FACTORS INFLUENCING THE ADOPTION OF INFORMATION TECHNOLOGY IN INDEPENDENT CASUAL DINING RESTAURANTS

SALMALINA SALLEH & MUHAMMAD IZZAT ZULKIFLY & NOORAZLIN RAMLI
Department of Foodservice Management, Faculty of Hotel and Tourism Management
Universiti Teknology MARA, Pulau Pinang

ABSTRACT

The purpose of the paper is to examine factors influencing the adoption of information technology (IT) in independent casual dining restaurants. Sample populations of this study were taken among the manager or owner of the independent casual dining restaurants around Klang Valley which already implemented the IT. Self-administered questionnaires which consist of five sections were used. The overall findings from this study involving 53 managers could be streamlined and at the end it clearly indicates that most of the managers were influenced by motivational factors in decisions making of implementing IT in the restaurants. Thus this study could illustrate a visual to the foodservice operators, body of knowledge and to the government on the restaurant IT adoption scenario in Malaysia. Generally, some useful insights were attained.

Keywords: Information technology, Independent casual dining restaurants

OVERVIEW

The service sector has definitely played an important role in the growth and development process of the Malaysian economy. The greater presence of the service sector in the Malaysian economy is indeed in line with the growth transformation that has taken place in many of the developed economies such as the US in which the service sector forms a major structural component of the economy compared to that of the manufacturing or primary sector (Economic Review, 2007). Bernama (2009) indicated that last year, the service sector contributed 54 per cent (54%) to the Gross Domestic Product (GDP) following the 7 per cent (7%) increase in added value during the 2003-2008 periods. In addition to those positive percentages of GDP, there was an increase of international tourist arrivals year by year whereby in 2007 there were 20.9 million arrivals and it increased to 5.1 per cent (%) during 2008 of which the number of tourist arrivals was 22 million(Tourism Malaysia, 2008). The tourist confidence has returned and Malaysia has started to spend money, which is having a positive effect on the foodservice businesses.

Moreover, as the world moves to the competitive edge of globalization, foodservice businesses are found to be booming along with other industries (Jamal, 1996). This can clearly be seen from the array of foodservice establishments mushrooming in all sub-sectors of the industry, ranging from hotels, food retail, catering, health foodservice, food manufacturing and restaurants (Edvardsson, Gustafsson & Roos, 2005). Spears and Gregoire (2003) pointed that this sector is not only one of the most profitable industries in the world, but also one of the hospitality sub-industries that has constantly experienced change and growth with time. In the United Kingdom for instance, foodservice is classified as the fourth largest consumer market with more than 35 billion pounds in sales every year from more than 300 000 outlets nationwide (Lewis, 2006). The same scenario is also happening in other countries such as the United States, Europe, New Zealand, Australia and elsewhere, including Asia. Lewis (2006) claimed that foodservice industry worldwide especially the restaurant sectors are experiencing tremendous expansion compared to other sub-sectors. He further argued that the choice of restaurants is becoming unlimited, ranging from upscale (fine dining and theme restaurants) and medium scale restaurants (casual dining and ethnic restaurants) to small and lower scale restaurants (cafes, coffee shops, stalls and pushcarts). Most experts have classified that each scale has two main categories which are independent restaurants and chain restaurants (Walker, 1996 and Spears & Gregoire, 2003)

Despite the differences in the scale of restaurants, casual dining restaurants are the fastest growing segment of the restaurant industry, where sales are increasing at double-digit rates (Euromonitor, 2008). Muller (1999) found that one the factors of the sales acceleration is because a casual dining restaurant is a less expensive version of a fine dining restaurant. In addition, many of the casual dining restaurants also make an effort to capture the consumers' attention by creating a theme and a brand that seem to represent an extension of the consumers' preferences such as serving a limited menu but aimed to wow the guest with sophisticated specialty (Walker, 1996). The third factor is they have a team of knowledgeable staff and much higher service levels than the quick service restaurants and family dining restaurants. In fact, this type of restaurants which focuses on independent restaurants is the central focus of this study.

