# Electronic-Tablet-Based Menu in a Full Service Restaurant and Customer Satisfaction -- A Structural Equation Model

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## Abstract

*Hospitality industry has been experiencing the innovation of technology to uphold its service quality for decades. Studies have suggested that the technology adoption would lead to beneficial consequences on operation performance. The current study was conducted to explore the effect of exploiting electronic-tablet-based menu on customer satisfaction in terms of information provided and waiting stuff. Quantitative data were collected from a full-service restaurant in New Zealand which adopted iPad as the menu display device. Two hundred and nineteen customers (N=219) were invited to make responses to the questionnaire. Analysis was undertaken with statistical software packs of SPSS 18 and Amos 20. The results of analyses confirmed the Structural Equation Model (SEM) proposed by the present study was good for describing the causal relationships among variables because it surpassed thresholds of model fit index. Furthermore, it was indicated that the information on the menu and the innovative technology in restaurant have positive impact on customer satisfaction. Nevertheless, service from waiting staff did not have significant impact to customer satisfaction.*

**Keywords:** restaurant technology, customer satisfaction, menu information, Structural Equation Model

## *1. Introduction*

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). Results of empirical studies have indicated that the service innovation (e.g., adopting technology in service delivery process) has a significantly positive impact on customer satisfaction and customer behavioural intention when patronizing with a restaurant (Su, 2011) and it could, in turn, expand the restaurant's market share and improve performance in service (Huber, Hancer, & George, 2010). Lately, electronic-tablet devices are changing our daily communication. Being aware of the functionalities and affordances of electronic-tablet (e.g., iPad), restaurant operators adopt electronic-tablet devices into restaurant operation for better service quality. The aim of current study is to explore the relationship of customer satisfaction and the exploitation of modern technology, namely, the electronic tablet-based menu. The research questions are listed as follow:

1. What do customers think of electronic tablet-based menu?
2. What are the relationships among information on menu, waiting staff, and innovative technology toward customer satisfaction?

In order to properly address the research questions, the framework of current study is structured as follow. First, pertinent studies relevant to the research questions are briefly reviewed followed by the research methodology, which outlines the rationale of the methodology adopted by the present study afterwards. Data analysis explains how the data are processed and analyzed in details. Discussion on the similarities and differences of the results elicited by the present study and prior studies are presented followed by conclusion and managerial implications in the end of the current study,.

## *2. Literature Review*

### 2.1 Technology and Restaurant Industry

To date, technology is becoming an important strategic asset for hospitality industry to improve services and products to maintain competitiveness (Nyheim & Connolly, 2012; Wang & Qualls, 2007). 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). Oronsky and Chathoth (2007, p. 954) suggested that "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 customers, attract new business and gain market share. Several studies have done to examine the influence of technology adoption in hospitality industry. For example, Wang and Qualls (2007) proposed a modified Technology Acceptance Model (TAM) model to describe the technology adoption process of hospitality organization. It was noted by them that a hospitality organization must be capable to analyse the strategic value of technology. The proposed model was acknowledged to have substantial contribution to the understanding of the dynamism of technology-adoption process by hospitality organizations. 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 decision-making. In sum, restaurant operator should be positive and assertive to restaurant technology and would eventually receive better performance as return.

#### 2.1.1 Innovation on Menu Displaying Device

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); therefore, innovation on menu is an issue appealing to restaurant operators to explore. Menu has been considered as a marketing tool and printed advertisement since it conveys message to customers and affects sales directly (Kwong, 2005; Reynolds, Merritt, & Pinckney, 2005). As the major source of information about a restaurant, ideally, a proper design menu will reinforce its image, set the guest's expectation for the forthcoming meal in terms of food and service quality, and provide a good return (Bowen & Morris, 1995; Kwong, 2005). The study conducted by Reynolds et al. (2005) explored whether the fonts, colours, layout, and the design may be the critical factors affecting customer's behaviour and the results indicated that the current menu design techniques which cannot effectively attract customers' attention would eventually affect the performance of the restaurant.

