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The Effect of Website Security on E-Payment Usage: From Jordanian Customer Perspective

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Abstract
This research aims to investigate the effect of Website Security on Electronic Payment usage in Jordanian shopping websites. That's where the population of the study includes Jordanian shopping websites customers, (620) questionnaires distributed as a sample of the study, only (469) questionnaires returned, where they respond rate (75.6 %) from the total distributed questionnaires.
The researcher used the descriptive study method; the data collected from the responses of the questionnaires were analyzed through Statistical Package for Social Sciences (SPSS). The study explored a number of important and significant results summarizing as follows:
1-This study obtained the evaluation of website security in the Jordanian website shopping through four main dimensions (Privacy, Confidentiality, Data Integrity, and Authentication).
2-The study showed a high level of importance of all dimensions that evaluated in this study.
Keywords: Website Security, Privacy, Confidentiality, Data Integrity, Authentication and e payment.

1. Introduction

Today's service industry is evolving rapidly because of advances such as the Internet and e-commerce, and the increasing demands of discerning customers (Yee and Yazdanifard, 2014).Since using the internet have changed business path; applying it to commerce has been an emerging way of conducting business, so it affect our rapid lifestyle and wildly use of website in most felids. Recently, it has been related in most of the systems and our daily process; eliminate with it Traditional procedures. Living in a world where information can be easily exposed to others. Regardless of guarantee that company provides to current and predictable customer through online payment. The procedures and regulations company

follows to convince customers to conduct online payment being able to spread the awareness of the importance of online process. The progressions of technology over the recent years have enabled the consumer a broader and much more enriched interactive experience (Yazdanifard, 2011).

Computers have had an enormous impact on communications and its potential for business growth has certainly been widely recognized (Mandić, 2009). Therefore, the main purpose of this research is to focus on the factors that affect the customer perspective of E- payment in specific and the whole idea of online shopping. Thus, to focus on security standards that motivate customer to conduct online buying process.

2. Research background and pervious study

2.1Website -Security

Recent years, as the development of information technology and communication technology and the popularization of the Internet, E-commerce has been developed by leaps and bounds. However, security issues are emerging and have become the bottleneck of E-commerce development. Moreover, inherent complexity and uncertainty of E-commerce system security necessitate the participation of many experts in multi criteria decision making. Therefore, one of the key problems in assessing E-commerce system security is how to successfully combine experts' opinions in realistic decision making. (Liu, 2011)

"A security objective is the contribution to security that a system is intended to achieve. E-commerce is conducted on global network that is Internet which is untrusted. Therefore confidentiality is required during transaction and sending information should be kept secure against all type of threats. Security has emerged as an increasingly important issue in the development and success of an E-commerce organization" (Yasin et al, 2012)

"Websites also encounter a number of privacy threats, Due to the vulnerability of Internet; it is possible for hackers to attack these web sites. Some hackers prefer to change the entire server" (Jiang etc al, 2013)

There are two main systems for transaction security, secure socket layer and secure electronic transaction. the electronic transaction Secure Socket Layer (SSL) is the widely used secure service system and is an important measure to establish trust between online seller and buyer. Encryption and decryption allow secure transfer of information between an Internet browser and server. Data cannot be intercepted or changed during transmission. SSL also permits merchant identification through SSL server certificates. The SSL standard has been widely adopted because it is relatively simple and easy to use and does not place excessive demands on the average consumer's home PC, while at the same time reducing major concerns about the public nature of the communication infrastructure.

The Secure Electronic Transaction (SET) is an alternative, more complex security system based on digital certificates and signatures. SET needs specific software and is more difficult for cardholders to obtain and use, and despite the high level of security offered it has not gained widespread use.

Suggested steps to protect personal information on website: Some Suggested steps that have to be taken by organizations to protect personal information in the particular security risks within organizations. In determining appropriate security measures, organizations should Identify the security risks to the personal information that is being held; Build up policies and procedures to reduce those identified risks; Apply suitable IT security settings governing system access and Monitor and measure performance against relevant international standards**.**

"The successful functioning of E-commerce security depends on a complex interrelationship between several applications development platforms, database management systems, and systems software and network infrastructure. Each phase of E-commerce transaction has a security measures. The key dimensions of E-commerce security are: Access Control – Privacy- Confidentiality- Authentication - Non Repudiation. - Integrity- Availability" (Yasin, et al, 2012).

