and to check the table availability in the restaurant through the use of smartphone apps. The customer acceptance level is automatically increased due to above valuable information about the restaurant location through the use of smart phone apps.

# **P4:** The higher information about restaurant offering best promotion deals will influence the customer acceptance level. The promotion information reach through the use of smart phone apps is very attractive among the customers.

Traditional and nontraditional forms of advertising, endorsing specific products and services are major components of the promotion element (Ismet Anitsal, Tulay Girard & Meral Anitsal, 2012). Cutler, Philip (2008) quoted that promotion includes all the communication tools that can deliver a message to the target audience, and includes: advertising, sales promotion, public relations, sales force and direct marketing. Hereafter no need to carry tangible promotion coupons with you anywhere, your smartphone has already collected and sorted all special deals you can potentially get in the restaurant. One of the pioneers of mobile marketing was Dunkin' Donuts with its successful SMS campaign carried out in Italy in 2002. The promotion enabled Dunkin' Donut customers to enter 5-digit codes into their smartphone devices in order to receive a promotion coupon for the purchase of a donut. 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 (Harridge-March, 2004). 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 running (Ksenia Mitselmakher, 2010). 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.

## **P5:** 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 challenge to have data about actual usage (L.Abdulwahab & Zulkahiri Md Dahalin, 2010).

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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 research" (Venkatesh et al., 2003). 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. MANAGERIAL IMPLICATIONS

The discussion in the study shows that restaurant need to broaden their horizon of marketing mix tools with respect the development of technology and changes in customer acceptance pattern. Customers are very keen on location-based apps and are comfortable with geo-targeting only with these apps. They would like the facility in smart phone apps such as visual appearance of interactive menu, GPS functions to know restaurant location and parking facilities, promotion pop-ups, promotion reminders, etc., to target this generation customers. The Apps developers and publishers must move toward developing restaurant apps not only be engaging the customer, but also entertaining. The arena of restaurant apps must be explored over the next few years for making the customer to select your restaurant among the highly competitive global market.

#### **5.** CONCLUSION

The proposed framework allows a systematic approach to this complex phenomenon, the application of this conceptual framework might assist restaurateurs to improve their marketing mix tools and enhance international competitiveness 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 marketing mix 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 develop a 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. We discussed that there is a lack of coverage devoted to the smart phone apps to select the restaurant.

#### 6. LIMITATIONS AND FUTURE RESEARCH

This research forms the starting point for future research in the area of smart phone app based marketing mix tools in restaurant industry. It also highlights the marketing mix areas such as product, price, place and promotion through the use of smart phone apps helps to increase the customer acceptance level and use of smart phone apps to select the restaurant among the Malaysian customer. The research was qualitative in nature; the end findings produced an explanation of observable fact that can be restricted in depth but may suffer from extensive generalizability. Although the present work does not show results from empirical evidence, we deem that future studies involving quantitative research techniques and a larger sample would improve the validity of the results. Moreover, cross-cultural studies are recommended to compare customer's acceptance towards the use of smart phone apps in developed and emerging countries. This study could also be extended to understand the customer acceptance of new marketing mix tools based on gender difference and type of ethnicity towards smart phone apps based marketing mix information as well as use of smart phone to select the restaurant.

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