Consequently, the author implied that more extensive changes in menu design and product marketing may be required to increase the average check. This might be effectively achieved through the application of technology. Yet, whilst keenly seeking for technological assistance into operation, Piccoli, Spalding, and Ives (2001) pointed out that proper evaluation of customers, competitors, internal and external factors combined with technology would uncover many opportunities which could be used to increase the customer satisfaction within the context of hospitality industry. Their argument was supported by Dixon et al. (2009), who postulated that when restaurant operators are considering whether they should make investment in a specific new technology, they need to consider not only the costs and potential benefits of those innovations, but they also must understand customers' possible reactions to that technology. Proper assessment on the customer satisfaction in terms of technology implementation will help the restaurant develop sustainability and competitive advantage (Sethi & King, 1994; Victorino, Verma, Plaschka, & Dev, 2005).

Concerning customer's perception toward 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: 1) queue management (e.g., handheld order taking), 2) internet based (e.g., online-reservation, online ordering), 3) menu, 4), kiosks, and 5) payment related. Each addressed technology was found to provide benefits during stages of the dining process. It is noted that the respondents in this study seemed more comfortable with innovative technologies (e.g., electronic virtual menu in the tableside) in the early dining stage than with various payment options in the later stage. Particularly, the electronic virtual menu at tableside is of great interest to the respondents and is considered as the most valuable among the eleven technologies presented to them although only 27% of the participants had used it before. Nevertheless, this report was done in 2009 and the tablet-device was not as prevalent and advanced as the models of nowadays, it is worthy of exploring the updated innovation of menu devices and potential usage of electronic virtual menu with more insights.

Another study done by Buchanan (2011) examined whether the electronic tablet-based menu outperformed the traditional paper-based menu in terms of the ordering experience as well as to determine if such menus reported greater usability. The findings of this study were consistent with the statement that the use of technology did help to enhance the service quality. The results confirmed that the customers had a better experience when using the electronic tablet-based menu to order; furthermore, this study also specified that customers experienced greater usability with the this type of high-tech menus than their counterparts who used the traditional menus. However, several limitations was found in this study. For example, the participants were drawn from the patrons of a student-operated restaurant in the university, which restrained the generalizability of utilizing the electronic Tablet-based menu to all kinds of restaurants. The current study aims to focus on investigating the customer satisfaction on electronic tablet-based menu in a full-service restaurant and desires to explore the feasibility and potentiality of electronic tablet-based menu for practical application.

### 2.2 Customer Satisfaction

Over the years, hospitality industry and researchers cannot emphasized more on the importance of customer satisfaction because the ability to accurately judge customer satisfaction and to apply that knowledge is essential for hospitality organization operators to maintain customer retention and further establish long-term competitiveness (Gupta, McLaughlin, & Gomez, 2007; Kai-Wen, 2006). Oliver (1981) suggested that customer satisfaction judgments are the results of comparisons between customers' expectations and perceived performance. If the perceived performance exceeds the expectation, the customer is satisfied. On the other hand, if the perceived performance falls short of the expectation, the expectation is negatively disconfirmed and the customer is dissatisfied (Ogawa, Tanaka, Noda, Kawai, & Amoroso, 2012). Studies have greatly emphasized the importance of customer satisfaction as it is directly linked to the re-patron intention, word of mouth, and the sale performance (Barsky & Nash, 2003; Gupta et al., 2007; Han & Ryu, 2009). Thus, the issue of customer satisfaction has become an important topic in practical restaurants operation as well as in the academia.

For practitioners, knowledge of the relationship between key factors affected customer satisfaction is vital to survive in a competitive market (Arora & Singer, 2006; Yuksel & Rimmington, 1998). That is, if restaurant marketers know which perceived quality factors have the greatest gravity on customers' satisfaction, they could potentially identify the major elements of success or failure in a restaurant's management (Hwang & Zhao, 2010). Customer expectations are reflective of the physical component of a product as well as the concept the customer holds of that product (Walters, 1978). As mentioned in the previous section, the adoption of innovative restaurant technology would increase the customer satisfaction. The current study would further extend our understanding on this issue to the application of electronic tablet-based menu by a full-service restaurant and focus on the relationship between customer satisfaction on the information provided on menu and waiting staff.

### 2.3 Information Provided on the Menu

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. However, DeLone (1992) stated the ground rule of menu design is to satisfy the information needs of the customers. In other words, the information on the menu must be able to clearly inform the customers about the dishes they order. This study also suggested that the information quality and the user interface quality have a major effect on the customer's information satisfaction, which implied that the contents of the menu are essential for customer satisfaction as well as the manner menu presents. Previous studies argued that, as part of customer service, restaurants should be responsible for providing information to their customers on the nutritional content of food items that may be detrimental to their health (McCall & Lynn, 2008b; Mills & Thomas, 2008). Mills and Thomas (2008) developed a model to evaluate customer information expectation—Customer Information Expectation of Restaurant Menus (CIERM), which suggested that the customers expect to see the nutrition fact, production information and food preparation on the menu, and would eventually have an impact toward their satisfaction on the dining experiences.

