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An Evaluation of ASYCUDA Worldwide Customs Information System Success in Jordan

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Abstract
This research aims to develop a conceptual information success model which investigates the success of ASYCUDA information system in customs sector at the individual level in Jordan. The theoretical framework is based on DeLone and McLean (2003) IS success model which is widely used in the information system research. The relationships of DeLone and McLean model were tested; net benefit construct was replaced by perceived usefulness. Training construct was added to the model. In addition, three new relationships between quality constructs (System Quality, Information Quality, and Service Quality) and perceived usefulness were added to the model. The proposed model contains seven variables (System Quality, Information Quality, Service Quality, Training, System Use, Users' Satisfaction and Perceived Usefulness) that measure the success of ASYCUDA system in providing the desired benefits at the individual level. The quantitative research was used and questionnaire was distributed to Four Jordanian governmental organizations (Jordan Customs, Ministry of Agriculture, Jordan Standards and Metrology Organization, and the Food and Drug Administration) that have used the ASYCUDA system. 257 questionnaires were collected from the four organizations and statistically analyzed to test the developed hypotheses. Seven hypotheses were developed, and all hypotheses were supported. Findings from the analysis showed significantly six predictors; system quality, information quality, service quality, system use, user satisfaction and training are the predictors to perceived usefulness. It was proven that the ASYCUDA system had been used successfully in Jordan.
Keywords: IS success, ASYCUDA, perceived usefulness, information quality, system quality, service quality, system use, user satisfaction, training.

1. Introduction

Organizations are facing conditions of globalization and development in information technology (IT) and finding themselves in a great need to increase spending on information systems (IS) (Odinioha & Chukwuma, 2013). IS has an important role in organizations and it has effect on the business operations. The reasons for the importance of IS are: effective and efficient coordination between departments, access to relevant data and information, improvement in organizational and departmental techniques, management of work activities, cost reduction, profit increase, and time saving benefit to the workforce (Abu Rumman, 2013). Researchers developed large number of researches trying to identify and distinguish factors that lead to IS success. Obtaining the benefits of IS is important for organizations to success (Al-Adaileh, 2009). Organizations believe that the investment in IS will have a positive impact on the organization performance (Nazari & Nazari, 2013). Information and technology that produces it are important resources for organisations. Therefore, the productivity of employees will increase the higher the quality of IS.

Countries always seek to facilitate trade procedures to reduce business costs for each party involved in the business process by removing the various barriers to trade that accompany the cross-border movement of goods and services (Alipour, Moniri & Tanha, 2011). This requires the adoption of the best international standards and IT services. According to Final Report of Jordan Customs Administration Modernization Program (2009), Jordan customs started modernnisation in 1997 by the implementation of ASYCUDA++ programme in order to increase revenue collection and to improve integrity and transperency in customs services. The ASYCUDA++ had been fully operational in 1999 and contreputed to simpler customs clearence, simpler release procedures, and the trade statistics were more accurate and up-to-date.

By the need for the government to improve trade facilitation, in 2006 Jordan customs continued the modernisation programme and it had four components: Establishment of single window locations at several border posts, upgrade of from ASYCUDA++ to ASYCUDAWorld, Capacity strengthening which include the training on how to use the new system and the use of Global Posisining System (GPS) devices on transit vehicles, and Improvement of communications between jordan customs and the business community. The implementation of single windows contributed to phisical renovations of customs offices to accommodate ASYCUDA workflow and co-locate and officers from four government agencies, including Jordan Customs, Ministry of Agriculture, Jordan Standards and Metrology Organization, and Food and Drug Administration. Memorandums of understanding was established between Jordan customs and the participating government agencies, the objective was to organize cargo processing within the single window framework, especially for management, operational coordination and information exchange functions. This memorandum allowed Jordan customs to conduct administrative supervision of the activities performed by participating government agencies and enhance the

exchange of information among all government agencies.

1.2 Research Problem

Major advances in IS have led to change in every industry sector. The governmental organizations are not exceptional and it has taken advantage of the facilities offered by IS. As a governmental organization, Jordan Customs Since 1997 has worked to improve the efficiency of customs clearance processes and to facilitate trade. The use of information technologies and using better methods and equipments has been prioritized.

ASYCUDA system is developed by United Nations Conference on Trade and Development (UNCTAD) by foreign experts and the system deals with large number of stakeholders in different countries, with different cultures and using different languages and it is therefore essential that all stakeholders exchange trade related data quickly and efficiently. These differences may result in the system not being properly applied. For example, in 2014 The introduction of an updated version of ASYCUDA in Jordan caused the system to stop functioning due to the adoption of these updates to the system experts in Geneva, which coincided with the weekly holiday of these experts, which led to the delay of completion of transactions.

Other problem is related to the technical implementation of ASYCUDA. According to (Wondemagegne, 2014) in his study about customs and revenue reforms in Ethiopia, ASYCUDA was found to frequent breakdowns which result delay in the clearance time. In 2011, 2015 and 2016 ASYCUDA system has stopped functioning in Jordan for technical problems. Salehi (2012) observed that users of ASYCUDA have not enough confidence in the system. Inclusive understanding of ASYCUDA success is still remaining wily and a measurement of ASYCUDA system as an IS has not been conducted before. Therefore, it is necessary to evaluate the success of ASYCUDA system and identify the factors that affect the success of the system.

1.3 The Objectives and Questions of the Study

The main goal of this study is to evaluate the success of ASYCUDA system at the individual level from the perspective of employees as users of the system. To achieve this goal, the following objectives were proposed:

1- Identify the success factors of ASYCUDA system that can be used to evaluate ASYCUDA success.
2- Determine the effect of system quality, information quality, service quality, system use, users' satisfaction and training on perceived usefulness.

Based on above research objectives, this research seeks to answer the following research questions.

1- Which success factors of ASYCUDA system that can be used to evaluate ASYCUDA success?
2- What is the effect of system quality, information quality, service quality, system use, users' satisfaction and training on perceived usefulness?