2.1.1 Privacy

Privacy was defined here as "The ability of an individual to control the terms under which their personal information is acquired and used." An individual's privacy, as such, is always in an inherent state of tension, since it must be defined in conjunction with capabilities of others to transact business and 40% of online shoppers were very concerned over the use of personal information, and 57% wanted some sort of laws regulating how personal information is collected and used. (Ackerman and Davis, 2003).

2.1.2 Data Integrity

"Data integrity assurance and protection from unauthorized modification In the process of their preservation or transfer" (Dzemydienė et al, 2010)

"About data integrity verification, because of data communication, transfer fees and time cost, the users cannot first download data to verify its correctness and then upload the data"(Chen, Hong Zhao,2012).

2.1.3 Confidentiality

Confidentiality defined as "data protection from unauthorized damage" (Dzemydienė, et al, 2010). "The brand is reputable and provides security measures."(Zimmerman, 2012) . Confidentiality refers to the degree to which improper disclosures of information are anticipated and prevented. Systems with superior confidentiality are better able to anticipate and prevent improper disclosure of information, such as leakage of information to an unauthorized party. A system's inability to anticipate and prevent improper disclosure of information may well indicate system insecurity.

2.1.4 Authentication

Authentication **"**Refers to automatic identification of an Individual based on his distinguishing physiological and behavioral characteristics" (Zhang, 2002).

Authenticity is**"** Identification of the persons using the information system and protection against unauthorized access" (Dzemydienė et al, 2010).

Authentication "means by which both parties in an online transaction can be confident that they are who they say they are and non-repudiation is the idea that no party can dispute that an actual event online took place" (Raghallaigh, 2011).

2.2 E-payment

is the transfer of an electronic means of payment from the payer to the payee through the use of an electronic payment instrument, E-payment is defined here as the transfer of an electronic value of payment from a payer to a payer through an e-payment mechanism? (Islam and Ahmed, 2015)**.** Electronic payment has become a popular means today for paying for online purchases made. The growth of internet has facilitated the popularity of this payment instrument as electronic commerce (e-commerce) has created new financial needs

that in many cases cannot be effectively fulfilled by traditional payment systems (Yen Teoh, etc al, 2013).

3. Generating Hypothesis

H01: There is no direct effect of Website security on E-payment usage

H1.1 There is no direct effect of privacy on E-payment Usage.
H1.2 There is no direct effect of confidentiality on E-payment usage.
H1.3 There is no direct effect of data Integrity on e E-payment usage.
H1.4 There is no direct effect of authentication on E-payment usage.

4. Research Model

This model was built based on previous studies as sources that took the website security, E-payment and related factors as building criteria.
Previous studies: (Siddiqui, 2008); (Salem and Walsh, 2011)**.**

