

An Exploratory Study of Using Electronic-Tablet Based Menu in the Egyptian Hotel Industry: Management Perspective

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Abstract:

Hotel industry has been experiencing the innovation of technology to support its services for decades. Menu has been considered as an effective tool for sales in food and beverage operations as it drives the production and selling decisions. The current study was conducted to investigate the potential effect of applying electronic-tablet-based menu (potential ordering experience) on information presenting and economies of scale and scope. Data was collected from the Egyptian hotels industry in Cairo. Thirty six food and beverage and restaurant managers [N=36] were invited to answer the questionnaire. Analyses were undertaken using SPSS version-20. The findings confirmed and described the relationships among dependent and independent variables. It was indicated that managers have a high perception of the potential ordering experience, which has the highest significant relationship with the informational role [$r=0.60$, $P<.000$]. Furthermore, there was a moderate significant relationship with the scope economies role [$r=0.45$, $P<.006$]. Finally, applying electronic-tablet-based menu only affects information presenting and economies of scope [Coefficient 1.05 and 0.72], respectively.

Keywords: Hotel industry, E-Tablet Based Menu, Information Presenting, Scale and Scope Economies.

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Introduction

The implementation of technology has potential benefits to customers as it helps improve quality and customer convenience, and increase control (Kimes, 2009; Buchanan, 2011). Continuous and improved food ordering techniques have greatly influenced hospitality business and increased competition. To effectively manage a restaurant, time saving and cost optimizations are important clues to be considered. Reduction in time by a few seconds for each table may increase efficiency and boost profits through speeding up order processing (Sarkar et al., 2014).

The service process has been redefined and reshaped by technology in an innovative manner in hospitality organizations (Nykiel, 2001; Nyheim and Connolly, 2012). In turn adopting technology in service delivery process expands the restaurant's market share and improves performance in service (Huber et al., 2010; Hsu and Wu, 2013).

According to Parasuraman (2000) the quality of service of a technological tool depends on how the technology is accepted and used by users. The propagation of self-service technologies (SSTs) in foodservice organizations has permitted customers to co-produce a service with minimal patronage (Meuter et al., 2005). The introduction of restaurant kiosks helps restaurant managers facilitate customer needs, which may depend on customer characteristics as customers can have the opportunity to be co-producers in the service. Again, using SSTs represents a source of customer satisfaction through the ease of use, time saving, convenience, and the avoidance of service personnel somehow to prevent service errors (Beldona et al., 2014).

The adoption of computer and telecommunications equipment can provide another basis for both economies of scale and scope. Despite the large set-up costs required, computer and other electronic systems can process a large volume of transactions at a small additional cost per transaction (Clark, 1988).

Doubtless IT has empowered hotel customers with better information and more choices, and thus accelerated change in customer communication, especially the growth of mobile marketing (Dickinson et al., 2014; Dieck and Jung, 2015; Hao et al., 2015; Wang et al., 2015; Chen et al., 2016). The implementation of e-menus in hotels has allowed restaurateurs to provide their guest with graphical presentations and offers, nutritional information, and the origin of ingredient (Rousseau, 2011; Buchanan, 2011; Beldona et al., 2014).

White (2005) further highlighted the need for electronic menus to be visually appealing to the customers as this will affect the guest's perception of the menu. Thus it is important that the menu is of good quality, interactive, and relevant for the intended audience. Accordingly, the present study proposes that the

next wave of innovation will come from the accelerating growth in mobile tablet technology, particularly the extension of their applications and their functionality such as electronic tablet-based menu.

Since the e-menus have not yet been studied for its use in the scale economies, the current study aims to assess the managers' perception in 5-star hotel restaurant of modern technology (electronic tablet-based menu), and to explore the potential relationship between electronic tablet-based menu and the presentation of information, and the increase of the scale and scope of economies.

Literature

Technology has provided restaurant managers with many opportunities to improve their menus. Restaurant managers believe that technology has the potential to increase the speed of service, to provide greater opportunity to customize meals, and to provide customers with more detailed information, which leads directly to customer satisfaction (Kimes, 2008; Beldona et al., 2014).

Now, tablets and kiosks provide a viable medium for presenting and transacting the sale of food due to the rapid growth of intuitive touch-screen technology combined with powerful displays and faster communication open-platforms (Lowrey, 2011; Mark, 2012; Ion, 2013; Beldona et al., 2014). These open-platforms are operating systems that support the commonly used hardware and application of software packages, and permits these systems interface with each other (Tesone, 2006).