2. Literature Review and Theoretical Framework

2.1 Overview on ASYCUDA System

ASYCUDA is a computerized customs management system that covers most foreign trade procedures. The main objective of ASYCUDA system is to support countries to facilitating trade by strengthening capacity of customs administrations to carry out their oversight and financial functions, through the implementation of modern systems can be depend on it (Wijayasiri & Jayaratne, 2009). According to UNCTAD the ASYCUDA system meets the requirements of all customs operations worldwide with standard parameters and provides a broad economic scale that allows UNCTAD to propose solutions at the lowest cost. The system can be adapted to the requirements of any country.

The first version of ASYCUDA was introduced in the early 1980s. In the mid of 1980s, ASYCUDA began developing the second version of ASYCUDA with New software languages and operating systems have emerged in the market. Development of the third version of the ASYCUDA system (ASYCUDA++) has commenced in 1992, when a new wave of information technology emerged, this version is based on server / client architecture. The development of (ASYCUDAWorld) is the result of the latest process initiated by UNCTAD When the first evidence of the possibility of establishing a commercial network around the world was spotted (ASYCUDA Website, 2007). According to UNCTAD, ASYCUDA is used in more than 80 countries in five continents with 61019 users around the world and more than 15.000.000 customs clearance operations per year.

2.2 Theoretical Framework

The theoretical framework that guided this study is Delone and McLean (2003) IS success model. In an attempt to create a model that defines IS success, DeLone and McLean (1992) reviewed different IS success definitions and the measures related to these definitions. DeLone and McLean used six categories to classified the measures of IS success and then developed a model for measuring the success of IS. The model was based on Rechard Mason's (1978) modification of Shannon and Weaver's (1949) mathematical theory of communications. The model assumes that the system has characteristics that have an effect on the system itself and the information

generated by the system. The user will use the system and the use of the system will be satisfactory or unsatisfactory, which affects individual performance. The individual performance collectively results in organizational impacts. Figure 1 shows the model.

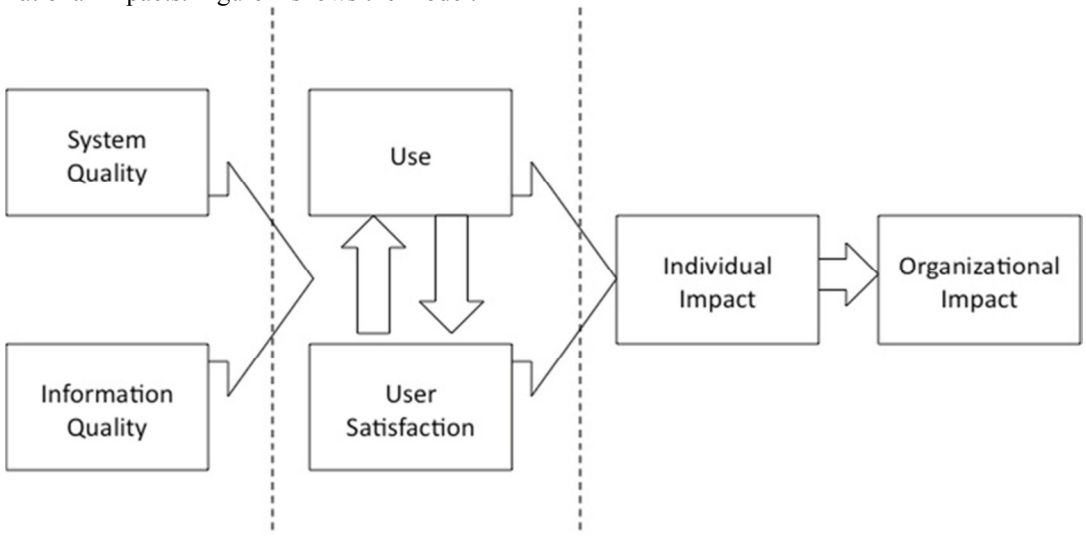

Figure1. DeLone and McLean (1992) IS Success Model

In 2003 DeLone and McLean updated their first model. The updated model used six dimensions for IS success (information quality, system quality, service quality, (intention to) use, user satisfaction, and net benefits). The updated model can be explained as follows: information quality, system quality and service quality constructs were used to evaluate the system and these constructs affect the system use and user satisfaction. Particular benefits can be achieved through the system use and user satisfaction and these net benefits can be positively or negatively affect the system use and user satisfaction. Figure 2 shows DeLone and McLean (2003) IS success model.