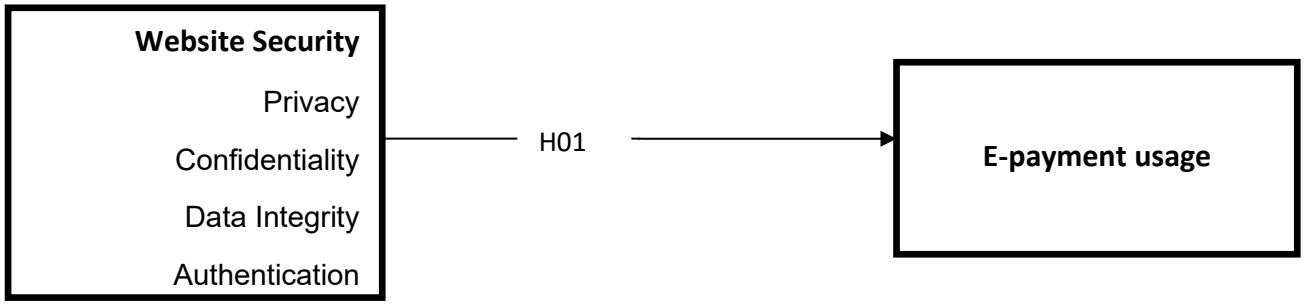

Figure 1: suggested model

5. Research Methodology

5.1 Research Population and Sample

The population of the study includes customers of Jordanian shopping website. (620) questionnaires send via face book as a sample of the study, only (469) questionnaires returned, the responds rate was (75.6%) from the total questionnaires. Also (2) of the returned questionnaires were eliminated from the statistical analysis thus to the insufficient answers. Therefore, (467) questionnaires were analyzed, that mean approximately (75.3%) from the total distributed questionnaires.

5.2 Developing Research Instrument

In this research, both primary and secondary data were used. The data collected for the model was through questionnaires. After conducting a thorough review of the literature pertaining to study variables, the researcher formulated the questionnaire instrument for this study. The questionnaire instrumental sections are as follows:

Section One: Demographic variables. The demographic information was collected with closed-ended questions, through (4) factors (Gender; Age; Educational level; and Marital status). **Section Two:** Independent variable: **Website Security (**Privacy, Confidentiality, Data Integrity and Authentication)

Privacy: Were measured through (6) items on five Likert-type scales, from item (1-6).
Data Integrity: Were measured through (5) items on five Likert-type scales, from item (7-11).
Confidentiality was measured through (5) items on five Likert-type scales, from item (12-16).
Authentication was measured through (5) items on five Likert-type scales, from item (17-21).

Section Three: Dependent variable: E- Payment usage: was measured through (5) items on five Likert-type scales, from item (22-26).

5.3 Validity and Reliability Validation

Validation:To test the questionnaire for clarity and to provide a coherent research questionnaire, a macro review that covers all the research constructs was thoroughly performed by academic reviewers. Some items were added, while others were eliminated based on their valuable recommendations. Some others were reformulated to become more accurate to enhance the research instrument.

Reliability: Cronbach's alpha, was used to determine the internal consistency reliability of the elements comprising the four constructs as suggested by Gregory (2004). Reliability should be approximately (0.70) or higher to indicate adequate convergence or internal consistency (Hair, 2016). These results are the acceptable levels as suggested by (Hair, et. al., 2006). The results were shown in Table (3-5).

Table (1)
Reliability of Questionnaire Dimensions

No.	Variable	Dimensions	No. of items	Alpha Value (α)
1	**Website Security**		21	0.773
	(1-1)	Privacy	6	0.753
	(1-2)	Confidentiality	5	0.772
	(1-3)	Data Integrity	5	0.718
	(1-4)	Authentication	5	0.783
2	**E-Payment**		5	0.856

6. Analysis finds

6.1 Demographic characteristics

Tables (2)
show the demographic variables of the research sample

Variables	Categorization	Frequency	Percent %
Gender	Male	176	37.7
	Female	291	62.3
Age	Less than 25 Years	55	11.8
	From 25 -34 Years	237	50.7
	From 35-44 Years	147	31.5
	From 45-54 Years	21	4.5
	55 Years and more	7	1.5
Marital status	Single	154	32.9
	Married	295	63.2
	Divorced	18	3.9
Educational Level	Hi School	32	6.9
	Diploma	65	13.9
	Bachelor degree	314	67.2
	Masters	47	10.1
	PHD	9	1.9

6.2 Description analysis of study variables

The researchers used the arithmetic mean, standard deviation, one sample t-test, item importance and importance level as shown in Table (3).

No.	Website Security	Mean	St. D	Sig	Item importance	Importance level
1	Privacy	3.982	0.848	0.000	2	High
2	Data Integrity	4.145	0.748	0.000	1	High
3	Confidentiality	3.750	0.638	0.000	4	High
4	Authentication	3.852	0.655	0.000	3	High
General Arithmetic mean and standard deviation		3.932	0.712			
General Arithmetic mean and standard deviation e payment		3.142	0.632			

t- Value Tabulate at level (α≤ 0.05)

6.3 Analysis adequacy of the data to test the study hypotheses

Before testing the study hypotheses, the researchers conducts some important tests to ensure the data adequacy for the regression assumption analysis Variance Inflation Factor (VIF), this test used to measure how the multicollinearity can inflate the variance of regression, the coefficient should not exceed a value of (10). and Tolerance used to test the multicollinearity between independent variables, tolerance value should be greater than (0.05).