By looking at the popularity of casual dining restaurants, the managers began to realize that in an attempt to be competitive and improve customer and employee satisfaction in the respective restaurants, the successful implementation of technology has undoubtedly emerged as a method of maintaining profitability. Most importantly, it is consistent with the recent creation and dependency on computer technology and the internet. Ansel and Dyer (2001) believed that IT implementation in restaurants could provide four benefits which are minimization of costs, better management of employees, revenue management, and most importantly a competitive advantage and ability to analyze customer preferences and menus toward specific costs. Therefore, managers need to include IT in a set of strategic tools for controlling, simplifying, delegating and reducing job-related tasks to maximize their current operational capacity. There are various definitions and interpretations to describe IT. However, in general IT is simply defined as the processing of information by collection of computing systems in an organization (McKeown & Philip, 2003). This notion is further defined by Chen and Fu (2001) who described IT as hardware and software that are used to store, retrieve process and manipulate data into meaningful information which could be further processed to increase its value.

Malaysia has seriously geared its effort toward IT by establishing the Multimedia Super Corridor (MSC) in 1996 (Euromonitor, 2008). Since then, MSC Malaysia has greatly transformed the nation in areas related to IT and thus revolutionized the way Malaysians work and live. With IT as the channel to attain socioeconomic growth for the nation, MSC Malaysia continues to play an invaluable role to attract favorable investments and ensure the right conditions are in place for IT-based businesses and industries to grow. The socioeconomic growth brought about by MSC Malaysia is progressively transforming the country into a knowledge-based economy and society. For instance, in 1996, there were less than 300 IT companies but today, the country has over 3,400 IT companies out of which 1,447 are MSC status companies. In 2005, Malaysia's IT sector grew by 17 per cent (17%) greater than the country's overall Growth Domestic Product (GDP) growth of 5.2 per cent (5.2%) (www.msc.com.my).

To date, 47 percent (47%) of the service industries including hotel and restaurant industry use IT in their operations (Zain, Kassim & Moktar, 2003). Nevertheless, only 11.1 percent (11.1%) from the hotel and restaurant industry adopt IT into their daily business operations. This shows that only a small number of restaurants implement IT and got the full advantage on the adoption of IT. One of the reasons some of the restaurants use IT in their establishments is because of the assurance that IT can provide competitive advantages through control of such critical variables as multiple operations, marketing intelligence, menu planning, financial analysis, corporate accounting, labor scheduling, production planning, customer service, account settlement, product pricing and inventory management. By looking at these impacts, one would believe that most firms in the restaurant industry would be IT oriented in the production and delivery of goods and services (Siguaw et al, 2000: Buhalis & Main, 1998). Moreover, many commentators have addressed the change in consumers' behaviour along with the use of advanced new technology and the humanistic approach to customer services which have led to the positive development of these industries particularly in the restaurant industry (Kandampully & Suhartanto, 2000; Dorsch, Grove & Darden, 2000; Tse, 2001; Namazivayam & Hinkin, 2003; Yoon, Seo & Yoon, 2004; McCole, 2004; Lewis, 2006).

Oronsky, Prakash and Chantoth (2007); O'Connor & Murphy (2004) and Pappas (1997) have described that IT implementation is vital to support and enhance the capability of managers to successfully and efficiently manage their restaurants' operations. These studies have generally proven the benefits of IT adoption in the restaurant industry. However, the benefits of IT adoption have in turn led to curiosity on the factors affecting restaurateurs to adopt IT.

Regardless of the significance of IT usage by the food service sectors, preceding and current research on IT applications in this particular industry is very limited. O'Connor and Murphy (2004) criticized the researchers in hospitality IT on their lack of interest and concern of the restaurant industry. The discussion and publication of research concerning IT and the restaurant operations were rarely found in the academic journals related to hospitality management. The majority of researchers were attracted to discover the adoption and implementation of IT applications in the hotel and tourism sector rather than in the restaurant industry. Therefore, this study would offer a new idea on IT research in the hospitality industry in response to the needs and importance of the restaurant operations.