Another work done by McCall and Lynn (2008a) examined how complexity of menu description can increase perceptions of item quality, expected price, and selection likelihood. The study suggested that restaurateurs would receive significant benefits by carefully crafting menu descriptions that emphasize food preparation and presentation.

In line with McCall and Lynn (2008a), Mills and Thomas (2008) further indicated that understanding customer information expectation was an integral part that every successful restaurant establishment should have. Being aware of the prevalent electronic tablet, the current study adopted iPad as a menu-displaying device to replace the traditional-paper-based menu and attempted to shed light on the impact of utilizing the electronic-tablet-based menu on customer satisfaction.

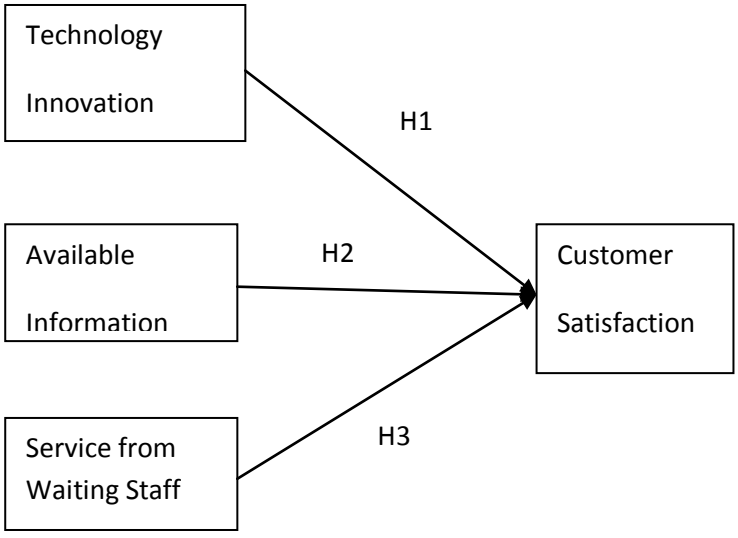
### 2.4 Waiting staff

Waiting staffs (waiter/waitress) are an important variable in restaurant management as they are at the frontline of interacting with customers. Studies suggested that the importance of waiting staff (Pratten, 2004) who create a mutual understanding with the customer by responding to special requests, sharing food and beverage information, and waiting on customers' needs (Qin & Prybutok, 2008). Pratten (2004) further indicated that waiting staff is the key representatives of the outlet and they can increase the satisfaction of the customer encounter if they can receive appropriate quality and quantity of training (Qin & Prybutok, 2008; Tucci & Talaga, 2000). Bitner (2001) pointed out that technology is profoundly changing the nature of services and the ways a business interacts with their customers. With the affordance of technology, the waiting staff can deliver services in an innovative fashion such as exploiting hand-set ordering devices. Yet, question on whether restaurant technology is advantageous for waiting staff to provide high quality service remains unanswered. Ogawa et al. (2012) suggested that in light of service from waiting staff and the adoption of innovative restaurant technology, customers preferred a combination of the two ideas, which emphasized a need for the information providers to establish a process and tools for supporting human interaction. According to Bitner (2001), it is incumbent upon business entities to develop technology-based services that can provide service of identical quality that customers expect from interpersonal service providers. That is, interpersonal contacts between waiting staff and the customers are still irreplaceable at current stage. The current study adopted iPad as the menu-displaying device. While examining the influence of information on iPad menu toward customer satisfaction, the current study would also explore the impact on service from waiting staff in terms of the interaction between customers and the waiting staff.

