Users' Intention to use I-POS Web System

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Abstract— **I POS (Integrated Point of Sale) Web System is a system developed to manage inventory records aimed at SME (Small Medium Enterprise) business organizations including purchase and sale records, and stock movements using calculation automation systems. There are problems faced by SME business organizations such as lack of tools for inventory management and a lack of skills in monitoring profit and sales records. In addition, improvements need to be made to improve existing systems to better meet current situations and problems that cannot be solved by using present poor systems that make it difficult for SME business organizations to achieve their goals. I POS Web System functions to alert and notify sellers to order stocks of bestselling, exhausted, reduced to ensure stocks are always up-to-date based on the FIFO concept (stocks that have expired will undergo appraisal process whether dumped, recycled, etc.). Besides, I POS Web System will record the number of existing stock, and the seller will be able to identify the amount of stock to be added. Additionally, the I POS Web System can also produce statistics and graphs on high demand items so that sellers are always ready to add stock before they run out. After that, commercialization potential of this system targeted among Malaysia SME business organizations that can use through web based system successfully and also potential of systems to be integrated into mobile applications to be more responsive and flexible to rise up market value of system.**

Keywords— inventory management, SME management system, SME business organizations, enterprise system, automation calculation system

I. INTRODUCTION

I POS Web System provide the latest, reliable POS System solution to organize, grow and promote a business. I POS comprehensive yet affordable solution is designed to meet the needs of a variety of businesses in a multitude of industries, including retail and wholesale, food and beverage especially for SME (Small Medium Enterprise) I POS Web System has solution such as Inventory Management System, POS System for restaurant, hardware stores, beauty salons, pet shops, accessory shops, bookstores, stationery stores, boutiques, laundries, organic shops, music schools, optical shops, souvenir shops, photograph shops, camera shops, motor shops, tea houses, smartphone shops, vegetable, fruit stores, florists, toy shops and etc. In addition to I POS Web System functionality, there is an inventory management system, which helps to order based on stock levels and selling rate. This will make sure that the store will never to run out of popular and high demand items. Along with this is a vendor management system that provides better communication between the user and suppliers. A loyalty or membership program can reward loyal customers while boosting sales.

According to several SME entrepreneurs in the interview session, it was found that most of them had to hire a third party to manage inventory records, sales calculations and profits. This is because they have no accounting skills and are not able to hire full-time staff with those skills. Not many SME in Malaysia are adopting financial management tools in their organizational activities. Arguably, SME need to be aware of the accounting information and use it for better management control and decision making process in order to remain competitive in the corporate world.

Besides, interviews with SME entrepreneurs also found that most of them were less aware of the importance of financial records management. One of the reasons behind the fact that SME do not properly keep their accounting records is that there is no statutory requirement for the SMEs' financial information to be publicly disclosed. Although, this may indicate that there are no violations of the statutory regulations but somehow it demonstrates that SME are not being responsive to the importance and safety of accounting records.

A part from that, it was found that most SME entrepreneurs rarely use ICT tools, leaving them with no tools to maintain a more systematic and lasting record of business transactions. All information needs to be

computerized to establish a fast and beneficial link with the customers, and the suppliers, which can ease the business operations terms of saving time and cost. They need to be equipped with the Information Technology (IT) knowledge to remain relevant in the current business environment. Therefore, I POS Web System is designed to improve the work flow of business transaction management; provide appropriate management of SME business record in line with National Archives Act 2003; and inculcate digital transformation on conventional SME business approach in line with Industrial Revolution 4.0 (IR 4.0).

II. LITERATURE REVIEW

Based on National Archive Act [1], the purpose of a public record, including an electronic public record, is to serve as an authoritative, authentic, and reliable source of information and as the means of documenting decisions. Most importantly, it would serve as evidence to the transactions that transpired in government.

SMEs are establishments employing less than 200 employees and having fixed assets less than RM2.5 million [2-3]. In Malaysia, SMEs are the dominant form of business establishments. Out of the 662,939 business establishments, 97.3 per cent are SMEs. More than three quarters of the total SMEs establishments were micro enterprises, followed by 20 per cent small-sized enterprises, and 3 per cent medium-sized enterprises [4].

