The Acceptance of Online Booking System (OBS) Based on the Theory of Reasoned Action (TRA): A Case of Sana'a University

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Abstract— This paper mainly was conducted to measure the user acceptance towards the new online booking system (OBS) for the meeting and seminar halls in the Graduate Studies of Sana'a University. TRA and Technology Acceptance Model (TAM) for indicating the user satisfaction were also used to perceive the user acceptance level towards the developed system. In addition, the Software Development Life Cycle (SDLC) model was used for designing and developing the proposed online reservation system for the meeting and seminar halls After that, an online questionnaire was administrated among 100 respondents Sana'a University to measure the visual aspects in terms of ease of use, usefulness and satisfaction. The result revealed that OBS to be easy to use, useful, and finally gained their satisfaction.

Index Terms— Online booking system, Internet, Intranet, TAM, TRA, SDLC.

1 Introduction

GENERALLY, Web applications are used to implement Webmail, online retail sales, online auctions, wikis, discussion boards, Weblogs, MMORPGs and many other functions.

Nowadays, information and communication technologies conclude different services such as e-mail, telegraph, telephone, and the internet. However, the internet is the latest in long series of communication technologies [1-2]. As stated in [3] the term "an internet service presents a classification of objects to perform a certain services to a different users", this means that there is no accepted definition of this term. Since, society generally known as a group of people who deal in a virtual environment, adopting online services in various societies gives the opportunity to model and formulate contents [4-5]. Communication services becomes one of the most important applications in the world for providing clients with the intellectual services [6]. The online booking system for the meeting and seminar halls will provide flexible and sustainable services for saving time and emulate mistakes. From the other hands, users are looking for an interactive and easy way to communicate and do their jobs via internet. The usefulness of the providing such a reservation services is to help administration staffs in their daily work by making their reservation up to schedule, connected, and generating reports easily [7]. The main structure of the web can change from other point's targets. Most of these applications are build and design based on a certain strategy to fit the expected needs and generate the user desires [8]. Different strategies units perform to varying levels against each other, and come at varying satisfaction [9].

This paper mainly focuses on the existing booking system for the meeting and seminar halls of Graduate Studies at Sana'a University, which face several issues regarding the booking procedures that mainly performed manually. A questionnaire was administrated among 100 users (Lecturers and administrative staffs) to indicate their opinion towards the current booking system at Sana'a University.

Different researchers achieved positive results with respect to social norms (such as the confidence that comes with individual's towards the using of online facilities) [10-11]. Venkatesh and Davis (2000) acknowledged that by modifying the TAM (TAM2) through the integration of subjective norms [12]. This model accounted for 50 per cent of the variance in technology usage intention, indicating that there are other significant factors not yet identified. Meanwhile, the vast majority of TAM studies have been conducted with respect to employees, not consumers. Usefulness of using web application have been found to influence internet usage, but the more formalized approach provided by TAM has not been widely used for measuring the effected factors. O'Cass and Fenech (2003) began to study what factors affect this propensity in a negative manner i.e. what discourages individuals from adopting the technology. In addition with a growing recognition of the importance of researching attitude with respect to internet adoption the work of Bobbitt and Dabholkar (2001) has attempted to integrate the various attitude-based theories with external factors (such as the product/service category and perceived risks) to explain why individuals may choose technology-based self-service options [13].

2 Theoretical Framework

TAM was used as a crucial factor in the use of computer technologies. There have been several early researchers who proposed theories regarding technology and computing behavior that have withstood the tests of time, and remain useful today [12, 14].

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Davis (2000) developed the Technology Acceptance Model (TAM) for linking perceived ease of use, perceived usefulness and the resulting impact on intention to use the technology. Davis stressed the importance in gaining an understanding of factors that influence technology acceptance. Figure 2 presents the proposed theoretical framework towards perceive ease of use, usefulness, and satisfaction towards the online booking system.