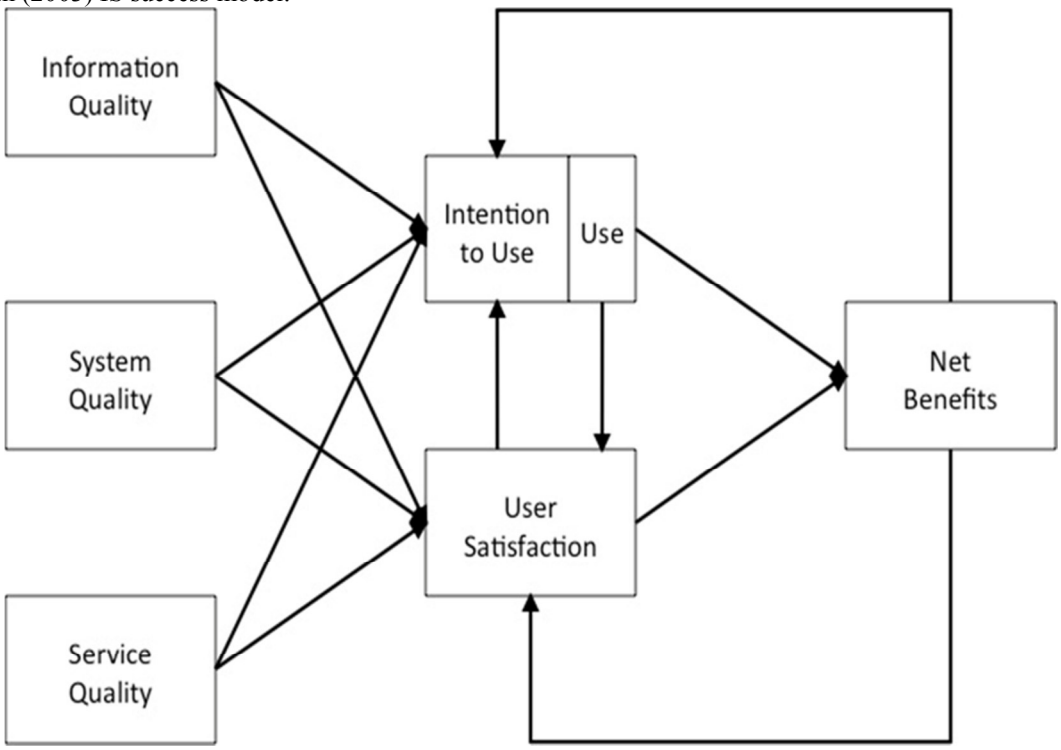

Figure 2. DeLone and McLean (2003) IS Success Model

Seddon and Kiew (1996) examined four constructs of Delone and McLean Model (1992) and the relationship between these constructs (information quality, system quality, use, and user satisfaction). They argued that Use construct is not a suitable measure and replaced it by Usefulness; also they added the importance of the system construct. Results found that information quality, system quality, importance of the system influence both usefulness and user satisfaction. Also the usefulness of the system affects the user satisfaction. User satisfaction was found to be the most construct to measure the IS success.

Seddon (1997) modified Delone and McLean (1992) IS success model, by introducing three components. The first one is partial behavioral model of IS use. This component suggest that expectations about the net benefits of future IS use is related to IS use. The first component is related to individual, organizational, and societal consequences of IS use as the second component. The model suggested that these consequences of IS use influence the IS success as the third component. Seddon (1997) used three items for the third component: 1) measures of IS quality and used two constructs (system quality and information quality), 2) general perceptual measures of net benefits of IS use and used two constructs (perceived usefulness and user satisfaction), 3) other measures of net benefits of IS use and used three constructs (net benefits for individuals, net benefits for organizations, and net benefits for society). Seddon (1997) IS success model found that information quality, system quality, net benefits for individuals, net benefits for organizations, and net benefits for society measures are positively related to perceived usefulness.

Wang and Liu (2005) developed the system dynamics model of IS success based on the integration between Technology Acceptance Model (TAM) model and Delone and McLean (2003) IS success model. The main purpose of this model is to define the main variables that are related to the information systems implementations performance. The model used three variables from Delone and McLean updated IS success model (system quality, information quality and service quality) instead of the external variables in TAM. Wang and Liu (2005) kept the user satisfaction and net benefit variables of Delone and McLean updated IS success model.

Wang and Liu (2005) used five variables from TAM (perceived usefulness, perceived ease of use, attitude toward using, behavioral intention to use, and actual system use). The integrated model found that the quality dimensions (system quality, information quality and service quality) are positively related to perceived usefulness and perceived ease of use which influence the system usage (attitude toward using, behavioral intention to use, and actual system use). Wang and Liu (2005) argued that system usage has direct influence on user satisfaction and net benefit, and the user satisfaction influence the net benefit.

3. Research Model and Hypotheses

Delone and McLean (2003) IS success model considered two variables (system use and user satisfaction) as constructs of net benefit, but did not consider quality dimensions (system quality, information quality, service quality) as a relevant constructs of net benefit. Delone and McLean IS success model did not consider the training as a construct for the success of IS. In this research the original variables and relationships of DeLone and McLean (2003) IS success model were used. Qualities were measured in three dimensions; system quality, information quality and service quality. System use construct was used instead of intention to use. Intention to use is attitude while use is behaviour and both linking to each other and many researchers choose to stay with use (DeLone & McLean, 2003). In addition, the usage of ASYCUDA system is compulsory for employees.

Net benefit construct was replaced by perceived usefulness. Davis, Bagozzi, and Warshaw (1989) developed the TAM and used perceived usefulness to measure the benefits such as job efficiency, task performance and overall usefulness from using technology, and argued that the enhancement of job performance is related to using the system. Venkatesh and Davis (2000) used job relevance and output quality as a determinants of perceived usefulness and argue that perceived usefulness is refer to comparing what a system is capable of doing with what users need to get done in their job. Many studies have measured net benefit construct by perceived usefulness (Chau & Hu, 2002; Wixom & Todd, 2005; Malhotra & Galletta, 2005; Klein, 2007).

Training construct was added to the model to evaluate the impact of training on the perceived usefulness. Sabherwal, Jeyaraj, and Chowa (2006) developed a model for IS success based on many theories (expectancy theory, theory of reasoned action, theory of planned behaviour, TAM model, UTAUT model, social cognitive theory, and innovation diffusion theory). The model examines the relationships between three categories of variables: IS success variables (user satisfaction, system use, perceived usefulness, and system quality), user-related constructs (user experience with ISs, user training in ISs, user attitude towards ISs, and user participation in the development of the specific IS), and context-based constructs (top-management support for ISs and facilitating conditions for ISs). The study found that the relationship between user training in IS and perceived usefulness is positively related.

In addition, this study added three relationships between quality variables (system quality, information quality, service quality) and perceived usefulness. Seddon and Kiew (1996) developed the user satisfaction model and examined the relationship between system quality and information quality constructs and perceived usefulness. The study found that the two constructs are positively related to perceived usefulness. Seddon (1997) IS success model examined the relationships between system quality and information quality as measures of IS quality and perceived usefulness as a measure of net benefit of IS use. Seddon (1997) found that perceived usefulness is an important predictor of future IS use. Wang and Liu (2005) developed integrated IS success model based on DeLone and McLean (2003) IS success model and TAM model and found that system quality, information quality and service quality are the most important variables that affect perceived usefulness. Based

on the previous discussion, the research model is shown in figure 3.