## *3. Methodology*

The reviewed literatures emphasized the importance of understanding customers' satisfaction towards restaurant technology in terms of electronic tablet-based menu. In order to investigate the research questions proposed by the present study, the quantitative method was undertaken. Aiming at presenting the public awareness toward particular issue through a model-testing fashion, the quantitative methodology was used because "quantitative research is a means for testing objective theories by examining the relationship among variables and these variables can be measured, typically in instrument, so that numbered data can be analysed using statistical procedure" (Creswell, 2009, p. 4). In this study, questionnaire would be the major research instrument for data collection to test the conceptual model and research hypotheses. The conceptual model proposed by the present study is presented in Fig. 1 and research hypotheses are introduced accordingly:

**Figure 1: Conceptual Model Proposed by this Study**



H1: Technology innovation of menu has a positive effect on customer satisfaction.
H2: Information available on the innovated menu has a positive effect on customer satisfaction.
H3: Service provided with technology innoation has a positive effect on customer satisfaction.

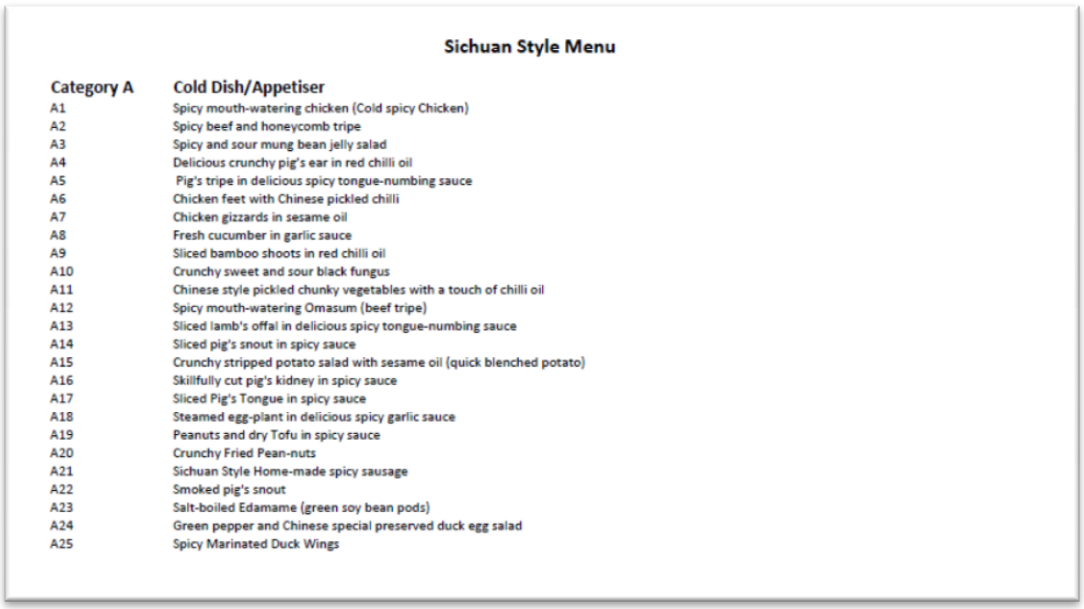
### 3.1 Instrument

In order to assess customer satisfaction on electronic tablet-based menu, a questionnaire survey was administered by the current study, which comprised of 28 questions on four aspects of customers' perception toward iPad menu; namely, general attitudes toward the use of electronic tablet-based menu, waiting staff with iPad menu, information provided on iPad menu and satisfaction toward the ordering experience in respect of using electronic tablet-based menu. The first 20 questions were close-end with seven-point Likert scale (1 = strongly disagree; 7 = strongly agree) for structural equation model (Bollen, 1989). The rest questions were designed to collect respondents' demographic information. The items on the questionnaire were generated based on the literature reviewed in previous section with certain modifications to fit in this research context. In order to ensure the reliability as well as the validity of this instrument, Cronbach's alpha, Composite Reliability (CR), Average Variance Extracted (AVE) and factor analysis were applied to perform such examination. The result of Cronbach's alpha ($\alpha$ = .864) indicated that this questionnaire had a good internal consistency and thus was reliable. Furthermore, composite reliability of each constructs was acceptable (CR >.6) (Fornell, & Larcker, 1981) except the construct of "service from waiting staff" which had only .50 as its CR value. AVE values of all constructs confirmed the convergent validity of this questionnaire (AVE > 0.25) (Hair et al., 2006, p. 808). The CR and AVE values of four constructs were based upon the results of reliability and validity examinations, we could state that this questionnaire was a reliable and valid instrument to measure the latent variables of the proposed conceptual model.