In Australia earlier in 2010, one technology that is growing in popularity for food service industry is the iPad menu, which was used in hotels' restaurants (Simpson, 2010). The National Restaurant Association's annual "What's Hot" culinary forecast reported that about 30 percent of participants agreed that tablet menus would be among the hottest technology trends in the restaurant industry for 2013 (National Restaurant Association, 2012).

Electronic tablet-based menu has transformed behaviours, information needs, decision making, and experiences (Dickinson et al., 2014; Wang et al., 2014), thereby altering the way hotels market and sell their products and services to customers. Using mobile-tablet technology has identified information access and money savings as a perceived benefit to consumers (Kim et al., 2008; Chen et al., 2016). Actually, tablet menus have distinctive functionalities that differentiate them from traditional paper-based menus. Being aware of the capabilities of electronic-tablets and their touch screen interface, a significant human-technology interaction was found (Kumar et al., 2004; Hsu and Wu, 2013; Beldona et al., 2014), (see figure 1).



Figure 1: An Example of Electronic Tablet-based Menu

In this context, it is said that “People eat with their eyes”. E-tablet menus extend interactive perception to customers to explore small differences of the menu items based on individual needs; to view available visuals, and ultimately to get more enhanced information about the orders as a whole (White, 2005). Also, tablets are said to reduce order-taking errors. The users can browse the menu whenever they want to, and sort the items on various elements such as prices, popularity ratings, sales etc. The user can also judge more information about presented items like ingredients, nutritional information, and any other useful information. The user can also view personalized recommendations for items. This doesn't only lead to the enhancement of customer experience but can also help in increasing the revenue for business (Bharadi et al., 2013).

In fact, customers are living in an information sensitive environment and need all the necessary information in order to make their final menu decision (Cranage et al., 2004). Also, customers become more aware of cooking methods, and hence, they develop higher expectations regarding the available information of the menu items such as ingredients and preparation methods (Mills and Thomas, 2008; Fakhri et al., 2016). Understanding customers' information expectation represents an essential role in the success of hotels as the information provided to customers ultimately guide and affect the customers purchasing decisions (Cranage et al., 2004; Mills and Thomas, 2008; Buchanan, 2011) and contribute to inducement of sales (Ellson, 2009; Mills and Thomas, 2008; Hsu and Wu, 2013).

The menu is considered as an integral part of a hotel's core strategy. On the one hand, it is used as a marketing tool to influence customer's purchasing decision and behavior. On the other hand, it is modeled to match the operational strategy of a hotel. The menu uses a variety of elements to affect customer responses such as the physical background, paper texture, color, images, positioning of items, price, and font size and style (Beldona et al., 2014).

Economies of scale and scope

Industry structure is influenced greatly by the nature of production economies. If an industry's technology allows for both economies of scale and economies of scope, the industry will tend to be made up of large diversified firms (Clark, 1988).

Two types of production economies may be achieved by individual firms in any industry, namely, economies of scale and economies of scope. Economies of scale which refer to increasing returns to scale (IRS), exist when the cost of producing one unit of a product or a service decreases as the volume of production increases (Wang, 2005), while economies of scope arise from the joint production of a particular product with other products. If production efficiency can be enhanced by adding a particular product to a given product mix, then product-specific economies of scope exist (Clark, 1988).

There are many reasons for the rises of economies of scale. A large operation allows labour specialization that improves the productivity and reduces the labour switching time. While, the increase of output volume makes it possible to use more indivisible inputs with the highest productivity and hence reduce the costs (Wang, 2005).

Cullen (1997) specifically addressed the issue of economies of scale in hotel operations and proposes areas in which economies of scale may exist. Economies of scale in hotel operations can be achieved in purchasing, production, management, personnel, marketing, and finance. A large hotel firm can realize lower purchasing cost if services are standardized so that large quantities are bought. Significant economies may also be found in training and deployment of managers and other highly skilled personnel. For example, standardization of training can reduce the cost of training.

Economies of scale are more likely to be found at group levels as horizontal integration manifests among hotels. Hence, the level of competition is largely reduced by internalizing the externality, and managerial experience and knowledge will spill over (Shi and Smyth, 2012). On the other hand, according to Panzar and Willig (1981) when operations are more economical or efficient to produce two or more outputs jointly in a single organization than to produce the outputs in separate specializing ones, then economies of scope is recognized.

Although economies of scope may exist in an industry, they may not greatly change over time and are thus unlikely to explain functional and dynamic changes in markets. The required stock of knowledge and inputs for efficient production in an industry are often indicated as main sources of economies of scope,

but they do not probably change as much as do variables that influence economies of scale (Sung and Gort, 2000).