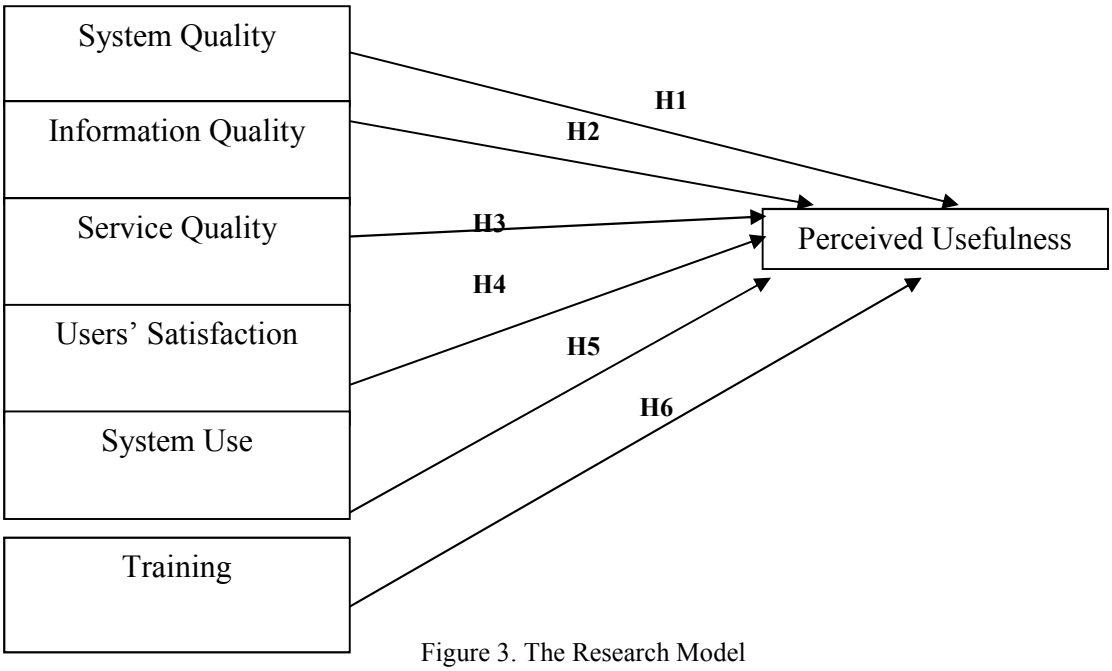

Figure 3. The Research Model

The following hypotheses were developed:
H1: There is a positive relationship between System Quality and Perceived Usefulness.
H2: There is a positive relationship between Information Quality and Perceived Usefulness**.**
H3: There is a positive relationship between Service Quality and Perceived Usefulness.
H4: There is a positive relationship between Users' Satisfaction and Perceived Usefulness.
H5: There is a positive relationship between System Use and Perceived Usefulness.
H6: There is a positive relationship between Training and Perceived Usefulness.

3.1 Model Variables Definition
The following definitions are provided to ensure the understanding of these terms throughout the study:

1. **System Quality (SQ):** represents the quality of the ASYCUDA system itself. The system quality measures in this study are Ease to Use, Reliability, Flexibility, Accessibility, Searchability, and Interaction.
2. **Information Quality (IQ):** represents the information quality of the ASYCUDA system. The information quality measures in this study are Accuracy, Consistency, Reliable, Objective and believable, Useful and helpful to user to make informed decisions, Up to date, Understandable and clear, Secure.
3. **Service Quality (Srv_Q):** deals with the competency of IT staff, their responsiveness to deal with problems associated with the system, and also the attitude and degree of professionalism by which problems are resolved (Prybutok, Zhang, & Ryan, 2008). The service quality measures in this study are: (Reliability (REL), Responsiveness (RES), Communications (COMM), Empathy (EMP), Attitude/Commitment to user involvement (ATT), and Competence (COM).
4. **Training (TRA):** refers to the level of training that employees have received on ASYCUDA system. The training measures in this study are: Level of training, Organisation support and Training material.
5. **System Use (USE):** represents the actual use of ASYCUDA system. The system use measures in this study are: Method of use, Frequency of use, Duration of use, Variety of use.
6. **User' Satisfaction (SAT):** represents the user's perception of ASYCUDA system. User satisfaction measures in this study are: the system meets and exceeds user needs and expectations, the system helps user to do his job with minimal time and effort, the system is effective and useful for user, in general the user is satisfied with the system.
7. **Perceived Usefulness (PU):** is used here in this research as a measure for employees performance achieved from using ASYCUDA system based on employees' perspective. The perceived usefulness measures in this study are: Task Productivity (PROD), Task Innovation (INN), Customer Satisfaction (CSAT), and Management Control (CONT).

4. Methodology

The approach adopted in this study was the quantitative method and the survey questionnaire is used in this study. The survey questionnaire is the most commonly used method of gathering information about the research problem. Questionnaires have the advantage of obtaining data more efficiently in terms of time, energy and costs (Sekaran, 2003). survey questionnaire was developed as the evaluation tool for this research. The items of the questionnaire were selected from questionnaires in the previous researches. Pilot test was used to assess the reliability and validity of the questionnaire. Then the questionnaires were distributed to respondents for data collection. Data collected were analyzed and findings were discussed.

5. Population and Sampling

As the ASYCUDA System is chosen for the study as a type of IS, the population of the study is considered to be all the interested parties that use the system to accomplish their tasks. The parties using ASYCUDA system in Jordan are the governmental agencies involved in the clearance process that are: Jordan Customs Department, Jordan Standards and Metrology Organization, Jordanian Food and Drug Administration and Ministry of Agriculture. This study employs a probability sampling technique, namely, a simple random technique in which the probability of sampling of a certain size is equal. This type of sampling is defined as the procedure in which all individuals in the study community have the same probability that they will be selected in the study sample independently (Cresswell, 2014). This technique has been chosen to obtain an unbiased representative sample and for the ability to generalized the findings.

