

## Root of Smartphone: Route for A Smart Business @ Restaurant

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### Abstract

Successful services organizations understood the importance of evaluating and managing customer satisfaction. Have no existing technology with more competently and more universally usurped the landscape than mobile technology. Smartphone are used for social interaction, financial transaction, employee productivity and academic activity. With such significant usage, Smartphone have established omnipresence on restaurant experience, where the Consumers are using them for all aspects of their restaurant experience. The purpose of this paper is to analyze the use of Smartphone and Smartphone apps as a tool to promote customer experience on restaurant, especially when reading information about nutrition, ordering food, drinks and payment process and enjoyment in restaurant. This paper also aims to develop a Conceptual model to test users' intention to use Smartphone apps as tool to promote customer experience on restaurant. This study employs a survey instrument to assess restaurant business initiative with use of Smartphone for experience, survey made from the Tier II & Tier III cities of Tamilnadu and Compare this behavior to traditional format when administered at ahead of Commence.

**Keywords:** Smartphone, customer readiness, existing experience, technology acceptance and consumer behavior

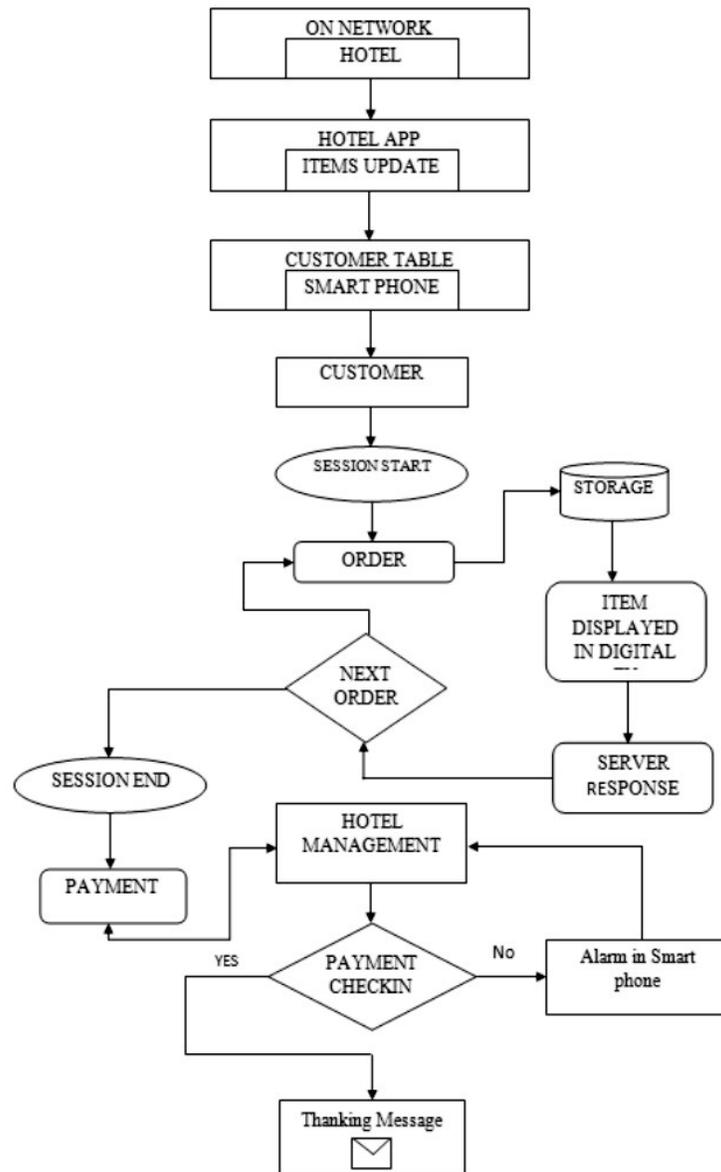
### Introduction

Smartphone (including tablets) are becoming far more influential than the desktops. It has revolutionized many sectors such as Education, Telecom, Food, Medical etc. Dual Core 2-GHz processors are shipping before now and Multi Core 4-GHz processors are on the horizon. The emergence marvelous growth of the new technology has unleashed powerful forces that are reshaping the business. Given the dynamics at work with the new technology, businesses can maintain operational excellence and implementing essential changes. The industry will survive and prosper depends on their ability to align themselves with new strategy implementation. Industry's strategies should be congruent and complementary with its structure. The internal structure can be a cause of strength that provides competitive advantage for the industry. The suitable strategy and structure is expected to possess a positive outcome upon the industry. This study concerned with the Restaurant business and analyzing the Restaurant Omni services accomplish by the Smartphone. In these days foods are deducting human life stage, contamination of inorganic and other