It would be better for large-scaled hotels to adjust their product mix to differentiate more integrated hotel services that are cost complementary to each other to achieve economies of scope. In other words, the cost advantages in providing each pair of these hotel services are derived from cost savings when common inputs are shared and fixed costs are spread over an expanded product mix (Weng and Wang, 2006).

Methodology

In order to answer the research questions, the quantitative method was used. The study aims to answer the following questions: What do managers think of electronic tablet-based menu? Can electronic tablet based menu be used to improve information presentation (color coding/calorie information/ graphic summary)? Can electronic tablet based menu be used to increase economies of scale in hotels? Can electronic tablet based menu be used to increase economies of scope in hotels?

To test the proposed conceptual model and research hypotheses of this study, a questionnaire was used for data collection. The conceptual model (dependent and independent variables) in this study is presented in Fig. 2. The research hypotheses are introduced as follows:

- H1:** Potential ordering experience using electronic tablet-based menu has a positive influence on information presenting.
- H2:** Potential ordering experience using electronic tablet-based menu has a positive influence on economies of scale.
- H3:** Potential ordering experience using electronic tablet-based menu has a positive influence on economies of scope.

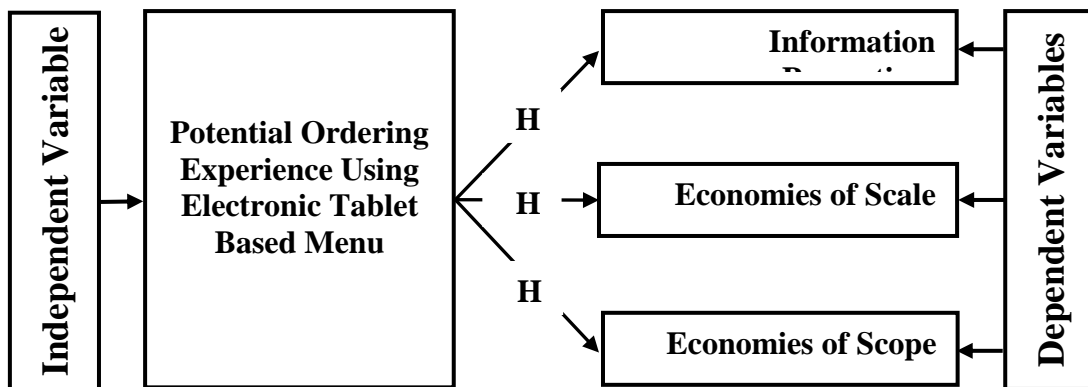


Figure 2: Conceptual Proposed Model for the Study

Data Collection

Instrument

The initial questionnaire was prepared and conducted with two identified groups for comments. The two identified groups were 4 academic staff, 4 hotel restaurant managers (5-Star) to detect potential problems in the questionnaire design, clarity, and wording (Zikmund et al., 2013). They commented positively on the overall layout, instruction and design of the questionnaire. They also had no serious problem with clarity, or wording. However, a few items were reworded to improve the comprehensibility and clarity of the questionnaire.

The questionnaire included four main parts. The first part included 5 statements measuring manager’s awareness of tablet-based menu based on Yepes (2015) and the author. The second included 7 statements measuring the potential ordering experience using electronic tablet-based menus based on Buchanan (2011) and Beldona et al. (2014). The third included 3 statements measuring the potential informational role of electronic tablet-based menus based on Yepes (2015). The final part measures the

potential economic role of electronic tablet-based menus based on <http://www.imenucards.com>; <http://www.seamlez.com> and the author. All statements, except the first part, were measured via a 5-point Likert scale (1 = completely disagree to 5 = completely agree).

Sampling and Research Procedure

Data were collected in five-star hotels' restaurants located in Cairo. The participants of the study are food and beverage and restaurant managers as they are qualified to give their potential experience when using electronic tablet-based menus in hotel's restaurant. The participants were selected using the convenient sampling method. Fifty questionnaire forms were distributed from November 1 to December 30, 2015. After eliminating invalid responses, a total of 36 questionnaire forms were valid for data analysis (a response rate was 72%).

Results and Discussion

Reliability and Validity

First, the mean substitution method was used in order to replace missing data. Average descriptive scores on each subscale of potential ordering experience, potential informational role, and potential scale and scope economic role had been calculated as shown in tables 1, 2, and 3. Cronbach's Alpha based on standardized items was computed for each construct. Overall, each of the scales demonstrated acceptable reliability in the present context matching the reliability level recommended by Nunnally and Bernstein (1994) (average reliability $\alpha = 0.649$). As for the constructs' approximated validity, each cue realized a significant correlation ($p < 0.01$), which provided preliminary evidence for validity.