### 3.2 Sampling and Research Procedure

The convenient sampling technique was utilized by the current study and the customers who ordered meals with iPad menu at a Chinese restaurant in Hamilton, New Zealand were invited to join this study with their consent. A total number of 219 participants agreed to partecipate and filled out the questionnaire in the June of 2012. The iPad menu is the major cuisine information source, and the paper-based menu only available by customers' request. Notably, before the iPad menu was utilized, the menu was paper-based with the names of every dishes spread out on a piece of two-side, A3 paper. Figure One demonstrated the layout of paper-based menu while Figure Two represents the how the iPad Menu looked like. After electronic-tablet-based Menu was adopted, the pictures of the dishes were added into the menu as shown in the Figure Two.

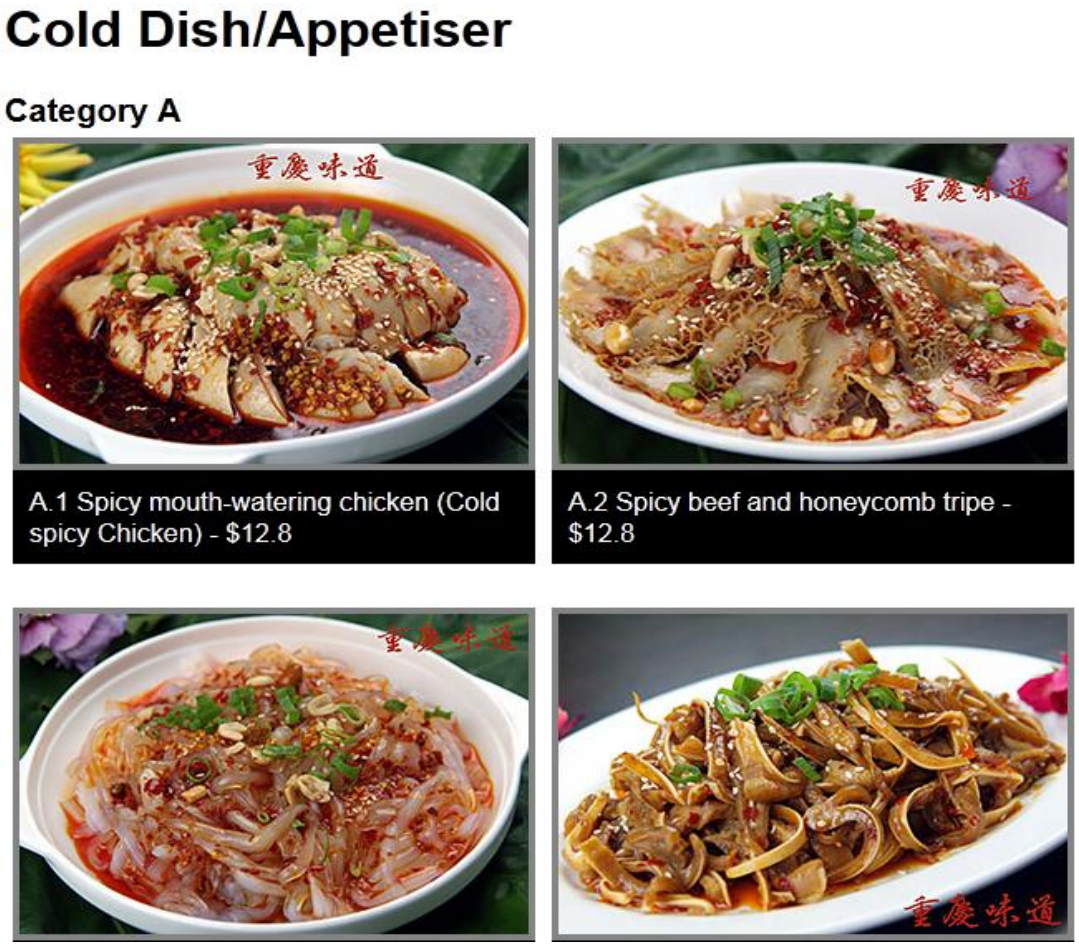
**Figure 2: Paper-based Menu**



**Sichuan Style Menu**

| Category A | Cold Dish/Appetiser |
|---|---|
| A1 | Spicy mouth-watering chicken (Cold spicy Chicken) |
| A2 | Spicy beef and honeycomb tripe |
| A3 | Spicy and sour mung bean jelly salad |
| A4 | Delicious crunchy pig's ear in red chilli oil |
| A5 | Pig's tripe in delicious spicy tongue-numbing sauce |
| A6 | Chicken feet with Chinese pickled chilli |
| A7 | Chicken gizzards in sesame oil |
| A8 | Fresh cucumber in garlic sauce |
| A9 | Sliced bamboo shoots in red chilli oil |
| A10 | Crunchy sweet and sour black fungus |
| A11 | Chinese style pickled chunky vegetables with a touch of chilli oil |
| A12 | Spicy mouth-watering Omasum (beef tripe) |