country foods are decimating the original value of existing foods. In that situation, people are analyzing the food nutrition details and they are trying to avoid health hazards and other displeasure in Restaurant while having food. Waiter, tip and payment gateway and enjoyment, these

services are important displeasure in Restaurant experience. This study is to rectify or change the services those which are creating displeasure to consumer in Restaurant.

**Figure – 1 Proposed model of Smartphone application usage in Restaurant**



### Process

Hi speed network connected inside of the Restaurant - Restaurant application developed and maintained with nutritional information, food consumption behavior and regular dish update (with price accuracy) - Every table having the tablet (attached), tablet IP is configured with table number - Session starts - Order input goes to storage and digital TV read the input from database and displayed -

Waiter service for the particular order after prepared – 3rd,4th process continuously processed until the session going to end – Order items with price listed into the Cart and bill will be shown on Smartphone display when the session ends by customer - Payment process done with help of various payment modes (especially restaurant's apps wallet and smartcard) - Database checks the payment completion after the session ends - If the payment is made successfully

thank you message will displayed - If not completed, the tablet sounding the alarm - Customer service team takes care and the payment made successfully, finally greeting message displayed for completes the experience on Restaurant.

### Literature review

Smartphone Apps are acting as a new business communication media compared with customary physical store transactions. Mobile channels are providing a very large quantity of unique value to customers, such as no temporal and spatial limitation, accuracy with express and availability of information (Rachuri, K.K., & Mascolo, C., 2011). In restaurant, food servers are frequently perform in a unique position to influence what customers choose, it may affect their enjoyment of food and evaluated the manipulation of positive and negative comments made by servers on food choice and acceptance (Edward J.S.A et al., 2005), results showed that only negative statements made by servers actually influence food choice but in all conditions, once a customer had chosen of dish, acceptability of that dish was not affected. Poor diets, inactivity and consequent obesity have become a global trend since 1980s where high levels of overweight and obese citizens are currently originate in most regions of the world (Malik et al., 2013). In particular, the USA experienced a dramatic rise in obesity for the last two decades. Among those citizens, more than one-third of adults and 16 percent of the child population are categorized as being obese and at the risk of many obesity related diseases due to the over consumption of dish calories and total grams of fat (Obesity in America, 2011). Many adults are not educated on how to eat a healthy dish and maintain diet from a young age. Therefore, they are still in need of help to turn their life in the region through healthy eating and learning the benefits of yoga and exercise (Thomas and Mills, 2006). Numerous studies highlight the alarming eating behaviors of youth and the growing obesity rates of this cohort. However, there are limited evidences to enlighten the effective intrusion for preventing weight gain in this group (Hebden et al., 2012). (Jungsun (sunny) kim et al., 2012) established that extrinsic motivation in using Self Service Technologies directly influenced the likelihood of using kiosks and existing experience indirectly influenced the likelihood of using kiosks through customer readiness in both female and male groups and also exposed that both female and male respondents who recognized their roles in using Self Service Technology more clearly and more likely to use kiosks at Quick Service Restaurants. (Kincaid and Baloglu, 2005) discovered that customers' previous experience with Self Service Technologies affects the main variables of customers (role clarity, ability and extrinsic motivation) at Restaurant. Numerous studies suggest the significant intervention methods for this cohort, which include easy access to offering support for planning,