Descriptive Statistics and Correlation Analysis

The descriptive statistics revealed that 100% of the study sample (managers) had previously used/owned tablet or iPad devices. Also, they have known before about using the electronic tablet based menu in the international hospitality industry. On the other hand, they assured that their hotel restaurants don't use those electronic tablet-based menus. According to their opinions, this may be due to the financial factors, beside the technical ones.

The study describes three main dimensions in detail as follows:

First: potential ordering experience. The cues (the customer can feel an increased sense of participation in the ordering process) and (the customer can feel the menu is enjoyable) showed the same highest descriptive scores (Mean = 4.75). Followed by the cue (It can give daily special offers in a convenient manner) with a Mean = 4.69 as shown in table 1.

This increased sense of participation and enjoyment, may be due to the expected interactivity when using tablet menus, while this sense cannot be found in traditional menus. Also, the restaurant can give customers daily special offers with no cost like the traditional menu. These results agreed with White (2005) who stated that an important aspect of the e-menu is its interactivity. The participation of the customers to be a co-producer in the service depends on the occurrence of good interactivity.

Table 1: Understanding the potential ordering experience of E-Tablet-Based Menus

Items	N	Mean	Std. Deviation
It can visualize what the orders would look like.	36	4.25	.439
It can give a good understanding of the menu ingredients in a multi language support.	36	4.47	.506
It can give daily special offers in a convenient manner.	36	4.69	.467
It can give a unique experience through the sophisticated touch, captivating images, music, sound animation, video and detailed description.	36	4.00	.000
The customer can feel certain about what he order.	36	4.50	.507
The customer can feel an increased sense of participation in the ordering process.	36	4.75	.439
The customer can feel the menu is enjoyable.	36	4.75	.439
Average potential ordering experience	36	4.486	.2206

Second: potential informational role. The cue (Having color coding, calorie information and graphic summary on menus can improve the overall customer ordering experience) has the highest descriptive score (Mean = 4.64) as shown in table 2.

Using e-menus enables the restaurateurs to make an effective color coding, calorie information and graphic summary, all result in improving the overall customer ordering experience. This may be due to the expected capabilities of tablet menus than traditional ones especially graphic summaries as mentioned by Rousseau (2011), Buchanan (2011) and Beldona et al. (2014).

Table 2: Understanding the potential informational role of E-Tablet-Based Menus

Items	N	Mean	Std. Deviation
It can improve (color coding/calorie information/ graphic summary) on menus.	36	4.50	.507
Applying (color coding/calorie information/ graphic summary) can be a suitable communication tool for nutritional information.	36	4.56	.504
Having (color coding/calorie information/ graphic summary) on menus can improve the overall customer ordering experience.	36	4.64	.487
Average potential informational role	36	4.561	.3119

Third: potential economies of scale and scope role. Generally, the cue (Electronic tablet-based menu is visually appealing and influence customer purchase decision) showed the highest descriptive score (Mean = 4.61). For the economies of scale role, the cue (Electronic tablet-based menu affects the economies of scale (selling the same item in a big number) showed the least descriptive score (Mean = 2.67). On the other hand,

for the economies of scope role, the cue (Electronic tablet-based menu affects the economies of scope: selling items with regard to other items) showed a Mean of 4.56 as shown in table 3.

E-menus help customers have the best visual appealing due to the quality and quantity of presented information that affects positively on the scale economies. This result agreed with Cullen (1997) who stated that economies of scale in hotel operations can be achieved in purchasing.

Table 3: Understanding the potential scale and scope economic role of E-Tablet-Based Menus

Items	N	Mean	Std. Deviation
Electronic tablet-based menu is visually appealing and influence customer purchase decision.	36	4.61	.494
Electronic tablet-based menu increases the average amount customers spend.	36	4.14	.593
Electronic tablet-based menu affects the economies of scale (selling the same item in a big number).	36	2.67	.478
Electronic tablet-based menu affects the economies of scope (selling items with regard to other items).	36	4.56	.504
Average potential scale economic role	36	3.8139	.26312
Average potential scope economic role	36	4.4000	.36332

The average overall descriptive statistics of means and standard deviations for each of the measures are displayed in Table 4. The descriptive statistics showed that the mean score for potential ordering experience was 4.48 (SD=0.22), indicating that the managers reflected a moderate degree of their perception.

Buchanan (2011) studied whether the e-tablet-based menu overrun the traditional paper-based menu in terms of the ordering experience. His findings were consistent with the statement that the use of technology helps enhance the hotel service quality. Furthermore, the present study also assured that consumers experienced greater usability with this type of high-tech menus than their coordinates who used the traditional menus.