The total number of employees that use ASYCUDA system in Jordan was 748. According krejcie and morgan (1970), if the population consist of 700 to 750 respondents, the appropriate sample size is between 248 and 254. A total of 320 questionnaires were distributed, 274 questionnaires were returned and the response rate of distribution was 86%. Out of the 274 questionnaires, 17 were eliminated as incomplete because the respondents did not answer some questions and were considered invalid. This made the total number of usable questionnaires 257 (80%) and 63 (20%) out of 320 questionnaires were incomplete or not returned. The sample characteristics are shown in table 1 below.

Table 1.Respondents' (System Experience, Knowledge with IS Use, Gender, Age, and Education)

Measure	Item	Frequency	Percentage
Experience with ASYCUDA	<1	35	13.6
	1-3	109	42.4
	3-5	58	22.6
	5-10	44	17.1
	> 10	11	4.3
	Total	257	100%
Knowledge with IT Use	Excellent	86	27.6
	Very good	141	45.2
	Good	76	24.4
	Fair	9	2.9
	Weak	0	0%
	Total	257	100%
Gender	Male	202	78.6
	Female	55	21.4
	Total	257	100%
Age	18-24	5	1.9
	25-34	90	35.0
	35-44	122	47.5
	45-54	37	14.4
	55-65	3	1.2
	Total	257	100%
Education	PhD	10	3.9
	Masters	44	17.1
	Bachelor	173	67.3
	Diploma	30	11.7
	High school	0	0%
	Less than high school	0	0%
	Total	257	100%

6. Validity and Reliability

6.1 Validity

The content validity of the questionnaire used in this study was tested by checking the relevance and appropriateness of the research instrument with seven academic professors (five associated professors and two assistant professors) from the faculty of business, faculty of science, and faculty of Information Technology at AL-Balqa Applied University in order to assure content validity, the comments of these professors were taken into consideration when the survey questionnaire was developed in its final version.

The validity of the questionnaire items can be determined by using factor analysis (Sekaran, 2003). To maximize the variable-factor correlation, principle components analysis and varimax rotation methods were used. According to Hair, William, Babin and Anderson (2010), the Factor is considered significant if it has value of 0.5 or above. The communality values for all items were satisfactory except item no. 8 (system use variety) in the system use construct had low communalities of .392, which were less than 0.50, hence was discarded from further analysis.

6.2 Reliability

Reliability is assessed in terms of Cronbach's alpha coefficient. A scale is considered reliable if the alpha coefficient is greater than 0.70 (Sekaran, 2005). In the case of this research, the reliability for all questionnaire items was satisfactory as values for Cronbach's alpha were above 0.807, whereas, the high level of Cronbach's alpha was for service quality (.966) and the lowest level of Cronbach's alpha was for training (.807).

7. Hypotheses Testing

The study hypotheses were tested using multiple regression analysis. Variance Inflation Factor (VIF) and tolerance was used to ensure the absence of Multicollinearity between variables. The VIF value of a variable should not exceed 10; otherwise the variable is considered highly collinear (Matignon, 2005). Multicollinearity results showed that VIF values for all variables ranged between 1.00 and 3.183. After guaranteeing that necessary conditions are all satisfactory met, the study hypotheses were tested using multiple regression analysis as shown in table 2.

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.880[a]	.775	.769	.39018

Note: a. Predictors: (Constant), TRA, USE, Srv-Q, IQ, SQ, SAT

R2 value of .775 indicates that the six factors of the model including system quality, information quality, service quality, user satisfaction, system use and training explain 77.5% of the variance in perceived usefulness. The results of regression analysis are shown in table 3 to ensure the validity of the model to test the hypotheses.

Table 3. Results of Regression Analysis

Dependent Variable	Independent Variables	R2	Adjusted R2	Beta (β)	Sig.	Supported Hypotheses
PU	SQ	.775	.769	.242	0.000	H1: Supp.
	IQ			.296	0.000	H2: Supp.
	Srv-Q			.383	0.000	H3: Supp.
	SAT			.518	0.000	H4: Supp.
	USE			.391	0.000	H5: Supp.
	TRA			.462	0.000	H6: Supp.

Based on the regression analysis, the results of tested hypotheses are discussed below:

H1: There is a positive relationship between System Quality and Perceived Usefulness.

Service quality ($\beta = .242$, $p<0.001$) explains 58% of the variance in perceived usefulness. In order to looking deep into the relationship between system quality and perceived usefulness, the system quality variable was regressed to the four categories of perceived usefulness (Task productivity, Task innovation, Customer satisfaction, Management control). Results show that system quality exercise the higher explanatory and predictive power related to Task productivity dimension. Task innovation comes in the second, management control comes in third and Customer satisfaction is the least dimension predicted by system quality. Table 4 shows the regression results of system quality to perceived usefulness categories.

Table 4. Regression of System Quality to Perceived Usefulness Categories

Dependent Variable	Independent Variables	Adjusted R2	Beta (β)	Sig.
PROD	SQ	.622	.794	.000
INN		.438	.664	.000
CSAT		.343	.588	.000
CONT		.349	.593	.000

Users will complete their work more quickly, increase their productivity and improve the quality of their work if they can search and locate information easily and effectively and the system can be accessed any time. In the ERP context, the ease of use has appositive impact on performance, but no relationship between reliability and performance (kositanurit, Ngwenyama & Osei-Bryson, 2006). In the e-commerce context, ease of use, reliability, flexibility and accessibility dimension were found positively related to decision making satisfaction as a measure of performance (Bharati & Chaudhury, 2006).

Users will be more productive and improve their work quality, if the system synchronizes data existing in different formats in incompatible applications all together, and then presents it on a unified interface then enable the users to search and locate information easily. If the system is available and functions accurately most of the time and users can find what they need quickly and easily, then they will be able to find new ways to improve their job performance and come up with new ideas related to their business. The relationship between system quality and perceived usefulness is found to be significant which means that the constructs are positively related. Other researches supported this relationship (Abugabah & Sanzogni, 2010; Ali & Younes, 2013; Bharati & Chaudhury, 2006; Ali, Omar, & Bakar, 2016)

H2: There is a positive relationship between Information Quality and Perceived Usefulness**.**

Information quality ($\beta = .296$, $p<0.001$) explains 60% of the variance in perceived usefulness. In order to looking deep into the relationship between information quality and perceived usefulness, the information quality variable was regressed to the four categories of perceived usefulness (Task productivity, Task innovation, Customer satisfaction, Management control). Results show that information quality exercise the higher explanatory and predictive power related to Task productivity dimension. Task innovation comes in the second, management control comes in third and Customer satisfaction is the least dimension predicted by information quality. Table 5 shows the regression results of information quality to perceived usefulness categories.