treatment and self-monitoring behavior (Larose et al., 2011; Strong et al., 2008). For instance, through previous experience with Self Service Technologies, a user will recognize extrinsic and intrinsic benefits generated from the production through a Self Service Technology (e.g. fast transaction, feeling independent). It is reasonable to assume that potential users without experience of using Self Service Technologies will be less motivated by the potential benefits from Self Service Technologies. Furthermore, experienced Self Service Technology users are expected to have a better understanding of their roles given that they need fewer directions to understand their roles in the production process, compared to users without experience (Meuter et al., 2005). In particular, Kincaid and Baloglu (2005) discovered that the customers' previous experience with Self Service Technologies affects the customers' role clarity, ability and extrinsic motivation at restaurants. Overall, previous studies support that customers' willingness (i.e. ability, role clarity, intrinsic motivation and extrinsic motivation) is affected by their previous experience with using Self Service Technologies at restaurant. Smartphone apps are innovative channels for delivering individual health behavior changes. They present a range of services that can promote the daily habits of their users. Smartphone apps allow users to keep up with their diets, exercise routines and overall health (Bendegul Okumus et al., 2014). Therefore, Smartphone Apps are present the opportunities for their users to establishing healthier lifestyle habits. For this regiment, it is important to offer support with self-monitoring of their actions. Smartphones are popular in this group and Smartphone Apps can develop the delivery of health eating behavioral changes with regular update and easy payment with seamless experience to individuals in Restaurant.

### Purpose of the study

To discover an appropriate target market, restaurant operators should understand possible influence of demographical factor on their customers' acceptance level of Smartphones. Generally, young, single, highly educated and high income consumers are more likely to use mobile Applications. The implication is that it would be necessary for operator to continue examining Smartphone acceptance behavior across consumer to understand their usage behavior, information gathering, remittance through smart way and motivations.

- (i). To understand the impact of customer experience with Applications on this likelihood of using Smartphone at Restaurant.
- (ii). To understand a mediating role of customer readiness (Regular update, Expedition, Remittance, Stimulation)

### Hypotheses of the study

H1. Having experience with Apps will increase Consumers' likelihood of using Smartphone at restaurant.

H2. Regular update in Apps will lead to high levels of likelihood of using Smartphone at restaurant.

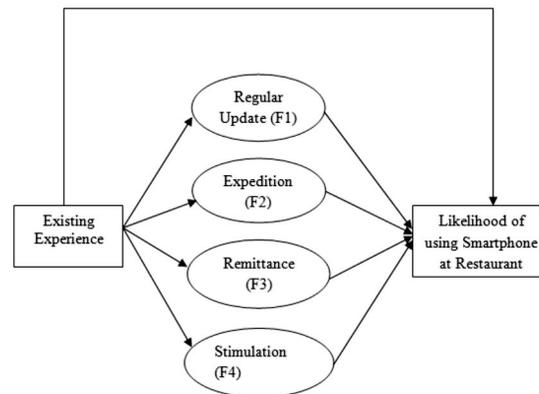
H3. Expedition of experience in using Apps will lead to high levels of likelihood of using Smartphone at restaurant.

H4. Remittance in using Apps will lead to high levels of likelihood of using Smartphone at restaurant.

H5. Stimulation in using Apps will lead to high levels of likelihood of using Smartphone at restaurant.

H6. There is no significant relationship between the Consumers' previous experience with Apps, readiness for self service technology and likelihood of using Smartphone at restaurant based on gender.

Figure - 2 Hypothesized model



### Methodology

The proposed research model for this paper is shown in figure 1 and 2. In order to explore the variables in the proposed research model, a structured questionnaire survey was conducted. The sample was randomly selected from the

restaurant's panel members and is chosen from tier II & III cities. Out of 1000 questionnaire 700 respondents agreed to answer the questions. In total, 614 respondents completed answering all the questions.