Furthermore, Ofei et al. (2014) noted that electronic ordering can respond directly to customer's needs and reduce the probability of taking wrong orders that reflects enhancing food intakes and cutting the rate of plate wastes. It is evident that investing in information technology will reduce hotels' costs, increase their productivity, and also add a value to the services offered to their consumers. Therefore, investments in IT applications have increased over the past decades in hotels (Ham et al., 2005; Piccoli, 2008; Hartwell et al., 2016).

Also, the level of potential informational role (M=4.56, SD=0.31) was relatively higher than the mean scores for potential scale and scope economic role (M=3.81, SD=0.26 and M=4.40, SD=0.36, respectively). As expected, a high positive correlation between potential ordering experience as a dependent variable and potential informational role exists [r=0.60, P<.000].

Table 4: Descriptive Statistics and Inter-Correlations of Study Variables

Construct	1	2	3	4
1. Potential ordering experience	1.000			
2. Potential informational role	.608(**)	1.000		
3. Potential economies of scale role	.300	.086	1.000	
4. Potential economies of scope role	.450(**)	.064	.510(**)	1.000
Mean (M)	4.48	4.56	3.81	4.40
Standard Deviation (SD)	.2206	.3119	.2631	.3633

** Correlation is significant at 0.01 level (2-tailed).

Noticed is much focus on menu information in recent years (Mills and Thomas, 2008; Josiam and Foster, 2009; Howlett et al., 2009; Kim et al., 2012; Fakhri et al., 2016). A study on food labels, Hawley et al. (2013) proposed that a “traffic light” labeling system is the best to help customers identify healthier products, with red, green, and amber traffic-light codes indicating sugar, saturated fats, and salt, respectively.

The present results showed to be in line with expectations, as there is a significant and positive correlation with the potential economies of scope role [$r=0.45$, $P<.006$]. On the other hand, there was no significant correlation with the potential economies of scale role [$r=0.30$, $P>.05$].

Panzar and Willig (1981) and Kee (2008) agreed that economies of scope are a major factor influencing service organizations to produce multiple products. Since those organizations frequently introduce more than one product, economies of scope should be considered when evaluating pricing, product mix, and deciding capacity. However, when economies of scope are present, the usefulness of product/service cost for resource allocation decision-making is diminished.

Table 5 is the model summary in the prediction of potential informational role, economies of scope and scale roles as dependent variables through the potential ordering experience as an independent variable. In detail, the influential value of the potential informational role when predicting the potential ordering experience of E-tablet menu is $(1.9/3.4)=55\%$ $F = 43.09$, $P <.000$ as the highest value. While the influential value of the potential economies of scope and scale roles are $(0.9/4.6)=20\%$, $F = 8.25$, $P <.007$) and $(0.24/2.4)=10\%$, $F = 3.83$, $P >.05$), respectively.

Cranage et al. (2004) found that there are positive benefits for restaurants when they provide nutritional information on the menu. It may increase customers repurchase intentions, result in higher sales (Kim et al., 2013; Wansink et al., 2002) and spread positive word of mouth (Buchanan, 2011; Fakhri et al., 2016).

Table 5: Regression Matrix to identify the Relationship of Study Variables

* Model	Un-standardized Coefficients		Standardized Coefficients	
	B	Std error	t	Sig
(Constant)	-.182	.723	-.251	.803
Informational	1.057	.161	6.565	.000
(Constant)	2.110	.871	2.422	.021
Scale	.380	.194	1.959	.058
(Constant)	1.134	1.138	.996	.326
Scope	.728	.253	2.874	.007

* Dependent variable: Potential informational role, Potential economic scale role, Potential economic scope role.

*Regression equation can be formed as Potential informational role = -0.18 + 1.05 Potential ordering experience.

*Regression equation can be formed as Potential economic scale role = 2.11 + 0.38 Potential ordering experience

*Regression equation can be formed as Potential economic scope role = 1.13 + 0.72 Potential ordering experience

Menu nutritional information affects the healthiness of the item perception and shapes consumers' anticipated emotions. When customers' expectations about the nutritional information are exceeded or met, the attitudes toward menu items become more positive (Fakih et al., 2016).

The finding of economies of scope means that large, multiproduct activities are more cost efficient than small, single-output activities. This is in accord on normal expectations. The efficiency may be due to joint use of inputs, or transaction costs, information costs, and other market mechanisms (the use of money exchanged by buyers and sellers with an understood system of value and time to produce the best distribution channel for services).

Conclusion

Efficient and timely using of new restaurant technology applications may offer better opportunities to meet increasing customer expectations and to achieve improved cost control and more effective marketing strategies for hotels.