Fundamentally, researches conducted in IT consist of 5 major streams, and individual adoption and use of IT is one of the main streams (Tarafdar & Vaidya, 2005). Besides, IT adoption research was one of the popular researches among the scholars of innovation and IT researchers. For example, Holleinstein (2004) discussed the determinants of IT adoption in the Swiss business sectors. As for Malaysia, Adham & Ahmad (2005); Zain, Rose, Abdullah & Masrom (2004); Chooi, Davis & Finlay (2001) and Hashim (2008) are the examples of IT adoption studies carried out by Malaysian firm.

However, despite the above concerns, although a number of studies have been conducted regarding IT usage, there is no research on factors affecting the intention of restaurants' managers to adopt IT applications used in independent casual dining restaurants. An in-depth understanding of those factors would be helpful to make an appropriate decision pertaining to the adoption of IT. The purpose of this study is to determine the individual perceptions of IT, as well as motivating and inhibiting factors on the adoption of IT. These perceptions signify what factors influence the decision to adopt IT based innovations. Given the nature of the foodservice industry, this study tries to identify managers' overall perceptions of IT rather than a particular target technology.

Specifically, the study will address three (3) questions: (1) What are the individual factors that influence these restaurant managers to adopt information technology in their restaurants? (2) What are the motivating factors for these restaurant managers when adopting information technology? (3) What are the inhibiting factors that these restaurant managers face that de-motivate the intention to adopt information technology?

METHODOLOGY

A descriptive research design using a quantitative approach was opted for, as it is both quick and has the ability to reach to more respondents at a relatively low cost (Holmes, Dahan and Ashari, 2005; Babbie, 2007;). This study uses a self-administered questionnaire, which consisted of five sections. Each section contained the questions addressing the different elements in examining the factors influencing the adoption of IT in independent casual dining restaurants. In Section A, items pertaining to sales volume of the restaurants and years operated were asked in this section while in Section B, it dealt with gender, age and highest degree earned on the respondents' demographic profile.

In section C, questions related to individual perceptions of IT innovations which might influence their desire to adopt information technology were probed. The individual-level factors included perceived awareness toward technological innovations, perceived innovativeness,

perceived compatibility and perceived voluntariness in the acceptance of IT. Items in section D were intended to identify motivational factors, which might influence the restaurant managers' desire to adopt IT in their workplace. Finally inhibiting factor statements which might limit casual dining restaurant managers' desire to adopt IT at work were developed. To create a list of inhibiting factors, previous studies related to attitudes toward technology acquisition and implementation were carefully reviewed. The relevant literature and survey instruments were developed by past researchers (Rogers, 1983; Moore & Benbasat's, 1991; Agarwal & Prasad, 1998 and Cragg & King, 1993). All of the items were based on the 5 point Likert scale response format (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree).

A stratified random sampling method was used whereby only restaurant managers in independent casual dining restaurants were selected as the respondents as they are thought to better provide the researcher with unyielding information to achieve study objectives. The consent letters were posted and mailed to the restaurants, and face to face approach used among the representative managers provided truly significant and in-depth information for this study.
As noted by Sophia (2008) there are about 152 numbers of independent casual dining restaurants listed in the Klang Valley area could be reasonably expected to have some expert knowledge in IT that are being used in their restaurants, as well as identify the factors influencing the adoption of IT in their businesses, which then might be able to present meaningful data for this study. With regards to the sufficient number of respondents for this study, Roscoe (1975) rule of thumb indicated that sample sizes larger than 30 and smaller than 500 are appropriate for most research. With this benchmark plus the time constraints, only 53 restaurant managers from each of the independent casual dining restaurants participated in this survey. The response were then coded and keyed in for analysis using a Statistical Package of Social Science (SPSS) version 16.0.