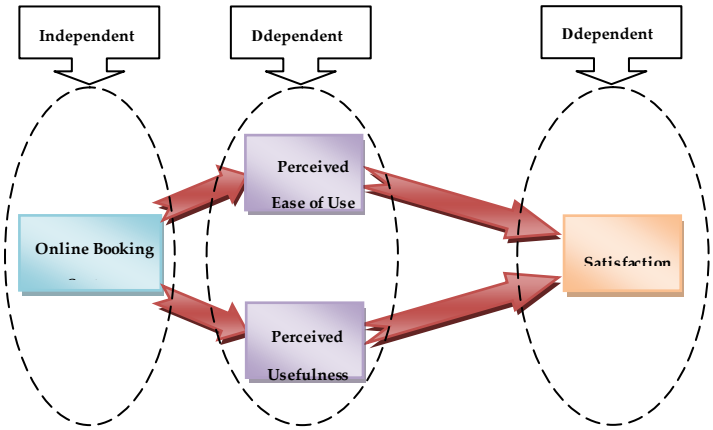
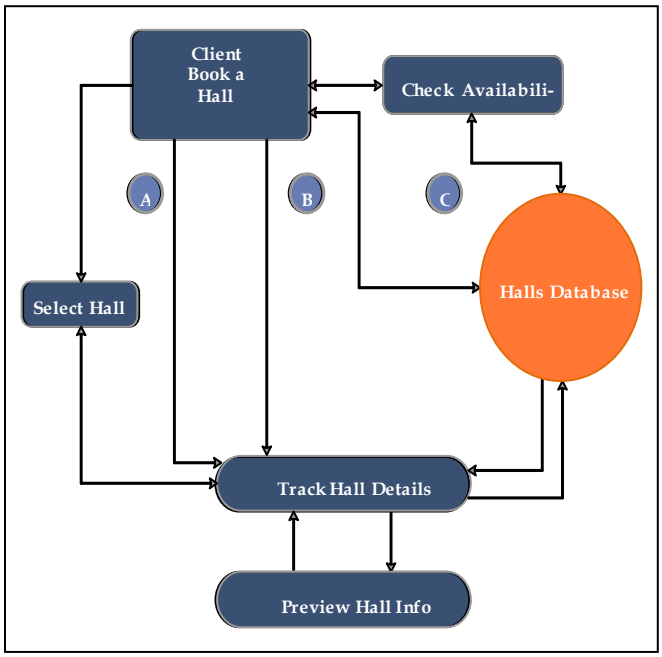


Fig 2. Theoretical Framework

However, SDLC was used to design and develop the proposed booking system. Figure 3 shows the main functionalities of the proposed system in terms of:

- managing the booking details by adding, editing and deleting the booking information from the system database.
- retrieving and displaying the booking details to the administration staffs such as; the halls reservation time table.



3 METHOD

This paper was based on a quantitative study. The design process of research elements determines how best to construct a project that delivers these requirements. Design is first concerned with the specification of the research architecture that defines the major strategic components and their relationship, design involves reaching a balance between requirements that conflict with each other within implementation environmental constraints. Table 1 presents the respondents classification. 50 respondents were involved in this study. The respondents of the study were 78.0 % (39 respondents) male and 22.0 % (11 respondents) female. However, the majority of respondents were 35-44 years (52.0%). While 19 of them were 44-54 years (38.0%) and 5 respondents were 26-34 years (10%). 40 of the participants were lecturers (80%), while 10 of them were administrator staffs (20%).

TABLE 1:
RESPONDENTS CLASSIFICATION

X	Administration Staffs	Lectures
Online Booking System	10	40

Questionnaire was administrated to 50 administration staffs and lecturers from Graduate Studies at Sana'a University.

4 EXPERIMENT

Normal collection method was employed to collect respondents' perspectives on the proposed online booking system. Time constrain was arranged for three weeks of services observation using TAM questionnaire. The requirements gathering process takes as its input the goals identified in the high-level requirements section of the project plan. Each goal refined into a set of one or more requirements. The data collected from the questionnaire items were analyzed using SPSS. The questionnaire was evolved two sections; the first presents the perceived ease of use, perceived usefulness and satisfaction of the manual booking system (MBS), while the second section presents the perceived ease of use, perceived usefulness and satisfaction of the OBS. The proposed system was tested by running the system on internet explorer with a definite server as well as local host server.

5 EVALUATION & FINDINGS

Descriptive statistics was calculated to describe the basic features of the data. It provides simple summaries about the sample and the measures.

5.1 Manual Booking System Descriptive Statistic

Table 2 represents the descriptive statistic of the MBS for 12 items to perceive the participants perceived ease of use, perceived usefulness and satisfaction.