### Analysis

Table -1 Demographic characteristic of respondents

	n	percentage
<b>Gender</b>		
Male	332	54.1
Female	282	45.9
<b>Age</b>		
18-28 years	229	48.7
29-38 years	166	27.0
39-48 years	116	18.9
Above 49 years	33	5.4
<b>Education</b>		
School level	5	0.8
Under graduate	121	19.7
Post graduate	225	36.7
Professional course	263	42.8
<b>Total</b>	<b>614</b>	<b>100</b>

Table - 2 Indicators of the measurement model

Indicators of Regular update	RU1: update of dish and special dish menu day-by-day
	RU2: personalization of the application to individual needs
	RU3: the Apps shows the nutritional information menu items before ordering dish
Indicators of Expedition	EX1: speed in ordering dish or food and that reached at a time of touch
	EX2: speed of delivering ordered food
	EX3: Speed of Payment with technology
Indicators of Remittance	RM1: avoiding malpractice in payment and waiter's tips
	RM2: opportunities for payment with accurate amount by online payment modes
	RM3: when I conduct transactions of amount in restaurant, a personal feeling of independence and worthwhile accomplishment is desirable
Indicators of Stimulation	ST1: convenience while ordering service/making transaction is desirable
	ST2: when I conduct transaction in a restaurant, being fast is desirable
	ST3: Personal feeling of enjoyment is desirable

Demographic characteristics of the respondents, 54.1 percent were male and 45.9 percent were female. Most of the respondents (48.7) were over 44 years old. 42.8 percent of the respondents, have completed their professional course, 36.7 percent of respondents have completed Post Graduate and another 19.7 percent of the respondents were completed their UG degree. To compare the mean score of the likelihood of using Smartphone and the readiness variables by gender group and the independent t-test was used for analysis of main variables (see Table 2: description of main variables & Table 3: mean comparison by gender). The results indicate the male respondents were more likely to use Smartphone at restaurant than female ( $p < 0.001$ ).

Each customer readiness factor (i.e. Regular update, expedition, Remittance and stimulation) consisted of four indicators. One indicators in the Regular update showed a higher mean score male than female. Specifically, male respondents were more likely to agree that update of dish and special dish menu day-by-day than female. However, there was no significant difference for the other two indicators of the regular update factor, and also there was no significant difference between the three indicators of the expedition factor across gender group. On the other hand, two indicators of the Remittance factor rotated out to be significantly different between genders. The male respondents more strongly believed payment opportunities through online (especially restaurant's wallet and smartcard)

and avoiding malpractice, waiter's tips when they were in a restaurant. Lastly, the mean scores of all three indicators related to stimulation turned out to be significantly higher for the male group than the female group. In other words, the male respondents more strongly believed their personal feelings of convenience, fast and enjoyment as desirable at restaurant.

### Measurement model

Measurement model specified four factors: Regular update (RU), Expedition (EX), Remittance (RM) and Stimulation (ST). The degree of agreement on the statements for Regular update, Expedition, Remittance and Stimulation are used as theme indicators (Table 2: description of main variables). Every indicator was constrained for load only on the factors. There is no equality constraints on the factors loading were imposed and the factor co-variances to be estimated. (Fit indices are as follows: standardized RMR < 0.10; non-normalized and comparative fit index > 0.90; Root Mean Square Error of Approximation (RMSEA) < 0.10;  $\chi^2$ :  $p > 0.05$  (when the sample size is large, it's normal to have  $p < 0.05$ ). Among those indices the measurement model fits the data very well:  $\chi^2$  (n=614) = 130.529,  $p < 0.001$ , CFI = 0.986 standardized RMR = 0.027 and RMSEA = 0.053. In reliability test, Cronbach's coefficient  $\alpha$ -values of four factor all surpassed 0.7, indicating good internal consistency.