RESULTS

In order to achieve the stated objectives, various kinds of statistical techniques were employed. In determining whether the data obtained from managers with different profiles can be treated as a single population or discretely, a homogeneity test using Independent sample T-test analysis and One-Way Analysis of Variance (ANOVA) was initially undertaken. According to Pallant, 2005, the Independent Sample T-Test is done to seek for any significant differences in the mean score, on some continuous variable, for two groups of subjects. Meanwhile, in comparing between different groups Pallant (2008) noted that the analysis of One Way ANOVA could be applied. The first analysis was done by the researcher to observe significant differences in the mean score of individual, motivating and inhibiting factors for male and female. On the other hand, the latter analysis was used in comparing the variability in scores between different groups. By looking at the statistical analysis mentioned above, it can be said that this 'almost-absent' differences do not have any significant impact on the overall findings obtained from all managers of 53 casual dining restaurants. Therefore, the data can be treated as one for further analysis.

In the study, analyses were embarked to fulfill the objectives of the study by looking at the mean scores and standard deviation rated by the respondents; both as a means of identifying the current status of existing construction in the research model. The analyses are divided into 3 sections; individual factors, motivating factors and inhibiting factors. The first division analyzes the items in Section C of the questionnaire which delved into the individual factors that influence the respondents to adopt information technology (IT) in their respective restaurants. After that, the motivating factors in Section D of the questionnaire investigated factors which might influence the desire of the respondents to adopt IT at work. Finally, the third deviation which is in Section E of the questionnaire analyzes the inhibiting factors which might limit the respondents' desire to adopt job-related IT applications at restaurants. Due to the homogeneity of the data, a descriptive statistic by looking at the mean score was therefore applied.

The first section reveals the profiles of general usage of IT by the restaurants. Firstly, data analysis shows that majority of the independent casual dining restaurants' monthly sales volume

was ranged between RM 50 000 to RM 200 000. Secondly, most of the independent casual dining restaurants participated in this survey have been operating in less than five years.

As pointed out earlier, the sample of this study consists of restaurant managers in independent casual dining restaurants in the Klang Valley area. The questionnaires were distributed to 152 foodservice managers and the response rate was 34.9% (n=53). Pertaining to question on gender of subject, it was established that the majority of the restaurants managers participating in this study were male. The result was as expected, as most of the people entrusted with the position of restaurant managers are traditionally male. The majority of the respondents were aged 30 and below, and 36% of them possessed qualification of a degree.

Individual Factor

This section analyzes the individual factors which might persuade the respondents' wish to adopt IT in their business organization. It is worth reiterating that 10 items were included in this section of the questionnaire. The mean scores reported by all managers who participated in the study are displayed in Table 1.

Table 1: Mean Scores of Individual Factors

ITEM NO	ITEMS	N	MEAN (M)	S.D
Q1	I believe that new information technology represents an important innovation.	53	4.17	.580
Q2	I believe that information technology is critical for my organization to get a competitive edge.	53	3.43	.639
Q3	I think it is appropriate for my organization to adopt information technology.	53	4.17	.379
Q4	If I heard about a new information technology application, I would look for ways to experiment with it.	53	3.42	.770
Q5	Among my peers, I am usually the first to try out new information technology.	53	3.19	.735
Q6	I like to experiment with new information technologies	53	4.08	.675
Q7	Using new information technology would be compatible with all aspects of my work.	53	4.19	.833
Q8	I think that using new information technology fits the way I like to work.	53	3.83	.955
Q9	My superiors expect me to use new information technologies	53	3.43	1.169
Q10	Although it might be helpful, using new information technology is certainly not compulsory in my job.	53	3.43	.797
	Total		37.3	4.64

Scale: 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4=Agree; 5 = Strongly Agree

In order to determine respondents' perceptions of IT, the descriptive mean scores and standard deviations of the 10 statements regarding the individual factors of IT were reported in the above table (Table 1). The mean ratings ranged from 3.19 to 4.19 and the standard deviations ranged from 0.379 to 1.169. It is exhilarating to observe from the above table that most of the restaurant managers agreed that IT represents a vital innovation (M=4.17, item Q1). Indeed, most of the respondents argued that IT is important for their restaurant operations to get a competitive edge (M=3.43, item Q2) and they believed that IT is compatible and well fitted into their organization (M=4.17, item Q3). These reported sentiments have illustrated how the casual dining restaurant managers have collectively accepted and welcomed the IT applications in their restaurant businesses.