The current study explored how innovative hotel technology influences information presentation, economies of scope and scale roles. The potential ordering experience using e-tablet based menu help increase the customization of meals through adding recipes and more pictorial representations, given the fact that the use of electronic tablet-based menu provides the customers with more detailed information at the point of purchase.

Future studies should look at the various types of information that consumers find valuable, to determine its impact on order information quality; to study the pattern of specialization and competitive strategy in hotel industry. Further empirical research should be done on the potential economies of scope, which has been proven significant in this study.

References

✓ Beldona S.; Buchanan N. and Miller B.L., (2014). Exploring the promise of e-tablet restaurant menus, *International Journal of Contemporary Hospitality Management*, 26(3), 367-382.

- ✓ Bharadi V.; Ranjan V.; Masiwal N. and Verma N. (2013). e-Restaurant: Online Restaurant Management System for Android”, international journal of advanced computer science and applications, International Conference and Workshop On Advance Computing, 48-54.
- ✓ Buchanan N. (2011). An Examination of Electronic Tablet Based Menus for the Restaurant Industry, Master of Science in Hospitality Information Management, University of Delaware, USA.
- ✓ Chen, M. M.; Murphy H. C. and Knecht, S. (2016). An Importance Performance Analysis of smart-phone applications for hotel chains. *Journal of Hospitality and Tourism Management*, 29, 69-79.
- ✓ Clark, J. A. (1988). Economies of scale and scope at depository financial institutions: A review of the literature. *Economic Review*, 73(8), 17-33.
- ✓ Cranage, D.A.; Conklin, M.T. and Lambert, C.U. (2004). Effect of nutrition information in perception of food quality, consumption behavior and purchase intentions. *Journal of Foodservice Business Research*, 7(1), 43-61.
- ✓ Cullen, P. (1997). *Economics for Hospitality Management*. Oxford, UK: International Thomson Business Press.
- ✓ Dickinson, J. E.; Ghali, K.; Cherrett, T.; Speed, C.; Davies, N. and Norgate, S. (2014). Tourism and the smart-phone app: capabilities, emerging practice and scope in the travel domain. *Current Issues in Tourism*, 17(1), 84-101.
- ✓ Dieck, M. C. and Jung, T. (2015). A theoretical model of mobile augmented reality acceptance in urban heritage tourism. *Current Issues in Tourism*, 1-21. DOI: 10.1080/13683500.2015.1070801.
- ✓ Ellson, T. (2009). Assessing contribution of research in business to practice, Editorial, *Journal of Business Research*, 62(11), 1160-1164.
- ✓ Fakh, K.; Assaker, G.; Assaf, A. and Hallak, R. (2016). Does restaurant menu information affect customer attitudes and behavioral intentions? A cross-segment empirical analysis using PLS-SEM. *International Journal of Hospitality Management*, 57, 71-83.
- ✓ Ham, S.; Kim, W.G. and Jeong, S. (2005). Effect of information technology on performance in upscale hotels. *International Journal of Hospitality Management*, 24(2), 281-94.
- ✓ Hao, J. X.; Yu, Y.; Law, R. and Fong, D. K. (2015). A genetic algorithm-based learning approach to understand customer satisfaction with OTA websites. *Tourism Management*, 48, 231-241.
- ✓ Hartwell, H.; Johns, N. and Edwards, J. S. (2016). E-menus—Managing choice options in hospital foodservice. *International Journal of Hospitality Management*, 53, 12-16.
- ✓ Hawley, K.; Roberto, C.; Bragg, M.; Liu, P.; Schwartz, M. and Brownell, K. (2013). The science on front-of package food labels. *Public Health Nutrition*, 16(3), 430-39.
- ✓ Howlett, E.; Burton, S.; Bates, K. and Huggins, K., (2009). Coming to a restaurant near you? Potential consumer responses to nutrition information disclosure on menus. *Journal of Consumer Research*, 36(6), 494–503.
- ✓ Hsu L. and Wu P. (2013). Electronic-Tablet-Based Menu in a Full Service Restaurant and Customer Satisfaction: A Structural Equation Model. *International Journal of Business, Humanities and Technology*, 3(2), 61-71.
- ✓ <http://www.imenucards.com>
- ✓ <http://www.seamlez.com>
- ✓ Huber, M. M.; Hancer, M. and George, R. (2010). A Comparative Examination of Information Technology Usage in the Restaurant Industry. *Journal of Foodservice Business Research*, 13(3), 268-281.
- ✓ Ion, F. (2013). The past, present and future of touch: from touch displays to the surface: a brief history of touch screen technology. available at: <http://arstechnica.com/gadgets/2013/04/from-touch-displays-to-the-surface-a-brief-history-of-touch-screen-technology>.