| A13 | Sliced lamb's offal in delicious spicy tongue-numbing sauce |
| A14 | Sliced pig's snout in spicy sauce |
| A15 | Crunchy stripped potato salad with sesame oil (quick blenched potato) |
| A16 | Skillfully cut pig's kidney in spicy sauce |
| A17 | Sliced Pig's Tongue in spicy sauce |
| A18 | Steamed egg-plant in delicious spicy garlic sauce |
| A19 | Peanuts and dry Tofu in spicy sauce |
| A20 | Crunchy Fried Pean-nuts |
| A21 | Sichuan Style Home-made spicy sausage |
| A22 | Smoked pig's snout |
| A23 | Salt-boiled Edamame (green soy bean pods) |
| A24 | Green pepper and Chinese special preserved duck egg salad |
| A25 | Spicy Marinated Duck Wings |

**Figure 3: Electronic-Tablet-Based Menu**




### *4. Results and Findings*

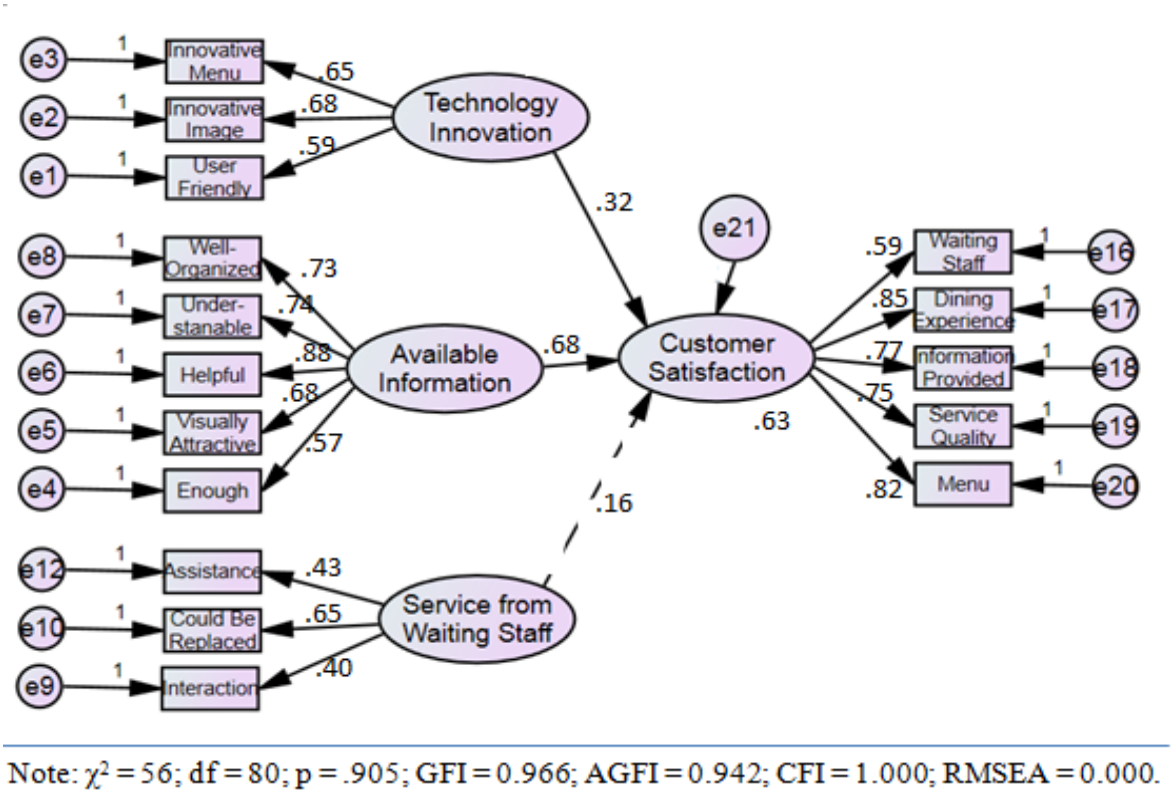
After the questionnaires were collected, normality and descriptive analysis were performed with the application of Statistical Packages for the Social Sciences 18th Edition (SPSS 18). The proposed model was with the software of the Analysis of Moment Structure (AMOS 20), a Structural Equation Modelling (SEM) program. Of the 219 valid questionnaires being collected 51% of them were completed by male customers and 81% of the respondents had visited the restaurant at least once before. The largest group of respondents was between the ages of 21 and 30 years (50%). In the respect of ethnic backgrounds of the respondents, 51.6 % of the respondents was non-Chinese, local New Zealanders (28.8%) and customers from countries such as India, United States (22.8%). The data showed no departure from normality between items. Demographic information of the participants were presented in the following Table 1.