A study revealed that the causes of the failure of SMEs are both internal and external. Internal factors include lack of management experience, lack of functional skills and poor staff training and development and poor attitudes towards customers. External factors include nonavailability of a logistics and supply chain, high cost of distribution, competition, rising costs of doing business and lack of finance [5].

There has been a vast increase in the application and adoption of ICT in organizations for the storing, processing, distributing, and information exchange within the firm and along their supply chains [6-7]. The implementation of ICT solutions to support SCM by SMEs can be cost saving for an organization in several ways [8]. It can increase flexibility, reduce the occurrence of errors in paper-based activities, achieve faster response times, and lower the cost of labor [9].

Several theories and models were developed from the perspective of IS; Technology Acceptance Model [10], Unified Theory of Acceptance and Use of Technology [11], Task-Technology Fit [12], Theory of Planned Behavior [13], and Theory of Reasoned Action [14].

Technology Acceptance Model (TAM) is to explain the general factors of computer acceptance that lead to clarify users' behaviour through a wide range of end-user computing technologies and user populations [10]. TAM is specifically tailored for modeling users' acceptance of information systems or technologies. Large number of studies carried on applying TAM to explain and predict the voluntary use of systems, very few studies considered systems that were for mandatory use [15]. Attitude may have important effects on system use and therefore need to be reconsidered in the TAM Model [16].

Unified Theory of Acceptance and Use of Technology (UTAUT) is a unified model based on social cognitive theory with a combination of eight prominent information technology (IT) acceptance research models [17]. The effort expectancy construct in UTAUT, like its predecessor 'ease-of-use' in TAM, captures how much effort users expect to invest in order to be proficient in using a system.

The proposed Task-Categorization-Technology Fit model is an enhanced model of the Task-Technology fit model [18]. Task Technology Fit (TTF) model is applied to evaluate the performance impact of CCT on individual in the organization. TTF model views technology as a means by which a goal-directed individual performs tasks. TTF focuses on the degree to which system characteristic match the user's task needs. Higher task-technology fit will result in better performance [12].

Theory of planned behavior is a prominent reasoned action model, its conceptual foundation, its intellectual history, and the research it has generated from its roots in propositional control and expectancy theory, the TBP emerged as a major framework for understanding, predicting, and changing human social behavior. According to this theory intention is the immediate antecedent of behavior and is itself a function of attitude toward the behavior , and these determinants follow, respective, from belief about the behavior's likely consequences, about normative expectation of important others, and about the presence of factor that control behavioral performance [19].

Fishbein and Ajzen's theory of reasoned action has been a leading theory in social psychology for the last few decades, it also has been an object of criticism for much of that period and subject to definitional issues about what an attitude is [20].

III. METHODOLOGY

Given the nature of the research question, the most appropriate method for this study is a quantitative study and System Development Life Cycle (SDLC) for system development. At the first stage, an online questionnaire was developed by adopting previous instruments by other researchers. Prior to the data collection, the instrument was pre-tested with several experts in the field of the information system. The instruments were revised based on comments and suggestion from the expert review process. Then, a pilot test was conducted with 30 students and reliability test was performed using Statistical Package for Social Science (SPSS) version 22 software.

The population of the study was students enrolled for the bachelor's degree and a diploma in the Faculty of Information Management, Universiti Teknologi MARA (UiTM) Kelantan, Malaysia. These students were selected because of researchers' easy access to the sampling frame, and they were also involved in the pilot testing during the implementation of I-POS Web System. The following sections explain the finding of the study.

A. Instrument Development

A quantitative approach was adopted for data collection. Items were adopted from similar previous study. The completed instrument was sent to the experts for pre-test. The instrument was modified based on the recommendation and suggestions from the expert review process. Then, the instrument was distributed for a pilot test; Cronbach alpha

was used to determine the reliability of the instrument. Actual data collection takes place for 2 months. Respondents selected were students at the Faculty of Information Management, Universiti Teknologi MARA Kelantan Branch. The respondents were selected based on convenience sampling.