Contrary to those optimistic and encouraging findings, most of them have alas reported that they were not sure whether they looked for ways to experiment a new IT whenever they heard about it (M=3.42, item Q4) and they were not the first person who tried out the new IT system and tools (M=3.19, item Q5). Out of 3 questions under perceived innovativeness dimension, there were 2 questions that the respondents were doubtful about. It shows the respondents' suspicions on the willingness to try out any new IT system and tools. It can be presume that the managers are not the one who always being the first person tried out the new IT and experiment it. Maybe the owner of the restaurants itself who responsible to seek and undertake the new IT applications because they need to know what are the suitable IT applications for their

restaurants and is it worth it to invest thousands of Ringgit on it. The owner will discuss with the managers but the decision making is construct by the owner.

On the other hand, most of the respondents gave their consent to experiment with new IT (M=4.08, item Q6) because they assumed that the IT would be compatible with all aspects of restaurant operations (M=4.19, item Q7). Therefore, there should be no argument with their level of agreement given to the item 'By using IT, it fits the way I like to work' (M=3.83, item Q8). What could be said from these reactions is that the majority of managers felt that IT applications suited well with the restaurant operations.

Moore and Benbasat (1991) suggested that when adopting a particular innovation or improvements on IT, it is crucial to recognize whether individuals are free to implement the adoption or rejection of the decisions. From the table, the respondents were not sure whether the owner of the restaurants expect them to use the IT (M=3.43, Q9) and they were not confident whether the IT applications were compulsory or not in their daily tasks (M=3.43, item Q10). Taking these points into account, it could be construed from these reactions that the majority of restaurant managers are still doubtful with the usage of IT applications.

As a whole, the results have shown that the majority of the managers have placed themselves in the 'quite agree' rating or situation whereby the total mean score of this section was M=37.3. Convincingly, the results on the individual factors that influence them to implement IT in the restaurant business confirmed that the managers slightly agreed with the individual factors provided in the questionnaire.

Having discussed the managers' individual factors that desire them to adopt IT in their restaurants quantitatively, the following sub-section analyzes the managers' perceptions on the motivational factors when adopting IT.

Motivating Factor

According to King and McAulay (1989), the existence of sufficient motivating influence results in success. The motivating influence arises from factors which are capable of motivational impact, then; adoption of technology is a function of the overall level of motivating influence. Therefore 12 items were probed to examine the motivating factors that influence the desires of restaurant managers to implement IT in their workplace were discussed. Results are shown in Table 2.

Table 2: Mean Scores of Motivational Factors

ITEM NO	ITEMS	N	MEAN (M)	S.D
Q1	Increased access to people	53	3.89	.913
Q2	Improved internal coordination and communication	53	3.91	.529
Q3	Easier access to information/data	53	3.98	.866
Q4	Improved document quality	53	3.96	.854
Q5	Reduced multiple handling of documents	53	4.08	.675
Q6	Interesting and enjoyable working environment	53	3.64	.653
Q7	Reduced operational costs	53	3.36	.653
Q8	Reduced travel expense	53	3.64	.484
Q9	Quicker and easier to work	53	4.45	.667
Q10	Improved monitoring of the quality of products from suppliers	53	4.06	.795
Q11	Providing better products or services to customers	53	4.45	.503
Q12	Improved customer relations	53	3.81	1.210
	Total		47.2	4.75

Scale: 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4=Agree; 5 = Strongly Agree

The means and standard deviations are listed in Table 2 in order to describe the respondents' overall perceptions of the 12 motivating factors.

As can be seen from the table, most managers somehow agreed that IT increases access to people (M=3.89, item Q1). With the easy access automatically it helps to improved internal coordination and communication (M=3.91, item Q2). Hence, it could be said that the managers

to some extent agreed with the notion that IT helps them to further enhance communication level internally.

The respondents also slightly agreed that IT facilitates them to browse for information and data easier (M=3.98, Q3) and it also helps them to improve documentation quality (M=3.96, item Q4). It is more than obvious to mention that IT has improved the restaurants' daily operations whereby it enhanced information access. Furthermore, the managers agreed that IT has reduced multiple handling of documents (M=4.08, item Q5) and because of that IT makes the working environment more interesting and enjoyable (M=3.64, itemQ6). Thus, this has contributed to attractive working environment to the managers and staff.