Website Security	Tolerance	VIF
Privacy	0.658	1.669
Data Integrity	0.565	1.145
Confidentiality	0.257	1.685
Authentication	0.477	1.936

According to the result shown in table (4), there is no multicollinearity between the independent variables, this is confirmed from the values of variance inflation factor (VIF) of the dimensions are (1.669 ; 1.145 ; 1.685 ; 1.936) , respectively, less than (10) . As can be seen, the values of Tolerance ranged between (0.257 - 0.658) which is greater than (0.05) this is an indication that there is no multicollinearity between the independent variables.

6.4 Hypotheses Testing

The researchers in this part tested the hypotheses, through Multiple and simple Linear Regression analyses with (F) test using ANOVA table analysis.

H01: There is no direct effect of Website security on E-payment usage at the level (α ≤ 0.05).

To test this hypothesis, the researchers uses the simple regression analysis to ensure the direct effect of Website Security on **E-payment usage** in Jordanian website shopping industries at the level (α ≤ 0.05). As shown in Table (5).

The effect of Website security on E-payment usage.	**R**	**(R^2)**	**F calculated**	Sig*	Beta	**T Calculated**	**Sig***
	0.489	0.239	48.363	0.000	0.489	9.558	0.000

*The impact is significant at level (α ≤ 0.05) * (n-1 = 466) * (T tabulated = 1.96)

From table (5) the researchers observes that there is a positive direct effect of Website security on E-payment usage among Jordanian website shopping. The (R) was (0.489) at level (α ≤ 0.05), whereas the (R^2) was (0.239). This means the (0.239) of E-payment usage among Jordanian website shopping industries changeability's results from the changeability in Website security. As (Beta) was (0.489) this means the increase of one unit in website security will increase E-payment usage of website shopping value (0.489). Confirms significant impact (F) Calculate was (48.363) and its significance at level (α ≤ 0.05), and accepted hypothesis:

Website security has a positive direct effect on E-payment usage Jordanian website shopping industries at the level (α ≤ 0.05).

Sub Hypothesis test

To test this hypothesis, the researchers uses the Multiple regression analysis to ensure the direct effect of Website Security ***(Privacy, Confidentiality, Data Integrity, Authentication)*** on **E-payment usage** in Jordanian website shopping industries at the level (α ≤ 0.05). As shown in Table (6).

Dependent variable	**R**	**(R^2)**	**F Calculate**	**DF**	**Sig***	**Independent variable**	**T Calculated**	**Sig***
E-payment usage	0.418	0.174	22.854	466	0.000	Privacy	9.185	0.000
				466		Confidentiality	3.658	0.028
				466		Data Integrity	6.354	0.016
				466		Authentication	8.365	0.000

*The impact is significant at level (α ≤ 0.05) * (n-1 = 466) * (T tabulated = 1.96)

The regression model achieves a high degree of fit, as reflected by (R) (0.418) and (R^2) (0.174), which asserted that (0.174) of the explained variation in e payment usage can be accounted for website security. As well as table, (6) shows, the analysis of variance of the fitted regression equation is significant with (F) value of (22.854). This is an indication that the model is a good one. Since the p-value is less than (0.05), it shows a statistically significant effect of website security on E-payment usage.