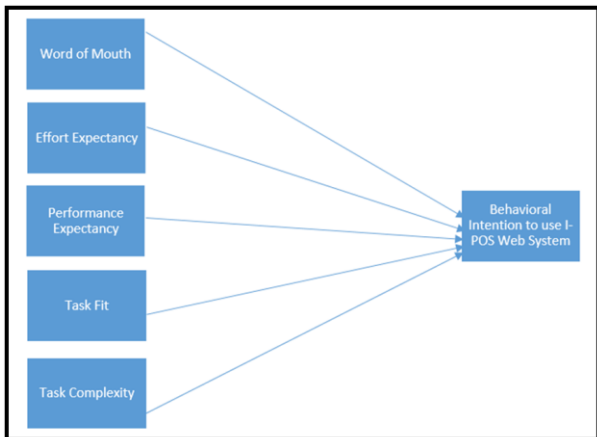The following Figure 1 shows the list of variables in research model of the study.

FIGURE 1: RESEARCH MODEL OF I POS WEB SYSTEM

B. System Development Life Cycle (SDLC)

System Development Life Cycle (SDLC) methodology is a standard process to conduct all the steps necessary to plan, analyze, design, implement, and maintain information systems. The five elements in this process are completed step by step. The following Figure 2 shows the cycle of system development.
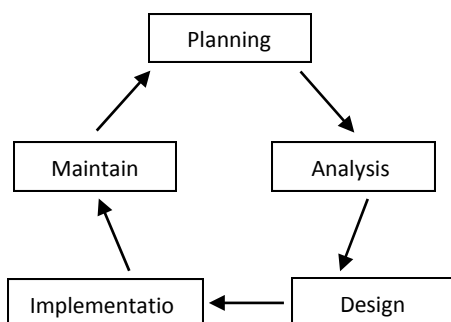

FIGURE 2: CYCLE OF SYSTEM DEVELOPMENT

The first step is planning. Process started to understand the concept in the process of inventory and point of sale (POS) system development methodology. Then continued with the gathering the information about Small and Medium Enterprise (SME) that can be used in decision making indirectly determine the current problem of SME such as lack of knowledge on transaction management, lack of proper record keeping, and lack of ICT usage. The information gathered from online article then the system selected and continued with the consultation of the systems with lecturer for approval. The proposal needs to be prepared when the system was selected and approved. The approved system is POS system that focuses in SMEs' business. Then, abstract drafted to determine the system introduction, function, objective, commercial value, and others.

The process continued to analysis section. This section consists of determine other system from website. Analysis to other system shows the features in the system that can be idea for improvement. Other functions of the I POS Web System also need to be analyzed so that the functions for inventory, registration, updates, removals, sales, purchases and more are fully interactive.

The next step is design process. Storyboard created based on the development page of Integrated Point of Sale (i-POS) System that represent the system's features. A storyboard is a graphic organizer in the form of illustrations or images displayed in sequence for the purpose of pre-visualizing a motion picture, animation, motion graphic or interactive media sequence. The storyboard consists of interface design, input, and output. Then, the next step involves the programming process started with pages design using Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). To ensure that the system is able store data, the programming process is carried out using Personal Home Page (PHP) and MySQL which are Oracle-backed open source Relational Database Management System (RDBMS) based on Structured Query Language (SQL). The software used in this design is Adobe Dreamweaver and Wamp sever.

Next is implementation process. Implementation is a process whereby information system is coded, tested, installed and supported in the organization. The activity in this process is content development which is the system need to add as a data. The content development consists of Entity Relationship Diagram (ERD) development and system development. The table of ERD created based on the data requirement in the system. The example of the table is admin, company, staff, customer and more. The table needs to connect to each other as a database. Then, develop the system that can be used as well. The data flow and context diagram created to show the process of this system.

Last is maintaining process. In this step, the system needs to be tested by using both Alpha tester and Beta tester. Alpha tester is the first tester that user testing of a completed information system using simulated data. This session is to test the process of the system. Then followed to the Beta tester which is user testing of a completed information system using real data in the real user environment. Then system development needs to be recorded. Final preparation needed by team belong to the system and report. Any issues will fix in this preparation. Lastly, final presentation needs to show the system development.

IV. RESULTS AND FINDINGS

The following section discusses the result of data collection. The findings will be discussed in term of descriptive analysis.