- ✓ Josiam, B. and Foster, C. (2009). Nutritional information on restaurant menus: Who cares and why restaurateurs should bother. *International Journal of Contemporary Hospitality Management*, 21(7), 876-91.
- ✓ Kee, R. (2008). The sufficiency of product and variable costs for production-related decisions when economies of scope are present. *International Journal of Production Economics*, 114, 682– 696
- ✓ Kimes, S. E. (2008). The role of technology in restaurant revenue management. *Cornell Hospitality Quarterly*, 49(3), 297-309.
- ✓ Kimes, S.E. (2009). How restaurant customers view online reservations, *Cornell Hospitality Report*, 9(5), p 5-15.
- ✓ Kim, D. Y.; Park, J. and Morrison, A. M. (2008). A model of traveller acceptance of mobile technology. *International Journal of Tourism Research*, 10(5), 393-407.
- ✓ Kim, H.; Park, J.; Kim, M. and Ryu, K. (2012). Does perceived restaurant food healthiness matter? Its influence on value, satisfaction and revisit intentions in restaurant operations in South Korea. *International Journal of Hospitality Management*, 33(1), 397–405.
- ✓ Kim, E.; Ham, S.; Yang, I. and Choi, J. (2013). The roles of attitude, subjective norm, and perceived behavioral control in the formation of consumers’ behavioral intentions to read menu labels in the restaurant industry. *International Journal of Hospitality Management*, 35, 203–213.
- ✓ Kumar, R.L.; Smith, M.A. and Banerjee, S. (2004). User interface features influencing overall ease of use and personalization, *Information and Management*, 41(3), 289-302.
- ✓ Lowrey, A. (2011). The waiter doesn’t need a tip: how restaurants will use tablet computers to replace waiters”, available at: www.slate.com/articles/business/moneybox/2011/04/this_waiter_doesnt_need_a_tip.html
- ✓ Mark, J. (2012), Transform a tablet into an affordable kiosk for your clients, <http://mobile.smashingmagazine.com/2012/11/26/transform-tablet-affordable-kiosk-clients/>
- ✓ Meuter, M.L.; Bitner, M.; 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(2), 61-83.
- ✓ Mills, J. E., and Thomas, L. (2008). Assessing Customer Expectations of Information Provided On Restaurant Menus: A Confirmatory Factor Analysis Approach. *Journal of Hospitality and Tourism Research*, 32(1), 62-88.
- ✓ National Restaurant Association (2012). Annual “What’s Hot” culinary forecast for 2013. News and Research. <http://www.restaurant.org/News-Research/Research/What-s-Hot>.
- ✓ Nunnally, J. C. and Bernstein, I. H. (1994). *Psychometric theory*. 3rd Ed. New York: McGraw-Hill.
- ✓ Nyheim, P., and Connolly, D. (2012). *Technology strategies for the hospitality industry*. 2nd ed, Boston: Prentice Hall.
- ✓ Nykiel, R. A. (2001). Technology, Convenience and Consumption. *Journal of Hospitality and Leisure Marketing*, 7(4), 79-84.
- ✓ Ofei, K.T.; Holst, M.; Rasmussen, H.H. and Mikkelsen, B. E. (2014). How practice contributes to trolley food waste: A qualitative study among staff involved in serving meals to hospital patients. *Appetite*, 83, 49–56. DOI: [10.1016/j.appet.2014.08.001](https://doi.org/10.1016/j.appet.2014.08.001)
- ✓ Panzar, J. and Willig, R. (1981). Economies of scope. *American Economic Review*, 71(2), 268–272.
- ✓ Parasuraman, A. (2000). Technology readiness index (TRI): a multiple-item scale to measure readiness to embrace new technologies. *Journal of Service Research*, 2(4), 307-321.
- ✓ Piccoli, G. (2008). Information technology in hotel management: a framework for evaluating the sustainability of IT-dependent competitive advantage. *Cornell Hospitality Quarterly*, 49(3), 282-296.