Table 5. Regression of Information Quality to Perceived Usefulness Categories

Dependent Variable	Independent Variables	Adjusted R2	Beta (β)	Sig.
PROD	IQ	.580	.763	.000
INN		.444	.668	.000
CSAT		.390	.627	.000
CONT		.410	.642	.000

The quality of information is associated with the quality of work. Employees will use accurate information which resulting in fewer errors thus increased productivity and better customer service. The type of ASYCUDA system information is related to declaration processes and this may lead to weak effect on users to innovate and come up with new ideas related to their work. Management can control the work and compare performance if they use accurate and secure information. The quality of information can increase employees overall performance. The accuracy of information can cause high individual impact in terms of customer information support which consequently leads to higher customer satisfaction. The relationship between information quality and perceived usefulness is found to be significant which means that the constructs are positively related. Other researches supported this relationship (Ali, Omar, & Bakar, 2016; Al-Mamary, Shamsuddin, & Aziati, 2014; Bharati & Chaudhury, 2006).

H3: There is a positive relationship between Service Quality and Perceived Usefulness.

Service quality ($\beta = .383$, $p<0.001$) explains 61.4% of the variance in perceived usefulness. In order to looking deep into the relationship between service quality and perceived usefulness, the service quality variable was regressed to the four categories of perceived usefulness (Task productivity, Task innovation, Customer satisfaction, Management control). Results show that service quality exercise the higher explanatory and predictive power related to Task innovation dimension. Task productivity comes in the second, management control comes in third and Customer satisfaction is the least dimension predicted by service quality. Table 6 shows the regression results of service quality to perceived usefulness categories.

Table 6. Regression of Service Quality to Perceived Usefulness Categories

Dependent Variable	Independent Variables	Adjusted R2	Beta (β)	Sig.
PROD	Srv-Q	.485	.698	.000
INN		.489	.701	.000
CSAT		.418	.649	.000
CONT		.448	.671	.000

According to the results above, users will be more innovative and productive, and the management can control work schedule and monitor performance, if the IS staff is highly knowledgeable and competent and they can confidently answer the technical questions. employees will provide better customer service, if the IS staff is willing to help any time in a timely manner and they understanding users' needs with dedicating enough time to resolve any technical problems. The relationship between service quality and perceived usefulness is found to be significant which means that the constructs are positively related. Other researches supported this relationship (Wang & Liu , 2005; Abpeykar & Moghbel, 2014; Ariani, 2015).

H4: There is a positive relationship between Users' Satisfaction and Perceived Usefulness.

Users' satisfaction ($\beta = .518$, $p<0.001$) explains 63% of the variance in perceived usefulness. In order to looking deep into the relationship between user satisfaction and Perceived Usefulness. The user satisfaction construct was regressed to the four categories of Perceived Usefulness (Task productivity, Task innovation, Customer satisfaction, Management control). Results show that user satisfaction exercise the higher explanatory and predictive power related to Task productivity dimension. Task innovation comes in the second, management control comes in third and Customer satisfaction is the least dimension predicted by user satisfaction.

Users' satisfaction with system may leads to increase their productivity and improve the quality of work. The reason that customer satisfaction is the least dimension may refer that not all employees are using ASYCUDA system for customer service. User satisfaction is positively related to system benefits (Livari, 2005). User satisfaction is strongly related and affect user's job, improve performance and increase productivity (Petter, DeLone, & McLean, 2008) The relationship between user satisfaction and perceived usefulness is found to be significant which means that the constructs are positively related. Other researches supported this relationship (Chen, 2009; Jang, 2010; Al-Marashdeh, Sahari, Zin & Al-Smadi, 2010; Lee & Lee, 2012; Nasiri & Farahbod, 2012; Ramdan, Azizan and Saadan, 2014). Table 7 shows the regression results of user satisfaction to perceived usefulness categories.

Table 7. Regression of Users' Satisfaction with Perceived Usefulness Categories

Dependent Variable	Independent Variables	Adjusted R2	Beta (β)	Sig.
PROD	SAT	.649	.806	.000
INN		.578	.762	.000
CSAT		.293	.544	.000
CONT		.436	.662	.000

H5: There is a positive relationship between System Use and Perceived Usefulness.

System use ($\beta = .391$, $p<0.001$) explains 57.4% of the variance in perceived usefulness. In order to looking deep into the relationship between system use and Perceived Usefulness. The system use construct was regressed to the four categories of Perceived Usefulness (Task productivity, Task innovation, Customer satisfaction, Management control). Results show that system use exercise the higher explanatory and predictive power related to Task productivity dimension. Task innovation comes in the second, management control comes in third and Customer satisfaction is the least dimension predicted by system use.

Using IS may leads to increase the productivity and improve the quality of work. Customer satisfaction is the least dimension predicted by system use. This result appears to be rational since not all users are using ASYCUDA system for customer service. System use is positively related with task performance (Burton-Jones & Straub, 2006). System use can improve job performance as a measure of net benefits (Halawi, McCarthy & Aronson, 2007). The relationship between system use and perceived usefulness is found to be significant which means that the constructs are positively related. Other researches supported this relationship (Al-Marashdeh, Sahari, Zin and Al-Smadi, 2010; Jang, 2010; Nasiri and Farahbod, 2012; Weider, Ossimitz and Chamoni, 2013; Ramdan, Azizan & Saadan, 2014). Table 8 shows the regression results of system use to perceived usefulness categories.