**Table 1: Demographic Data of the Participants**

| | Frequency | Percentage |
|---|---|---|
| *Gender* | | |
| Female | 131 | 49% |
| Male | 138 | 51% |
| *Ethnic Group* | | |
| Chinese | 132 | 50% |
| New Zealanders | 73 | 27% |
| Others | 62 | 23% |
| *Education* | | |
| High School | 30 | 11% |
| College | 119 | 48% |
| Post-graduate | 113 | 41% |
| *Employment Status* | | |
| Student | 120 | 44% |
| Self-employed | 31 | 12% |
| Retired | 5 | 2% |
| Others | 114 | 42% |

In light of examining the proposed SEM, the Maximum Likelihood Estimation (MLE) procedure with covariance matrix method was used to perform the analysis. In assessing the model as a whole, chi-square, the related degrees of freedom, and the p value were reported. In addition, absolute indexes of fit—the goodness-of-fit index (GFI), the adjusted goodness-of-fit (AGFI), and the comparative fit index (CFI)—were reported. GFI, AGFI, and CFI values that are greater than 0.90 indicate models with a good fit. The final index reported in the analysis is the root mean square error of approximation (RMSEA), where values less than 0.05 indentify the goodness of fit; values as high as 0.08 represent reasonable errors of approximation in the population. Results of the CFA analysis follow. The impact of innovative technology, information provided on the menu, and the service from the waiting staff on customer satisfaction of restaurant menus was examined. Model fit was achieved with the removal of the construct type of restaurants, which showed unusually large standardized estimates. Final model fit for the expanded model was $\chi 2 = 56$; $df = 80$; $p = .966$; GFI = 0.966; AGFI = 0.942; CFI = 1.000; RMSEA = 0.0000, indicating that the model fit the data reasonably well and the model was shown in Figure 4.

**Figure 4: The Structural Equation Model of This Study**




The standardized path coefficients display the results of research hypotheses testing, which mainly examined the effects of electronic-tablet-based menu design toward customers' satisfaction from three aspects including technology innovation (H1), information available on the menu (H2) and service from waiting staff (H3) toward customers' satisfaction. The results suggested standardized estimates were substantively reasonable and statistically significant at $p$ = .0001 or .001 level. H1 and H2 were supported with the perceived values (β=.32 and .68) respectively. The factor 'Service from Waiting Staff" was shown no statistical significance in the current model ($p$ =0.21). In other words, H1 and H2 were supported while H3 was not significant enough to be supported.

## *5. Discussion*

The present study aimed at examining the effects that innovation of restaurant technology, available information on the menu, and the service from the waiting staff would cause toward customers' satisfaction. The participants of the current study indicated that the information on the menu was considered having great impact on customer satisfaction (β=.68) and the innovation technology in restaurant did make them more satisfied with the restaurant (β=.32), whilst the service from the waiting staff found no statistical significance in the model. On the construct of available information, the model revealed that there were four descriptors which were ranked by the first-order factor loading of "Information was helpful to help customer place order" (λ=.88), "the information on the electronic-tablet based menu was well organized" (λ=.73), "understandable" (λ=.74), and "visually attraction on the menu" (λ=.68). Such results explicated that customers paid more attention to the layout and the readability of the information on the menu, which echoed the statement of Ogawa et al. (2012). Mills and Thomas (2008) postulated that to impress customers with positive dining experience, the presentation of the menu would be the critical factor and it should consist of pictures, item descriptions, and potentially the nutritional information contained on the menu.