Table - 3 Mean Comparison by Gender

	Total (n=614)	Male (n=332)	Female (n=282)	t-value	p-value
RU1 <sup>a</sup>	.....	3.77 ± 0.80*	3.61 ± 0.82*	2.516	0.012
RU2 <sup>a</sup>	4.16 ± 0.82	4.15 ± 0.85	4.18 ± 0.78	-0.557	0.578
RU3 <sup>a</sup>	3.63 ± 0.91	3.69 ± 0.94	3.57 ± 0.88	1.655	0.098
EX1 <sup>a</sup>	3.68 ± 0.92	3.74 ± 0.93	3.61 ± 0.92	1.799	0.073
EX2 <sup>a</sup>	4.08 ± 0.87	4.06 ± 0.91	4.10 ± 0.82	-0.503	0.615
EX3 <sup>a</sup>	4.19 ± 0.79	4.17 ± 0.85	4.21 ± 0.72	-0.491	0.624
RM1 <sup>a</sup>	4.04 ± 0.83	4.13 ± 0.82**	3.93 ± 0.82**	2.974	0.003
RM2 <sup>a</sup>	4.09 ± 0.81	4.20 ± 0.81***	3.96 ± 0.79***	3.718	0.000
RM3 <sup>a</sup>	4.19 ± 0.76	4.23 ± 0.78	4.14 ± 0.73	1.539	0.124
ST1 <sup>a</sup>	3.75 ± 0.91	3.85 ± 0.94**	3.62 ± 0.85**	3.173	0.002
ST2 <sup>a</sup>	3.52 ± 0.95	3.62 ± 0.95**	3.40 ± 0.95**	2.908	0.004
ST3 <sup>a</sup>	3.60 ± 0.87	3.68 ± 0.90**	3.50 ± 0.82**	2.578	0.010
SR <sup>b</sup>	3.67 ± 1.12	3.83 ± 1.07***	3.48 ± 1.14***	3.812	0.000

**Note:** Significant at: \*p<0.05, \*\*p<0.01 and \*\*\*p<0.001; <sup>a</sup> from the responses on a five -point Likert scale: from 1 - Strongly disagree and 5 - Strongly agree; RU -Regular update , EX -Expedition, RM-Remittance and ST- Stimulation; <sup>b</sup> from the responses on a five-point Likert scale: from 1 - Very unlikely and 5- Very likely; SR-Likelihood of using Smartphone at Restaurant

### Structural model

In order to evaluate the adequacy fit of the proposed model (figure 1 & 2) to data, a combination of fit indices was investigated. A good fit of the structural model yield:  $\chi^2(n=614) = 396.609$ , standardized RMR = 0.202, CFI = 0.947,  $p < 0.001$ , and RMSEA = 0.089. The estimation of standardized parameter from the path analysis is shown in figure-3 (Full sample). The Wald test was used to investigate for redundant structural paths, but the result showed that path is not dropping in the model. Conversely, the result of the Lagrange Multiplier (LM) test recommended adding two significant parameters in the model (i.e. Expedition and Regular update & Remittance and Stimulation).

As shown in table - 5, the relationship between experience and customer readiness (i.e. regular update, expedition, remittance and stimulation) was investigated. The

experience variable had a significantly positive effect on the expedition factor ( $\beta=0.374$ ) and the stimulation factor ( $\beta=0.342$ ) ( $p < 0.05$ ), but no positive effect on regular update and remittance. The experience variables also have no significant influence on the likelihood of using Smartphone at restaurants. The results imply customers who have experience with technology will be more likely to have higher expedition and have remittance in using apps compared to those who are don't have a previous experience. While, the standardized indirect effects are revealed that the experience variable (with full sample) to have a positive effect on the likelihood of using Smartphone at restaurants ( $\beta=0.155$ ) through the main variables ( $p < 0.5$ ). This result indicates customers who have both experience and higher levels customer readiness in using apps will be more inclined to use Smartphone at restaurants.

Table-4 Factor loading in the measurement model

	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 2</b>	<b>Factor 4</b>
	<b>RU</b>	<b>EX</b>	<b>RM</b>	<b>ST</b>
	(Regular update )	(expedition)	(Remittance)	(stimulation)
RU1	0.750			
RU2	0.926			
RU3	0.904			
EX1		0.908		
EX2		0.934		
EX3		0.895		
RM1			0.847	
RM2			0.878	
RM3			0.851	
ST1				0.861
ST2				0.866
ST3				0.841
Reliability				
<b>(Cronbach's <math>\alpha</math>)</b>	0.89	0.94	0.89	0.89

The additional paths results showed that the expedition factor positively affects the regular update factor ( $\beta=0.689$ ), and the remittance factor positively affects the stimulation factor ( $\beta=0.683$ ). The influence of main variables to apps on the likelihood of using Smartphone, the regular update factor ( $\beta=0.116$ ) and the expedition factor ( $\beta=0.373$ ) are the important determinant factors of the likelihood of using Smartphone at restaurant ( $p<0.05$ ), but the expedition and

stimulation had insignificant effects. The results indicate consumers with higher levels of regular update and remittance in using apps will be more likely to use Smartphone at restaurant. The four factors of consumer readiness accounted for (Direct effect: 0.215)21.5 percent of the variance (R<sup>2</sup>) in likelihood of using Smartphone at restaurants (see Table VI for direct, indirect and total effects for standardized scores).