TABLE 2:
DESCRIPTIVE STATISTIC PERCEIVED EASE OF USE AND USEFULNESS FOR MBS

	Minimum	Maximum	Mean	Std. Deviation
Q1	1.00	5.00	2.5000	1.23305
Q2	1.00	5.00	2.2000	1.36904
Q3	1.00	5.00	3.1200	1.00285
Q4	1.00	5.00	2.8400	1.23487
Q5	1.00	5.00	2.3400	1.15370
Q6	1.00	5.00	3.3200	.99877
Q7	1.00	5.00	2.8600	1.03036
Q8	1.00	5.00	2.6600	1.09935
Q9	1.00	5.00	2.7200	1.21286
Q10	1.00	5.00	3.1800	1.02400
Q11	1.00	5.00	3.0400	1.02936
Q12	1.00	5.00	2.0400	1.02824

Furthermore, the obtained result from Table 2 shows that most of the participants were not sure that they were applicable to perform their task easily with the manual booking system for Mean=3.3200 (SD=.99877), as well, most of participants were also not sure that MBS service provides a very satisfactory services for Mean= 3.1800 (SD= 1.02400), and Mean=3.1200 (SD=1.00285) indicates that MBS required time for managing data, while other participants were disagree that they were satisfied with quality of MBS Mean=2.0400 (SD=1.02824), in addition, the majority of the respondents answers were averaged from not sure and disagree regarding the MBS. The result was initially showed that the majority of participants did not find MBS ease to use, useful, and gained their satisfaction.

5.2 Online Booking System Descriptive Statistic

Table 3 represents the descriptive statistic of the OBS for 14 items to perceive the participants perceived ease of use, perceived usefulness and satisfaction.

TABLE 3:
DESCRIPTIVE STATISTIC PERCEIVED EASE OF USE AND USEFULNESS FOR OBS

	Minimum	Maximum	Mean	Std. Deviation
Q1	2.00	5.00	3.9600	.87970
Q2	3.00	5.00	4.0400	.66884
Q3	2.00	5.00	4.0600	.71171
Q4	1.00	5.00	3.1200	1.06215
Q5	1.00	5.00	3.4400	.90711
Q6	1.00	5.00	3.7800	1.11190
Q7	1.00	5.00	3.8200	.96235
Q8	1.00	5.00	3.5600	1.12776
Q9	1.00	5.00	3.5400	1.11043
Q10	1.00	5.00	3.6800	1.05830
Q11	2.00	5.00	3.8400	.91160
Q12	1.00	5.00	3.9400	.99816
Q13	1.00	5.00	3.6200	1.00793
Q14	1.00	5.00	3.2400	1.30243

Nevertheless, the obtained result from Table 3 shows most of the participants were agree that using OBS was easy to learn at Mean=4.0400 (SD=.66884), as well, most of participants were also agree that OBS helps participants to finish their works faster and easier for Mean= 4.0600 (SD= .71171), and Mean=3.9400 (SD=.99816) indicates that organization of information on OBS screens is clear, Therefore, the majority of the participants found OBS to be easy to use, useful, and finally gained their satisfaction.

5.3 Online Booking System Descriptive Statistic

Table 4 represents the correlation result between ease of use and usefulness variables towards OBS. They were .557** for perceived ease of use, .557** for perceived usefulness, and .234 for satisfaction, those variables are significantly in low and high correlated with OBS. According to Cohen and Cohen (1988), the .557**, .682** and .234 Pearson Correlations represent the relationship among variables.

TABLE 4:
CORRELATION TEST RESULT

		EOU	U	SAT
EOU	Pearson Correlation	1	.557**	.234
	Sig. (2-tailed)		.000	.102
	N	50	50	50
U	Pearson Correlation	.557**	1	.682**
	Sig. (2-tailed)	.000		.000
	N	50	50	50
SAT	Pearson Correlation	.234	.682**	1
	Sig. (2-tailed)	.102	.000	
	N	50	50	50

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

6 DISCUSSION

Most participants were not sure that they were applicable to perform their task easily with the Manual Booking System (MBS) with the Mean=3.3200 (SD=.99877). This indicates that MBS required time for managing data, while other participants disagreed that they were satisfied with quality of the MBS with Mean=2.0400 (SD=1.02824). In addition, the majority of the respondents answers were averaged from not sure and disagree according to the likert scale 1 strongly disagree and 5 strongly

agree. The results initially showed that the participants did not find MBS ease to use, useful, and satisfier.

While the findings towards the OBS revealed that most of the participants agreed that OBS to be easy to learn at Mean=4.0400 (SD=.66884), OBS helps them to finish their works faster and easier at Mean= 4.0600 (SD = .71171), while organization of information on OBS screens was clear at Mean=3.9400 (SD =.99816). The result initially showed that the majority of participants found OBS to be easy to use, useful, and gained their satisfaction.

7 Conclusion

This paper was conducted to address the ease of use, usefulness, and user satisfaction towards the OBS. An evaluation was conducted with 50 participants from Sana'a University lecturers and staffs to indicate their opinion about the current MBS. Then the result was collected and analyzed based on the descriptive statistic result and the correlation result for MBS and OBS. The result showed that participants were found OBS to be easy, useful, and gained their satisfaction.

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