Table 8. Regression of System Use with Perceived Usefulness Categories

Dependent Variable	Independent Variables	Adjusted R2	Beta (β)	Sig.
PROD	USE	.637	.799	.000
INN		.446	.669	.000
CSAT		.327	.574	.000
CONT		.369	.609	.000

H6: There is a positive relationship between Training and perceived usefulness.

Training ($\beta = .462$, $p<0.001$) explains 61.5% of the variance in perceived usefulness. In order to looking deep into the relationship between training and Perceived Usefulness. The training construct was regressed to the four categories of Perceived Usefulness (Task productivity, Task innovation, Customer satisfaction, Management control). Results show that training exercise the higher explanatory and predictive power related to Task productivity dimension. Task innovation comes in the second, management control comes in third and Customer satisfaction is the least dimension predicted by training.

Employees who receive management support for training and receive sufficient training to use the system will be able to use the system as appropriate and receive the benefits offered by the system. Training has a positive impact on the perceived usefulness (Zaied, 2012). Acosta, Ramayah, and Popa (2013) explained the intention to use of ERP system and found that training is positively related to share beliefs in the benefits of Enterprise Resource Planning (ERP) systems which affect the perceived usefulness of ERP system. The relationship between training and perceived usefulness is found to be significant which means that the constructs are positively related. Other researches supported this relationship (Zaied, 2012; Acosta, Ramayah, and Popa, 2013; Ngai, Cheng, and Ho, 2004; Sabherwal, Jeyaraj, and Chowa, 2006). Table 9 shows the regression results of training dimensions to perceived usefulness categories.

Table 9. Regression of Training and Perceived Usefulness Categories

Dependent Variable	Independent Variables	Adjusted R2	Beta (β)	Sig.
PROD	TRA	.663	.797	.000
INN		.556	.747	.000
CSAT		.285	.537	.000
CONT		.432	.659	.000

8. Conclusions and Future Research

This study aimed to evaluate the success of ASYCUDA system at the individual level And to determine some factors that can formulate the success of ASYCUDA system. Findings of the study indicated that the validity of the proposed model is supported. The model confirmed the effect of system quality, information quality, service quality system use, users' satisfaction and training on perceived usefulness. Most respondents agreed that ASYCUDA increase productivity, improve work quality, and enable users to complete their work more quickly. These findings showed that user agreed with the ASYCUDA ability and accepting the distinctive characteristics represented by ASYCUDA. This means positive feedback on ASYCUDA success evaluation in employees' perception. The constructs used as the success factors were proven to be the determinants in evaluating ASYCUDA system. Each success factor was evaluated positively by the respondents. This means that all success factors were suitable for ASYCUDA success evaluation. The following future researches are proposed:

1) It is suggested that data gathering can be increased from the border customs centers and it may increase the understanding the success of ASYCUDA system.

2) The model of this research is restricted to test the Perceived Usefulness at the individual level; future research is suggested to test the Perceived Usefulness at the organizational level.

3) It is suggested that qualitative research can be done by conducting interviews to gain more understanding about ASYCUDA system and the factors affecting it.

4) It is suggested to take in consideration the impact of demographic factors (such as age, gender, educational level) as measures for evaluating the success of SYCUDA system.

References

Abpeykar, M. S., & Moghbel, A. (2014). A Comparative Study of the Relationship between Service Quality and Organizational Performance in Public Services, using Fuzzy Ahp. *A Journal of Economics and Management Vol. 3 Issue, ISSN 2278-0629 , pp. 4*.

Abugabah, A., & and Sanzogni, L. (2010). Re-conceptualizing Information Systems Models: An Experience from ERP Systems Environment. *International Journal for Infonomics (IJI), 3 (4), 414-421*.

Abu Rumman, M. (2013). The Impact of Management Information Systems of Human Resources on the

Training Needs in Al-Balqa Applied University. *Business Management and Strategy ISSN 2157-6068*, pp. 53-70.

Acosta , P., Ramayah , T., & Popa, S. (2013). Explaining intention to use an enterprise resource planning system: A replication and extension. *Tehnicki Vjesnik 20(3):*, pp. 397-405.

Al-Adaileh, R. (2009). An Evaluation of Information Systems Success: A User Perspective - the Case of Jordan Telecom Group.. *European Journal of Scientific Research, 37 (2), 226-239*.

Ali, B. J., Wan Omar, W., & Bakar, R. (2016). ACCOUNTING INFORMATION SYSTEM (AIS) AND ORGANIZATIONAL PERFORMANCE: MODERATING EFFECT OF ORGANIZATIONAL CULTURE. *International Journal of Economics, Commerce and Management*, pp. 138-158.

Ali, B, & Younes, B. (2013). The Impact of Information Systems on user Performance: An Exploratory Study. *Journal of Knowledge Management, Economics and Information Technology, 3 (2)*

Alipour, M, Moniri, S, & Tanha, J. (2011). Comparative Study of ASYCUDA Role in Increasing the Efficacy of Customs Affairs (in Zanjan and Qazvin). *Economics and Finance Review, 1(8), 43 – 56*.

Al-Mamary, Y.H, Shamsuddin,A, & Nor Aziati, A. (2014). The Relationship between System Quality, Information Quality, and Organizational Performance. *International Journal of Knowledge and Research in Management & E-Commerce, Volume. 4, Issue 3, pp. 0*.

Al-Marashdeh, I, Sahari, N, & Al-Smad. (2010). The Success of Learning Management System among Distance Learners in Malaysian Universities. *Journal of Theoretical and Applied Information Technology, 21 (2), 80-91*.

Ariani, D. W. (2015). "Employee Satisfaction and Service Quality: Is There Relations?" . *International Journal of Business Research and Management (IJBRM), 6 (3), 33-44*.

Bharati, P, & Chaudhury, A. (2006). Product Customisation on the Web: An Empirical Study of Factors Impacting Choice board User Satisfaction. *Information Resources Management Journal, 19 (2), 69-81*.

Burton-Jones, A, & Straub Jr., D. (2006). Reconceptualizing System Usage: An Approach and Empirical Test. *Information Systems Research, 17 (3), 220–246*.