Table – 5 Direct, Indirect and total effects for standardized scores: with full sample

	<b>Standardized (<math>\beta</math>)</b>		
	<b>Direct effect</b>	<b>Indirect effect</b>	<b>Total effect</b>
Experience and Likelihood of using Smartphone	0.039	0.155*	0.194*
Experience and Regular update (F1)	0.033	0.258*	0.290*
Experience and Expedition (F2)	0.374*		0.374
Experience and Remittance (F3)	0.342*		0.342
Experience and stimulation (F4)	-0.003	0.234*	0.230*

Regular update (F1) and Likelihood of using Smartphone	0.116*		0.116*
Expedition (F2) and Regular update (F1)	0.689*		
Expedition (F2) and Likelihood of using Smartphone	-0.072	0.080*	0.008
Remittance (F3) and Likelihood of using Smartphone	0.373*	0.061	0.434*
Remittance (F3) and Stimulation (F4)	0.683*		
Stimulation (F4) and Likelihood of using Smartphone	0.090		0.090
R <sup>2</sup>	0.215		

Note: Significant at: \* $p < 0.05$ ; n=614

The results of table - 6 indicated that gender group (male and female) those who are having higher remittance in using apps will have higher likelihood of using Smartphone. However, other customer readiness factors-regular update, expedition and stimulation- had no significantly direct effect on likelihood of using apps in both groups (table - 6 and figure - 3), and also have a significantly positive relationships between the expedition and the regular update factors (in the male group:  $\beta=0.733$  and female group:  $\beta=0.632$ ), as well as between the remittance and stimulation factors (in the male group:  $\beta=0.645$  and female group:  $\beta=0.729$ ). The result of the moderating effect of main variables between existing experience with apps and intention to use Smartphone at restaurants revealed that the

experience have a positive indirect effect on the likelihood of using Smartphone at restaurants (in the male group:  $\beta=0.162$  and female group:  $\beta=0.144$ ) through the main variables in gender groups ( $p < 0.5$ ), This result implies that customers are have both experience and higher levels of enthusiasm in using apps will be more oblique to use Smartphone at restaurants. In summary, in the male's model 21.7 percent (0.217) of the variance (R<sup>2</sup>) in the likelihood of using Smartphone was explained by existing experience, regular update, expedition, remittance and stimulation, and in the female's model, 17.8 percent (0.178) of the variance (R<sup>2</sup>) in the likelihood of using Smartphone was explained by these factors (table 6).

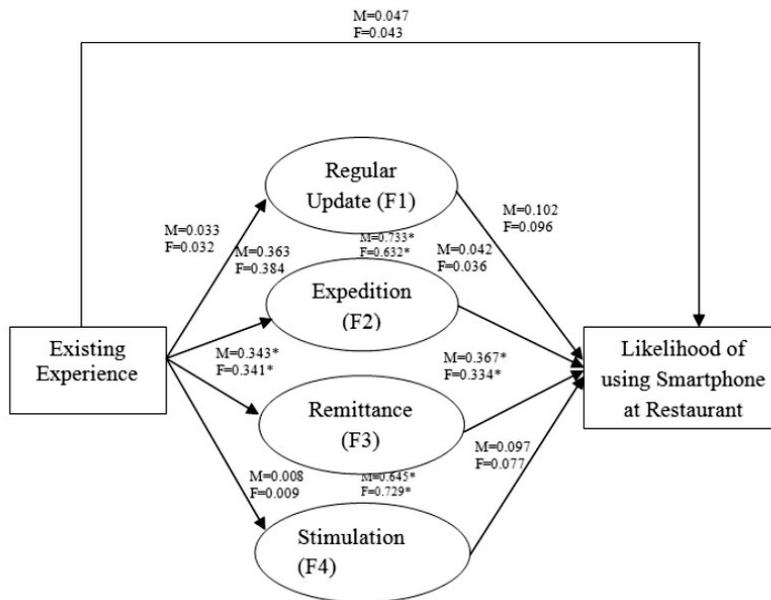
Table – 6 Direct, Indirect and total effects for standardized scores: male vs. female