Consequently, when restaurant operators are designing a new menu, instead of trying to include too much information, presenting the information in a systematic way is considered as a better strategy (DeLone, 1992). However, it is noted that the restaurant in the current study was a Chinese Ethic restaurant in New Zealand. Due to various culture backgrounds of the respondents, the perceptions toward the usage of the electronic-based Menu, especially the information available on the menu would differ and therefore the customer satisfactory would be affected. Thus, the cultural background of the customer has to be taken accounted when menu designing if future study is to be undertaken. Developments in restaurant technology have dramatically altered the way restaurant owners and/or managers operate their business (Law, Leung, Au, & Lee, 2012).

In the view of technology innovation, the participants pointed out that the iPad menu was the state-of-the-art (λ=.65), which also reflected the trendy image of the restaurant (λ=.68) as well as their efforts to be customer-friendly (λ=.59). Dean (2011) suggested that the technology being developed and implemented by restaurants is ultimately going to improve service quality and customer satisfaction; therefore, food service operators are practicing the technological advance into their operation. In line with several studies (Asif, Javed, & Saleem, 2011; Bitner, 2001; Dean, 2011), restaurant operators who adopt innovative technology on customer services could have better opportunity to increase customer satisfaction. Nevertheless, the second-order factor loading of innovative technology (β=.32) was relatively lower than the available information on the menu (β=.68). The results revealed that information on the menu was more essential to the participants whereas albeit the iPad menu was an innovative manner of menu presentation, it showed a relatively weak relationship to customer satisfaction.

Concerning the customer satisfaction, among the five first-order factors proposed in the conceptual model, the overall dining experience was found to have great impact on customer satisfaction (λ=.85), following by the electronic-based menu (λ=.82), information provided (λ=.77) and service quality (λ=.75). This result indicated that although technology innovation (e.g., electronic-based menu) had positive effects on customer satisfaction, the overall dining experience was more crucial to customers. That is, the adoption of innovative technology per se would not lead to better restaurant operation; in order to enhance the overall dining experience, more concerns would need to be taken in account to excel in restaurant operation. It is noted that the factor "waiting staff" was not significant enough to be considered as critical as the other two and this result indicated that the waiting staffs in this restaurant were not the main contributor to customer satisfaction.

## *6. Conclusions and Recommendation*

Since customer satisfaction was closely related to the restaurant profits, restaurant owners or managers should be familiar with the development of the cutting-edge technology and apply it to restaurant operation. The current study explored how innovative restaurant technology influences the customer satisfaction. The results in the present study suggested that innovation on restaurant technology and the information provided on the menu had positive influence on customer satisfaction. As an advancement of menu displaying, the electronic-based menu provides great opportunities for restaurant owners and managers to think about other potential applicability in restaurant operation. Since technology plays an important role in operation and management of restaurant business or hospitality industry, it is beneficial, and indeed essential, for managers, practitioners as well as researchers to stay informed about the development of restaurant technology and its applications (Law et al., 2012).

The present study is not without limitations. First, the electronic-based-menu adopted in the present study did not optimized its applicability, which was only a menu display device, customers still needed to place their order through waiting staff. However, as the study of Buchanan (2011) reported, self-service restaurant with electronic tablet menu can promote customers' satisfaction. Further investigation is in need to explore the feasibility of exploiting electronic-tabled-based menu as an ordering device at a full scale. Last but not the least, one of the construct in the current study "The service from the waiting staff" indicated no statistically significance on customer satisfaction, which was opposite to the argument of reviewed studies. Since waiting staff is an essential role in restaurant service, the relationship of waiting staff on customer satisfaction in terms of innovative technology adoption still has to be explored. Consequently, more research on this topic should be initiated. In conclusion, electronic menu offers great potential for the restaurant industry and almost certainly will become a feature that most customers expect to have experience on them. Successful applications of technology to the dining experience, by means of such use of advanced point-of-sale systems and iPad menu, can not only help alleviate a restaurant's financial burden but also generate higher level of customer satisfaction (Kimes, 2008). One thing is advised to be kept in mind is the appropriateness of technology being used to benefit customers and operators (Buchanan, 2011; Dixon et al., 2009). By understanding the customers' preference to technology and the likelihood they are to use them, the operators can make a better decisions on which technologies would or should be utilized (Dixon et al., 2009; Nykiel, 2001; Su, 2011).

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