Chau, P., & Hu, P. (2002). Examining a model of information technology acceptance by individual professionals: an exploratory study. *Journal of Management Information Systems, 18 (4)*, pp. 191–230.

Chen, I. (2009). Social Capital, IT Capability, and the Success of Knowledge Management Systems. Knowledge Management and E-Learning. *An International Journal, 1(1), 36-50.*

Creswell, J. W. (2014). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches* .Thousand Oaks, CA: : SAGE Publications.

Davis, F, Bagozzi, R, & Warshaw, P. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science, 35 (8), 982-1003*.

DeLone, W, & McLean, E. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research, 3 (1), 60–95*.

Delone, W, & Mclean, E. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems, 19 (4), 9–30*.

Halawi, L, Mccarthy, R, & Aronson, J. (2007). An empirical investigation of knowledge-management systems' success. *The Journal of Computer Information Systems, 48 (2), 121–135*.

Hair , J. William , W. Babin , B. & Anderson , R. (2010). *Multivariate Data Analysis, 7th Edition.*Pearson.

Jang, C.-L. (2010). Measuring Electronic Government Procurement Success and Testing for the Moderating Effect of Computer Self-efficacy. *International Journal of Digital Content Technology and its Applications, 4(3), 224-232*.

Klein, R. (2007). An empirical examination of patient-physician portal acceptance. *European Journal of Information Systems, 16 (6)*, pp. 751–760.

Kositanurit, B, Ngwenyama, O, & Osei-Bryson, K. (2006). An Exploration of Factors that Impact

Individual Performance in an ERP Environment: An Analysis Using Multiple Analytical Techniques. *European Journal of Information Systems, 15 (6), 556-568*.

Krejcie, R.V., & Morgan, D.W . (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement, 30*, pp. 607-610.

Lee, S, & Lee, S-H. (2012). Success Factors of Open-Source Enterprise Information Systems Development. *Industrial Management and Data Systems, 112 (7), 1065-1084*.

Livari, J. (2005). An empirical test of the DeLone–McLean model of information system success. *The Data Base for Advances in Information Systems, 36 (2), 8–27*.

Malhotra, Y., & Galletta, D. (2005). Model of volitional systems adoption and usage behavior. *Journal of Management Information Systems, 22 (1)*, pp. 117–151.

Matignon, R. (2005). *Neural network modeling using SAS enterprise miner.* AuthorHouse.

Nasiri , F, & Farahbod, F. (2012). Study the Success of Electronic Government Procurement System with Respect to Adjusting Variable of User Self-Efficacy in Using Computer. *Trends in Advanced Science*

and Engineering, 4(2), 144-150.

Nazari, M, & Nazari, H. (2013). Management Information Systems and Business. *International Journal of Information Science and System, 2 (1), 1-8*.

Ngai, E. W. T. , & Gunasekaran, A. (2004). Implementation of EDI in Hong Kong: an empirical analysis *Industrial Management and Data Systems. 104(1):*, pp. 88-100.

Odinioha, G, & Chukwuma, O. (2013). Management Information Systems and Corporate Decision–Making: A Literature Review. *The International Journal of Management, 2 (3), 78-82*.

Petter, S, DeLone, W, & McLean, E. (2008). Measuring information systems success: models, dimensions, measures, and interrelationships. *European Journal of Information Systems, 17, 236–263*.

Prybutok, V, Zhang, X, & Ryan, S. (2008). Evaluating leadership, IT quality, and net benefits in an e-government environment. *Information and Management, 45, 143–152*.

Ramdan S, Azizan, Y, & Saadan, K. (2014). E-Government Systems Success Evaluating under Principle

Islam: A Validation of the Delone and Mclean Model of Islamic Information Systems Success. *Academic Research International, 5(2), 72-85*.

Salehi, M. (2012). Barriers to E-Customs in an Emerging Economy: The Case of Iran . *Management, Volume (7), No (2), (129-153)*.

Sabherwal, R, Jeyaraj, A, & Chowa, C . (2006). Information System Success: Individual and Organizational Determinants. *Management Science, 52 (12), 1849-1864*.

Seddon, P , & Kiew, M . (1996). A Partial Test and Development of DeLone and McLean's Model of IS Success. *Australasian Journal of Information Systems, 4 (1)*, pp. 90-108.

Seddon, P. (1997). A Re-specification and Extension of the DeLone and McLean Model of IS Success *Information Systems Research, 8 (3)*, pp. 240-253.

Sekaran, U. (2003). *Research Methods for Business: A Skill Building Approach, (4th ed.).* NY: John Wiley & Sons.

Sekaran, U. (2005). *Research Methods for Business: A Skill-building Approach (4th ed.).* New York: John Wiley & Sons.

Venkatesh, V, & Davis, F. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management Science, 46 (2)*, pp. 186–204.

Wang, W-T, & Liu, C-Y. (2005). Application of the Technology Acceptance Model: A New Way to Evaluate Information System Success. *23rd International System Dynamics Conference.* Massachusetts Institute of Technology, Boston, MA.

Wieder, B, Ossimitz, M-L, & Chamoni, P. (2013). The Impact of Business Intelligence Tools on Performance: A User Satisfaction Paradox? *International Journal of Economic Sciences and Applied Research, 5 (3)*, pp. 7-32.

Wijayasiri , J, & Jayaratne , S . (2009). The Impact of Information Technology in Trade Facilitation on Small and Medium-sized Enterprises in Sri Lanka. *Working Paper Series, No 65, Asia-Pacific Research and Training Network on Trade.* Bangkok: UN-ESCAP.

Wixom, B., & Todd, P. (2005). A theoretical integration of user satisfaction and technology acceptance *Information Systems Research, 16 (1)*, pp. 85–102.

Wondemagegne, H. (2014). *CUSTOMS AND REVENUE REFORMS IN ETHIOPIA; CASE STUDY OF ASYCUDA++*. Master Thesis.

Zaied, A.-N. (2012). An Integrated Success Model for Evaluating Information System in Public Sectors. *Journal of Emerging Trends in Computing and Information Sciences, 3(6)*, pp. 814-825.