	Standardized ( $\beta$ )					
	Male (n=332)			Female (n=282)		
	Direct effect	Indirec t effect	Total effect	Direct effect	Indirec t effect	Total effect
Experience and Likelihood of using Smartphone	0.047	0.162*	0.209*	0.043	0.144*	0.187*
Experience and Regular update (F1)	0.033	0.266*	0.299*	0.032	0.242*	0.274*
Experience and Expedition (F2)	0.363*		0.363	0.384*		0.384
Experience and Remittance (F3)	0.343*		0.343	0.341*		0.341

Experience and stimulation (F4)	-0.008	0.222*	0.214*	-0.009	0.248*	0.239*
Regular update (F1) and Likelihood of using Smartphone	0.102		0.102	0.096		0.096
Expedition (F2) and Regular update (F1)	0.733*			0.632*		
Expedition (F2) and Likelihood of using Smartphone	-0.042	0.075	0.032	-0.036	0.060	0.024
Remittance (F3) and Likelihood of using Smartphone	0.367*	0.062	0.429*	0.334*	0.056	0.390*
Remittance (F3) and Stimulation (F4)	0.645*			0.729*		
Stimulation (F4) and Likelihood of using Smartphone	0.097		0.097	0.077		0.077
R <sup>2</sup>		0.217			0.178	

Note: Significant at: \*p<0.05

Figure – 3 Separate parameter estimates for male (M) and female (F)



**Conclusion**

This research paper has tried to examine the use of Smartphone apps as tool to promote healthy eating behaviors, avoiding intermediates, especially when ordering food in restaurant. Further, it aimed to develop a Conceptual model to Smartphone users' intention to use

Smartphone apps to promote smart payment from restaurant app's wallet and smart card. It could avoid nuisance and irritation in standing the queue and amount accuracy trouble at restaurant payment counter. Based on the discussion throughout this paper it can be concluded that Smartphone apps can offer opportunities in making behavioral changes in eating nutritional foods, eliminating intermediates (order

taker), and efficiency of bill making (cart), quick remittance from restaurant app's wallet and motivate the younger with seamless experience and adoption of technology. Restaurant business operators are advised to consider developing such architecture model (figure 1) for reshaping your business with innovative technology.