- ✓ Rousseau, C. (2011). Restaurants uploading menus onto iPads for diners. <http://www.physorg.com/news/2011-01-restaurants-uploading-menus-ipadsdiners.html>
- ✓ Sarkar S.; Shinde R.; Thakare P.; Dhomne N. and Bhakare K. (2014). Integration of Touch Technology in Restaurants using Android. Journal of Computer Science and Information Technology, 3(2), 721-728.
- ✓ Shi H. and Smyth R. (2012). Economies of scale in the Australian tourism industry. Applied Economics, 44(33), 4355-4367.
- ✓ Simpson, C. (2010). The iPad restaurant menu the general manager of Rydges Hotel at North Sydney Australia is one of the first hospitality industry operators to recognize the unique opportunity the Apple iPad offers. <http://www.youtube.com/watch?v=cvjvxQJGp8>
- ✓ Sung, N. and Gort, M. (2000). Economies of Scale and Natural Monopoly in the U.S. Local Telephone Industry. Review of Economics and Statistics, 82(4), 694-697.
- ✓ Tesone, D.V. (2006). Hospitality Information Systems and E-Commerce. John Wiley and Sons.
- ✓ Wang, Q. (2005). Economies of Scale in Shopping Center Industry. Master of Science, Department of Infrastructure, Division of Building and Real Estate Economics, Royal Institute of Technology, Stockholm.
- ✓ Wang, D.; Xiang, Z. and Fesenmaier, D. R. (2014). Smartphone use in everyday life and travel. Journal of Travel Research, 55(1), 52-63.
- ✓ Wang, D.; Xiang, Z.; Law, R. and Ki, T. P. (2015). Assessing hotel-related smartphone apps using online reviews. Journal of Hospitality Marketing and Management, 25(3), 291-313.
- ✓ Wansink, B.; Painter, J. and Van-Ittersum, K., (2002). How descriptive menu labels influence attitudes and repatronage. Advanced Consumer Research, 29, 168-172.
- ✓ Weng, C. and Wang, K. (2006). Scale and scope economies of international tourist hotels in Taiwan. Tourism Management, 27(1), 25-33.
- ✓ White, B. (2005). How to “Webby-ize” your web site-Factors in award-winning Design. Third Latin American Web Congress, IEEE.
- ✓ Yepes, M. (2015). Mobile Tablet Menus: Attractiveness and Impact of Nutrition Labeling Formats on Millennials’ Food Choices. Cornell Hospitality Quarterly, 56(1), 58-67.
- ✓ Zikmund, W.; Babin, B.; Car, J. and Griffin, M. (2013). Business research methods. Ninth edition, International edition, Published Australia: South-Western.

دراسة استطلاعية لاستخدام قائمة الطعام الإلكترونية في صناعة الفنادق المصرية: من منظور الإدارة

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تحاول صناعة الضيافة منذ عقود عدة اللحاق بالتكنولوجيا الحديثة في عملياتها، ومن بين ذلك تطوير شكل ومضمون قوائم الطعام على اعتبار أنها أداة بيع فعالة وعنصر مهم في قرارات الإنتاج والتسويق في أي مطعم أو فندق. ومن هنا حاولت الدراسة الحالية أن تبحث تطبيق قوائم الطعام الإلكترونية لتحسين اتخاذ قرار الشراء من قبل العميل وكذلك عند عرض المعلومة المتعلقة بالأصناف المعروضة والتي تؤثر بدورها في وفور الإنتاج [الوفور المتحصل عليها نتيجة التعامل مع منتج واحد بكميات كبيرة (economies of scale)] ووفور النطاق [الوفور المتحصل عليها نتيجة تشغيل أكثر من خط إنتاج يكمل كل منهما الآخر (economies of scope)]. تم جمع البيانات من خلال استمارة استقصاء تم وزعت على 36 من مدراء الأغذية والمشروبات والمطاعم بالفنادق ذات الخمس نجوم بالقاهرة، وتم تحليلها باستخدام برنامج SPSS-20. أشارت النتائج من خلال وصف متغيرات الدراسة إلى ارتفاع مستوى إدراك المدراء لأهمية استخدام قوائم الطعام الإلكترونية وانعكاس ذلك الإدراك بمعنوية عالية ($r=0.60, P<.000$) على الدور المعلوماتي للقائمة الإلكترونية حيث سيتمكن العميل من التصفح بسهولة ويحصل على أكبر قدر من المعلومات المدعومة بالبيانات والرسومات الجذابة، أكدت نتائج الدراسة وجود علاقة معنوية قوية ($r=0.45, P<.006$) بين استخدام القوائم الإلكترونية وبين وفور النطاق (economies of scope). وفي الخلاصة ينصح أهمية تطبيق القوائم الإلكترونية في مطاعم الفنادق لتأثيرها الإيجابي في طريقه وكفاءة عرض المعلومة، ووفور النطاق (Co-efficient= 1.05, 0.75) على الترتيب.

الكلمات الدالة: قائمة الطعام الإلكترونية، عرض المعلومات، وفور الإنتاج، وفور النطاق.