From table (6) the researcher observes that there is a positive direct effect of **(Privacy, Confidentiality, Data Integrity, Authentication)** on e- payment usage in Jordanian shopping websites. As shown in the above table the (T) calculated is greater than the (T) tabulated

7. Conclusions

This research aimed to study the effect of website security on e- payment usage. The research tried to determine the key of website security that affects e- payment such as: (privacy, Confidentiality, Data Integrity, and Authentication). This study classified privacy, Confidentiality, Data Integrity, and Authentication. Certainly, in this new digital world of business, the website security seems to be the right solution to get e payment usage. This is

because in the current e-commerce environment and e-payment can provide shopping websites with various benefits such as optimizing and integrating business processes, maximizing operational and managerial profits, and improving strategic and organizational benefits. To achieve the objectives of this study, the researcher developed a novel model to measure the effect of website security on e-payment usage. An extensive literature review has been prepared and considered as essential element for developing research model. The model has two main variables: website security and e-payment usage. The construct of website security includes the following sub-dimensions: privacy, Confidentiality, Data Integrity, and Authentication. The developed model applied and tested in the context of Jordanian shopping websites, the sample was determined to include the usage e- payment of Jordanian website. For hypotheses testing, a questionnaire instrument was designed on the basis of the constructed model. Prior to data collection, the questionnaire instrument was validated by a number of professors and experts in the domain of this study and working at Middle East University and other universities in Jordan.

8. Recommendations

Based on study results and conclusions, the following recommendations are suggested:

1. Jordanian shopping websites recommended translating vision into policies and procedures in order to enhance the effect on operation, competitive capabilities.
2. Jordanian shopping websites should be a clear about website security policy.
3. Jordanian shopping websites recommended building a relationship with their customers.
4. Jordanian shopping websites must train employee how to encourage customers to relief information.
5. Jordanian shopping websites must facilitate E-payment process and methods.

References

1. Dzemydienė, D. Naujikienė, R. Kalinauskas, M. & Jasiūnas, E. (2010). Evaluation of Security Disturbance Risks in Electronic Financial Payment Systems ISSN 1822-8038 (online) INTELLECTUAL ECONOMICS, No. 2(8), p. 21–29
2. Jiang, W. X., Duanmu, D, & Deng, Y. (2013). A New Security Risk Assessment Method of Website Based on Generalized Fuzzy Numbers, Journal of computers, VOL. 8, NO. 1, JANUARY 2013.
3. Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications.
4. Liu, D. (2011)/E-commerce System Security Assessment Based on Grey Relational Analysis Comprehensive Evaluation, , school of Economics and Management, Shenyang Ligong University, Shenyang.
5. Mandić, M. (2009). “Privacy and security in E-commerce”, M. A. Art Design and Internet technologies.(Vol. XXI)
6. Mark, S., Ackerman, D. T., Davis**,** Jr. (2003). Privacy and Security Issues in E-Commerce Review chapter for the New Economy Handbook (Jones, ed.).
7. Ming, W. Teoh, Y. Chong, S. Lin, B. & Chua, J. (2013).Factors affecting consumers’ perception of electronic payment: an empirical analysis, Internet Research , Emerald Group Publishing Limited .(Vol. 23) No. 4, pp. 465-485
8. Raghallaigh, E. (2011). Major Security Issues in E-Commerce BSc(Hons), DipHPsych .

9. Salem, A. & Walsh, W.(2011) .Making security information usable Guidelines for creating an effective Air Domain website.
10. Sen, P. Islam, R. & Ahmed, R. (2015). A Study on E-Commerce Security Issues and Solution. International Journal of Computer and Communication System Engineering. Vol. 2 (3).
11. Siddiqui, H. (July,2008). Investigation of Intention to use e- commerce in arab countries: A comparison of Self-Efficiency ,Usefulness ,Culture ,Gander and Socioeconomic statue in Saudi Arabia and UAE.
12. Yasin, S. Haseeb, K. & Qureshi, R. (2012) .Cryptography Based E-Commerce Security: IJCSI International Journal of Computer Science Issues, (Vol. 9, Issue 2, No 1). March 2012
13. Yazdanifard, R., Al-Huda Edres, N. & Seyedi, A. (2011).Security and Privacy Issues as a Potential Risk for Further Ecommerce Development, International Conference on Information Communication and (vol.16) Management IPCSIT , IACSIT Press, Singapore.
14. Yee, C. & Yazdanifard, R. (2014). How Customer Perception Shape buying Online Decision,. Global Journal of Management and Business Research: E Marketing Volume 14 Issue 2 Versions 1.0.