Conversely, the majority of managers did not agree that IT has reduced the restaurant operational costs (M=3.36, Q7) because they believed that adopting IT required immense financial investment. However, at the same time, the respondents assumed that IT would reduce travel expenses (M=3.64, item Q8); for example by only emailing, faxing and calling for any important documents or papers can further reduce travel expenses and automatically reduce the restaurant operational costs.

More interestingly, most of the managers claimed that IT has improved their daily operation whereby IT makes their work quicker and easier (M=4.45, item Q9) as well as improved monitoring of the quality of products from suppliers (M=4.06, item Q10). Moreover, managers agreed that IT applications provide better products and services to customers (M=4.45, item Q11), and as a result, it is not surprising that customer relations have also been successfully improved (M=3.81, item Q12). In other words, it can be concluded that such a measure is a strategic initiative indeed.

What can be assumed here is that, the managers quite strongly agreed that the motivating factors have influenced them to adopt IT in restaurant operations due to the total mean score for this section was recorded to be M=47.2. The next sub-section analyzes the last factor that might limit the desire of restaurant managers to implement IT in restaurant operations.

Inhibiting Factor
Regarding the barriers to adoption of IT, 12 items addressed several barriers that prevented the successful implementation of IT in restaurants. The results are tabulated in Table 3.

Table 3: Mean Scores of Inhibiting Factors

ITEM NO	ITEMS	N	MEAN (M)	S.D
Q1	Lack of funding	53	3.64	.591
Q2	Too costly	53	3.66	.587
Q3	Lack of time to learn new technology	53	3.11	.913
Q4	Lack of time to establish computerized systems	53	2.92	.917
Q5	Lack of confidence in computerized systems	53	2.45	.911
Q6	Lack of knowledge about new technology	53	3.51	.546
Q7	Low security and privacy	53	2.17	1.051
Q8	Feel that technology is changing rapidly to make investment	53	3.62	.713
Q9	Unfriendly vendor/support staff	53	2.32	.581
Q10	Slow vendor/support staff response time	53	2.36	1.051
Q11	Lack of compatible hardware	53	2.75	.853
Q12	Inadequate/outdated hardware	53	3.01	.747
	Total		35.52	9.46

Scale: 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4=Agree; 5 = Strongly Agree

Table 3 shows that the means and standard deviations of the technology inhibiting factors ranged from the highest mean score of 3.66 to the lowest mean score of 2.15 with the standard deviations ranging from 0.546 to 1.051.

As can be seen from the table, most managers somewhat agreed that lack of funding (M=3.64, item1) and cost-ineffectiveness (M=3.66, item 2) were the barriers that de-motivated them to adopt IT in their restaurants. However, they were not really sure whether lack of time to learn

new technology (M=3.11, item 3) and lack of time to establish the computerized systems (M=2.92, item 4) contributed to their declination. Thus, it can be regarded that the decisions to implement IT in restaurants heavily relied on the operational costs.

More interestingly, most managers did not agree that lack of confidence in computerized systems (M=2.45, item Q5) was the inhibiting factors in adopting IT. In fact, they partially agreed that they lack in IT knowledge (M=3.51, item Q6). Besides that, in terms of personal opposition, the respondents disagreed that low security and privacy were the cause not to implement IT in the working place (M=2.17, item Q7). Nevertheless, the results showed that IT is changing rapidly and it is not worth it to make any investments (M=3.21, item Q8). These results indicate that the respondents were ready to use IT in their restaurants but they do not have sufficient knowledge on the trends of IT applications used in the restaurants nowadays. Furthermore, they did not agree that the usage of IT has low security and privacy. Additionally, they thought that investments in IT are not valuable because IT trends and new technology change rapidly.