A. Demographic profile

Table 1 shows the demographic profile of the respondents. A total of 150 respondents involved in the study. Based on the data collection, 58% of respondents are female, while 42% male. In term of the semester, the highest percentage of respondents is from semester 3 with 28.0%. Most respondents underwent fulltime studies 98.7%, while part-time studies contributing the rest. In term of level of study, 31.3% of respondents with a bachelor while 68.7% of

respondents with a diploma. The respondent with the age range of 21-22 years represents the highest percentage.

TABLE I. DEMOGRAPHIC PROFILES

Item	Description	Frequency	Percentage (%)
Gender	Male	63	42
	Female	87	58
Current Semester	Semester 1	11	7.3
	Semester 2	20	13.3
	Semester 3	42	28.0
	Semester 4	40	26.7
	Semester 5	31	20.7
	Semester 6>	6	4.0
Mode of Study	Fulltime	148	98.7
	Part Time	2	1.3
	SML	0	0
Level of Study Age	Diploma	47	31.3
	Degree	103	68.7
	18-20	30	20.0
	21-22	85	56.7
	23-25	34	22.7
	Over 25	1	0.7

B. Descriptive Analysis

Table II shows the mean for word of mouth. From the table, it can be concluded that respondents strongly agreed that word of mouth does contributing to the user satisfaction towards the use of I-POS Web System. The highest mean is 4.91 while the lowest mean is 4.83.

TABLE II. WORD OF MOUTH

Item	1	2	3	4	5	Mean
I will say positive things about I-POS Web System to other people.	0	0	3	10	137	4.89
I will recommend I-POS Web System to anyone who seeks my advice.	0	0	2	12	136	4.89
I will refer my acquaintances to use the I-POS Web System.	0	0	4	9	137	4.89
I suggest I-POS Web System that I satisfied to my friends	0	0	1	15	134	4.89
I tell positive I-POS Web System experiences to my friends	0	0	3	19	128	4.83
I make positive ratings regarding I-POS Web System.	0	0	1	12	137	4.91
I comment on successful products and brands.	0	0	1	13	136	4.90
I talk with my friends about features of I-POS Web System.	0	0	4	14	132	4.85

Item	1	2	3	4	5	Mean
I talk about I-POS Web System satisfactions.	0	0	3	8	139	4.91
I make sharing about successful I-POS Web System.	0	0	2	19	129	4.85

1- Strongly Disagree 2- Disagree 3- Moderate 4- Agree 5-Strongly agree

Table III shows the mean for effort expectancy. From the table, it can be concluded that respondents agreed that information quality does contributing to the user satisfaction towards the use of I-POS Web System. The highest mean is 4.89 while the lowest mean is 4.83.

TABLE III. EFFORT EXPECTANCY

Item	1	2	3	4	5	Mean
Learning how to use I-POS Web System is easy for me	0	0	2	14	133	4.86
My interaction with I-POS Web System is clear	0	0	2	16	132	4.87
My interaction with I-POS Web System is understandable	0	0	5	8	136	4.86
I find I-POS Web System easy to use.	0	0	2	10	137	4.89
It is easy for me to become skilful at using I-POS Web System.	0	0	3	16	130	4.83

1- Strongly Disagree 2- Disagree 3- Moderate 4- Agree 5-Strongly agree

Table IV shows the mean for performance expectancy. From the table, it can be concluded that respondents strongly agreed that performance expectancy does contributing to the user satisfaction towards the use of I-POS Web System. The highest mean is 4.90 while the lowest mean is 4.84.

TABLE IV. PERFORMANCE EXPECTANCY

Item	1	2	3	4	5	Mean
I would find I-POS Web System useful in my job.	0	0	2	13	135	4.89
Using I-POS Web System enables me to accomplish tasks more quickly.	0	0	3	14	133	4.87
Using I-POS Web System increases my productivity	0	0	1	10	138	4.90
If I use I-POS Web System, I will increase my chances of gaining more profit.	0	0	2	17	130	4.84

1- Strongly Disagree 2- Disagree 3- Moderate 4- Agree 5-Strongly agree

Table V shows the mean for task fit. From the table, it can be concluded that respondents strongly agreed that task fit contributing to the user satisfaction towards the use of I-POS Web System. The highest mean is 4.93 while the lowest mean is 4.87.