## References

- Bendegul Okumus and Anil Bilgihan (2014), "proposing a model to test smartphone users' intention to use smart applications when ordering food in restaurant", *Journal of Hospitality and Tourism Technology*, 5(1), 31-49.
- Byrne, B. (2006), "Structural Equation Model with EQS: Basic Concepts, Applications, and Programming", 2nd ed., Lawrence Erlbaum Associates, Inc, Mahwah, NJ.
- Chang, K. (2013), "How reputation creates loyalty in the restaurant sector", *International Journal of Contemporary Hospitality Management*, 25(4), 536-557.
- Edwards, J.S.A., Meiselman, H.L., (2005), "The influence of positive and negative cues on restaurant food choice and food acceptance", *International Journal of Contemporary Hospitality Management*, 17(4), 332-344.
- Hebden, L., Chey, T. and Allman-Farinelli, M. (2012), "Lifestyle intervention for preventing weight gain in young adults: a systematic review and meta-analysis of RCTs", *Obesity Reviews*, 13(8), 692-710
- Jungsun (Sunny) Kim, Natasa Christodoulidou, Yunjeong (Clara) Choo (2013), "Factors influencing customer acceptance of kiosks at quick service restaurants", *Journal of Hospitality and Tourism Technology*, 4(1), 40-63.
- Kincaid, C.S. and Baloglu, S. (2005), "An exploratory study on the impact of self-service technology on restaurant operations", *Journal of Foodservice Business Research*, 8(3), 55-64.
- LaRose, J.G., Gorin, A.A., Clarke, M.M. and Wing, R.R. (2011), "Beliefs about weight gain among young adults: potential challenges to prevention", *Obesity*, 19(9), 1901-1904.
- Malik, V.S., Willett, W.C. and Hu, F.B. (2013), "Global obesity: trends, risk factors and policy implications", *Nature Reviews Endocrinology*, 9, 13-27.
- Meuter, M.L., Bitner, M.J., Ostrom, A.L. and Brown, S.W. (2005), "Choosing among alternative service delivery modes: an investigation of customer trial of self-service technologies", *Journal of Marketing*, 69, 61-83.
- Nair, L. (2013), "Roanoke man creates custom smartphone apps for local restaurants", *Roanoke Times*, available at: [www.roanoke.com/living/food/frontburner/1885436-12/roanoke-man-creates-custom-smartphone-apps-for-local.html](http://www.roanoke.com/living/food/frontburner/1885436-12/roanoke-man-creates-custom-smartphone-apps-for-local.html)
- Royne, M.B. and Levy, M. (2011), "Marketing for public health: we need an app for that", *Journal of Consumer Affairs*, 45(1), 1-6.
- Totten, J., McKay, S. and Konell, S. (2009), "Another look at consumers' ratings of quick-service restaurant meals", *Journal of Foodservice Business Research*, 12, 292-316.
- Rachuri, K.K., & Mascolo, C. (2011), "Smartphone based systems for social psychological research: Challenges and design guidelines. In proceedings of the 3rd ACM S3 Workshop, New York, 21-23.
- Rehana Kouser, Syed Shafqat Abbas, Muhammad Azeem and Masoodul Hassan, (2014), "Consumer Attitudes and Intentions to Adopt Smartphone Apps: Case of Business Students", *Pakistan Journal of Commerce and Social Sciences*, 8(3), 763-779.
- Thomas, L. and Mills, J. (2006), "Consumer knowledge and expectations of restaurant menus and their governing legislation: a qualitative assessment", *Journal of Food services*, 12, 292-316.
- Verkasalo, H., Lopez-Nicolas, C., Molina-Castillo, F.J. and Bouwman, H. (2010), "Analysis of users and non-users of smartphone applications", *Telematics and Informatics*, 27(3), 242-255.
- Wu, J.H., Wang, S.C. and Lin, L.M. (2007), "Mobile computing acceptance factors in the healthcare industry: a structural equation model", *International Journal of Medical Informatics*, 76(1), 66-77
- Cho, H. and Fiorito, S.S. (2010), *Self-service Technology in Retailing: The Case of Retail Kiosks* available at: [www.unimib.it/upload/gestioneFiles/Symphonya/2010%2Cissue1/chofioritoeng012010.pdf](http://www.unimib.it/upload/gestioneFiles/Symphonya/2010%2Cissue1/chofioritoeng012010.pdf) (accessed 15 February 2011).
- Butler, C. (2011), "Kiosks order up faster fast food", available at: [www.kioskmarketplace.com/research/122/Restaurants](http://www.kioskmarketplace.com/research/122/Restaurants) (accessed 1 March 2011).
- KioskMarketplace (2010), "Subway to accept FaceCash mobile payments at select outlets", available at:

[www.kioskmarketplace.com/article/177802/SUBWAY-to-accept-FaceCash-mobile-payments-at-select-outlets?rc\\_id=122](http://www.kioskmarketplace.com/article/177802/SUBWAY-to-accept-FaceCash-mobile-payments-at-select-outlets?rc_id=122) (accessed 2 March 2011).

KioskMarketplace (2011), “More restaurants experimenting with iPad ordering”, available at: [www.kioskmarketplace.com/article/178537/More-restaurants-experimenting-with-iPad-ordering?rc\\_id=122](http://www.kioskmarketplace.com/article/178537/More-restaurants-experimenting-with-iPad-ordering?rc_id=122) (accessed 2 March 2011).

Obesity in America (2011), available at:<http://obesityinamerica.org/understandingObesity/diseases.cfm>