Moreover, they disagreed that lack of computing support was one of the factors that limited them to adopt IT. It can be seen that the majority of the respondents did not agree that inhospitable vendors and support staff (M=2.32, item Q9) and also slow response time of vendors (M=2.36, item Q10) were the reasons behind the limitation to adopt IT in restaurants. It can be assumed that the vendors have provided good services so far to the restaurants as a means of selling and attracting the owner and the restaurant managers to adopt new IT. Furthermore, the managers were doubtful regarding the insufficient hardware and whether these factors have hindered the implementation of IT in restaurants. It can be noticed by evaluating the table, whereby lack of compatible hardware (M=2.75, item Q11) and inadequate or outdated hardware (M=3.01, item Q12) show the mean score of neutral.

In summary, the findings from the managers on the inhibiting factors that de-motivate them to adopt IT showed the total mean score of 35.52. In other words, the managers slightly agreed the inhibiting factors gave effect on the decision making.

Overall, the mean rating indicated that the majority of respondents in this study revealed that motivational factors have persuaded them to implement IT as compared to individual factors. However, as other factors shows that the managers agreed and slightly strongly agreed with most of the statement, the inhibiting factors presented in this study does not really de-motivate the restaurants' managers to implement IT because out of 12 items only 4 items effect the decision making whether to accept or reject the IT implementations. In conclusion this research has succeeded in achieving the main objective of the study which is to examine the factors influencing the adoption of IT in the independent casual dining restaurants.

With that, to provide additional evidence related to what has been obtained so far, the next section transcribes the information gathered from small open-ended questions, which were used to complement the results gathered in the quantitative data.

LIMITATIONS OF THE STUDY AND POSSIBLE FUTURE RESEARCH

A range of effervescent and significant findings has been highlighted in this research. However, the limitations which exist should be paid particular attention and need to be comprehensively clarified. Firstly, even though the number of sample size for this research was high, which were 152 casual independent casual dining restaurants, at the end of data collection, the respondents' rate was less than 50% because the majority of the restaurants' managers in the Klang Valley area were reluctant to participate in this study. Ismail (2008) noted that most of the managers were hesitant to take part in any research with the assumption that the research will generally harm their business operations. This was the reason some of the respondents left certain questions unanswered (open ended questions). Furthermore, the researcher found it difficult to convince them to participate in this study. Even though the researcher has put an effort to reach

the managers by phone calls, emails and face to face approach yet, most of the managers failed to show any interest to participate in this study.

Since this research was only conducted in the Klang Valley thus the results obtained represent only this particular area. Logically, the findings therefore cannot be generalized and represent the whole population of the restaurant operations in Malaysia. In other words, the findings might possibly be either similar or different if the study was to be conducted within a broader region or throughout the country. For that reason it might be extremely meaningful and enthralling to conduct this kind of study among the independent casual dining restaurants in the major regions, or perhaps all around Malaysia in the future to see whether the findings are identical with those independent casual dining restaurants in the Klang Valley area.

Owing to the time constraints, the descriptive analysis undertaken by the researcher has given less statistical evidence in this study to collaborate with the findings. The result would be stronger if a scientific approach of statistics procedure is employed in the data analysis section. It could be better in the future that future research should move towards a more statistical analysis such as factor analysis and multiple regression analysis rather than just a descriptive analysis.

Moreover, by looking into Malaysian context, it is hard to find the statistical figures that show the list of restaurants in accordance to the specified groups such as fine dining, casual dining, fast food, family restaurants and etc. Furthermore, there are no formal statistical figures that demonstrate the breakdown of restaurants in Malaysia according to its 14 states. Taking that into account, to complete this study, the researcher had to search and evaluate the number of independent casual dining restaurants in the Klang Valley area manually by browsing 'Malaysia's Restaurant Directory' (www.701panduan.com) and 'Place List on Eats' (www.eats.my/place).

Furthermore, theory wise, the study is just limited to the adoption perspective of the innovation rather than the initiation or diffusion perspectives. A future study might exercise different theories to observe the current issues or trends of IT applications in Malaysian restaurants.

Finally, the study has provided and given a new insight into the determinants of intentions to adopt IT in independent casual dining restaurants by exploring the individual, motivations and inhibitors of technology adoption. It is suggested for future research to determine the factors influencing IT adoption in the different types of restaurants such as fast food, fine dining, café and kiosk or non commercial food service such as hospital. As for the reason, this parallel study could contribute to the body of knowledge as a literature review in the hospitality field. Furthermore, from the similar research, the used of IT applications trend in foodservice sectors could be seen.