TABLE V. TASK FIT

Item	1	2	3	4	5	Mean
I found I-POS Web System appropriate for the business task that my group performing	0	0	1	13	136	4.90
I-POS Web System displayed in a readable	0	0	1	8	141	4.93
I-POS Web System displayed in an understandable format	0	0	2	11	137	4.90
I-POS Web System presented in a useful format	0	0	1	14	135	4.89
The information on I-POS Web System is what I need to carry out my tasks.	0	0	2	15	133	4.87
I-POS Web System adequately meets my information needs.	0	0	1	11	138	4.91

1- Strongly Disagree 2- Disagree 3- Moderate 4- Agree 5-Strongly agree

Table IV shows the mean for task complexity. From the table, it can be concluded that respondents strongly agreed that task complexity does contributing to the user satisfaction towards the use of I-POS Web System. The highest mean is 4.89 while the lowest mean is 4.82.

TABLE VI. TASK COMPLEXITY

Item	1	2	3	4	5	Mean
I frequently deal with unstructured business problems.	0	0	3	13	134	4.87
I frequently deal with ad hoc	0	0	5	17	128	4.82
I frequently deal with non-routine business problems.	1	0	4	14	131	4.83
The business problems that I deal with frequently involve more than one organizational group.	0	1	5	13	131	4.83
The business problems I work on involve answering questions that have never been asked in that way before.	0	2	1	15	132	4.85
In my job, there is a great deal of variety problems, issues, or questions for which I need data.	0	0	1	15	134	4.89
The business problems I deal with frequently involve more than one business function.	0	0	2	15	133	4.87
In my work, I frequently have to think about business problems	0	1	4	10	135	4.86

1- Strongly Disagree 2- Disagree 3- Moderate 4- Agree 5-Strongly agree

Table IV shows the mean for behavioural intention. From the table, it can be concluded that respondents agreed that behavioural intention does contributing to the user satisfaction towards the use of I-POS Web System. The highest mean is 4.92 while the lowest mean is 4.87.

TABLE VII. BEHAVIORAL INTENTION

Item	1	2	3	4	5	Mean
I intend to use I-POS Web System for communicating with others in the context of my work.	0	0	2	11	136	4.92
I intend to use I-POS Web System in doing performance-based activities at work.	0	0	2	8	140	4.91
I intend to use I-POS Web System for coordinating business.	0	0	2	10	138	4.90
I intend to use I-POS Web System for collaborating in performance-based activities.	0	0	1	13	136	4.90
I intend to continue using I-POS Web System	0	0	1	13	136	4.87
I predict I would continue using I-POS Web System.	0	0	2	15	133	4.89
I plan to continue using I-POS Web System	0	0	1	14	135	4.89

1- Strongly Disagree 2- Disagree 3- Moderate 4- Agree 5- Strongly agree

V. CONCLUSIONS

As a conclusion, this system is best applied to all SMEs because the system is standard and has the functionality required by each SME. The use of this system is very appropriate, as this system is capable of accessing everywhere using the internet. With this functionality, enable the company to make updates anytime and anywhere. New SMEs are designed to use this i-Post system, as data can be stored securely. The data need to manage by the system especially nowadays. This is because; there are several things in SMEs that need to reduce time in their operations. For example, in manage the stock, the SME need to get the accurate data of the product. This leads the company best decision-making.

To strengthen the elements and functions of this system, Researchers conducted a quantitative study to investigate the extent of user satisfaction towards using I-POS Web System. A convenience sampling method was adopted.

The contributions of the paper are as follows. First, researchers identify a list of predictors for information system success in the context of the point of sales process. Second, the researchers proposed a conceptual model of behavioral intention based on previous literature. Third, we discuss the findings and discussion for future study.

This study will be limited in several ways. Firstly, the researchers only use a minimum number of variables for the study. Future study should include more variables such as system quality, service quality, perceived usefulness and attitude towards the information system. Secondly, the researchers only include small numbers of the respondent from single university.

MARA Kelantan Branch, Malaysia that contributed to the success of the research.

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