An in-depth survey instrument should be developed to determine the reasons for certain restaurants that are still using the cash registers machine instead of computer systems. Conclusively, a better understanding from follow-up research should be undertaken rigorously throughout the nation and would probably accelerate the adoption of IT applications in the foodservice industry.

DISCUSSION AND IMPLICATIONS

This study examines the individual characteristic of IT by considering individual factors, motivational and inhibiting factors as well. This study showed that individual factors and motivational factors play a significant role in forming the restaurateurs on behavioral intentions to adopt IT while inhibiting factors does not show whether it de-motivate restaurateurs or not during decision-making on IT implementation. Issues and current trends of IT applications in independent casual dining restaurants highlighted in this study would be able to contribute to the industry and to the body of knowledge.

First and foremost, this research might have a significant contribution foodservice operators and industry. Information resulting from this study can be used to understand restaurants managers'

perceptions and behavioral intentions related with technology usage, implementation and adoption. Therefore managers should realize the importance of IT applications to their restaurant operations because in the future customer will more demanding. If the managers are not prepared to accommodate IT in their restaurants, the managers have then created an environment that does not make the foodservice operation readily accessible to customers. In order to encourage the managers to implement IT in their restaurants, they have to be exposed and explained to the factors found in this research. For those who have not adopted IT in their restaurant, this result will make them understand and enthusiastic to adopt IT in their restaurant operations. Therefore, it is hoped that this research will probably increase the number of restaurants managers using IT applications in their restaurants, suggesting to the restaurant managers on how they could adopt IT in their business operations and provide views on implementation of the technology which might retrieve the greatest acceptance by the business operations.

Additionally, this study will allow and give a view of the restaurant managers that have not yet adopting IT applications. Thus, by identifying the main factors that influence the manager's desire to adopt IT, it will help the suppliers or the vendors to come out with the appropriate marketing strategies to offer to the restaurant operators and proper approach to persuade the managers. As a notion, this study would benefit the suppliers by discovering the real situation existing in the restaurant industry especially in the aspect of the adoption of restaurant IT applications.

A few researches have been carried out to understand the factors influencing the adoption of IT in the foodservice industry. This study has flourished the research on IT applications to the foodservice industry. As for that, in terms of implications to the body of knowledge and researcher, it is found that this research could provide a new attitude, view and judgment of diffusion in a new explored industry. Hence, this study will probably assist future hospitality-management graduates in becoming familiar with the use of IT applications in restaurant operations.

Finally, this study could illustrate a visual to the government on the restaurant IT adoption scenario in Malaysia. On top of that, this study would provide some information regarding the factors influencing IT adoption to the government for strategic decision-making. Consequently, it is hope that the government in Malaysia should increase the awareness of IT application in foodservice industry in order for successful achievement of Mission 2020 and Multimedia Super Corridor (MSC).

As a whole, the restaurant industry is highly competitive because it is mushrooming all over the place day by day, week by week, month by month and year by year. What makes each of the restaurant operation different from one another is not only the theme, products and services, but how the restaurant managers decide to enrich the quality of services and products. To ensure that their restaurants succeed in their business, all aspects of the quality of foodservice outcomes should be thoroughly and consistently maintained by providing "well-updated" and "well-compatible" information technology (IT) applications.

It is hoped that the recommendations and information from this study will assist the restaurant managers to comprehend their understanding regarding the IT applications in restaurant operations. Implementing IT into one's eatery requires a large amount of money as it is a form of investment to further enhance one's business. Wrong decision-making will cause loss of thousands. Therefore, these managers must evaluate and assess the most compatible and cost-effective IT system thoroughly before implementing and investing on IT applications to their respective restaurants in order to facilitate their job and making it more efficient and effective. Finally, IT implementation is not a magic which could turn one's business fate immediately, but if it is tailored appropriately with the operation, the astronomical things might jump in one's way.

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