

A Model for Trust-building in E-commerce from Consumer to Consumer Perspective in KSA

Sharfi M. Abbass and Othman Bin Ibrahim

Abstract—In this research, we proposed a bimodal aim to create a multilateral system to increase trust in e-commerce among consumers. It is based on Trusted Third Party (TTP), which establishes a database containing a unique number for each citizen Assurance Key (AK). AK is composed of 16 digits in addition to the number of number of the state that consists of the three digits, a symbol of the continent, and includes an image of the face of the citizen to check it out thru face recognition (FR). Accordingly, these consumers can be buying and selling online which increases trust in e-commerce between the consumers; viz. C2C. This system helps to increase trust in the electronic transactions relating to e-government anywhere and anytime without physical attendance.

Index Terms—Trusted Third Party (TTP); consumer to consumer (C2C); Ecommerce; Assurance Key (AK); face recognition (FR)

I. INTRODUCTION

E-commerce is defined as commerce that is transacted electronically, as over the internet. Most people think of e-commerce as buying things on the web. In reality, it is much more than that. It does include purchases from such places as Amazon or Borders for you books, to an array of sporting goods stores for your outdoor activities. It also includes services, such as banking. There is B2C transactions that most of us use today.

Another form is C2C, which included the popular auction sites. There is also B2B commerce done on the internet. They are all forms of e-commerce.

Despite the growing importance of e-commerce, but that there is a major barrier, a lack of intent to purchase, so there is a need to strengthen consumer intentions to buy online.

All electronic transactions in e-commerce need to trust the other party, so there are many of the studies[1-4], I talked about the importance of trust, but most of these studies, trumpeted by one. The relationship between B2C, and there is considerable interest in other relations, such as C2C, B2B. Of the most important references of this research experience of some developed countries like America, China, France, Korea, Philippines. The importance of the study in support of infrastructure factors, trust in all business processes without fear of theft and fraud in all forms, and thus the prosperity of knowledge of e-commerce and electronic transactions in

general, even in the field of self-development and take advantage of all that is available electronically. And also reduce the cost of products, the lack of rental fees and expenses of stores staff and workers.

The most important rules to study cultures of consumers are:

- 1) Photography Auction on the Internet to increase consumer trust.
- 2) The impact of negative and positive trust to the consumer.
- 3) What are the characteristics of consumer trust?, and the correlation between trust and perceived value, and intent to purchase.
- 4) The market, pricing mechanisms and provisions of trust.

Major advancements and initiatives in the past twenty to twenty-five years have propelled face recognition technology into the spotlight. face recognition can be used for both verification and identification (open-set and closed-set). Using the a facial recognition system and Face detection.

Facial recognition system (FRS):

A facial recognition system is a computer application for automatically identifying or verifying a person from a digital image or a video frame from a video source. One of the ways to do this is by comparing selected facial features from the image and a facial database. It is typically used in security systems and can be compared to other biometrics such as fingerprint or eye iris recognition systems[5].

Some facial recognition algorithms identify faces by extracting landmarks, or features, from an image of the subject's face. For example, an algorithm may analyze the relative position, size, and/or shape of the eyes, nose, cheekbones, and jaw. These features are then used to search for other images with matching features[6].

Face detection (FD) :

Face detection is a computer technology that determines the locations and sizes of human faces in arbitrary (digital) images. It detects facial features and ignores anything else, such as buildings, trees and bodies[7].

Image processing:

After FD, image processing is to be placed in the ideal image that considers these editing components: alignment, measurement, representation and matching.

II. RELATED WORK

Study [8], In the e-commerce in the trust between the C2C The study showed that it is important to find ways to

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encourage consumers to use e-commerce continuously and there must be a sense of trust by both buyers and sellers.

McKnight[9], talked about the importance of trust and defined as the desire or tendency to rely on others.

Meyer and others[10], like someone who knew him trust in the outcome of treatment in general. Of the main reasons for the delay in e-commerce in developing countries is the lack of trust and safety, and that there is an urgent need in developing countries to enter the e-government but also of the main reasons the lack of trust in dealing with others.

Touched on some previous studies the existence of a third party working to develop electronic seals, electronic seals, but did not solve the problem by a large margin.

Study [11], talks about the facilities and security of transactions provided by the Public Key (PK) in the infrastructure of the Internet. This can be achieved by raising the level of trust, which should be properly associated with definite characteristics. And trust relationships must be managed effectively on the part of the client in that trust database should be maintained in three abstract levels, containing all the information necessary to the census, the assessment of discrimination and relations with other entities. The main factors that affect trust depend on the requirements of the quality of services provided, conditions and policies qualified.

The study concluded that the empowerment of the PK in the electronic market is still in its first steps. To access the full the possibilities offered by the TTP, factors responsible for trust building must be set up alongside encouragement of e-transactions to achieve the goal.

Failure to meet these requirements may have consequences for the trust which would adversely affect the customers.

The concept of trust in the TTP client expresses its trust in the specific subjective and objective.

The paper proposes a database schema that may be realized on the client side and enable the party to rely completely to manage trust relationships. Factors that adversely affect the trust or positive is then examined under two perspectives. The first is the perspective view the properties of the quality of services and the second relates to the rules and procedures set forth in the policy and provide evidence that the TTP agree to them.

Must provide evidence that the TTP compatibility of the policy qualified as the most important terms and conditions related to the management key, the accuracy of identification, and compatibility to the Public Prosecution, and physical security, and continuity plan and the limitations on liability.

It is certain that future work will focus on Unifying framework for the establishment, management and evaluation of trust, because this is a prerequisite for the development of PKI.

Sultan and others[12], they see that the characteristics of the site (navigation, trade mark, advice, there is no mistake, the show, and meet the demand) and consumer characteristics such as previous experience with the internet with a specific location in fact, affect a large trust in the site on the Internet. She also appeared recently in some Chinese newspapers to focus on trust and acceptance in the field of e-commerce, and focused on five factors,

1) ease of use of the site.

2) interest of the site.

3) business reputation.

4) Security on the Internet.

5) Mail to consumer trust.

In a study conducted in China[13], to see the impact of cultural differences on the electronic market, and the study focused on the following points, Study cultures of consumers:

1) Photography Auction on the Internet to increase consumer trust.

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3) What are the characteristics of consumer trust? ,

And the correlation between trust and perceived value, and intent to purchase. d - the market, pricing mechanisms and provisions of trust.

Study [14], points out that C2C is particularly popular on the Internet because it provides a platform that is comfortable and effective; it also provides the possibility of negotiating prices among consumers. However, insufficient information, or non-disclosure of the identity between buyers and sellers to ban fraud and graft reduces the use of the Internet to trade between consumers. This study suggests several new standards for online auctions and social networks. This study uses simulation methods to show the work of the fraud and graft easily by the proposed standards in this study. An empirical analysis was conducted for the proposed trust evaluation system, which in turn reveals the fraud in the auctions.

This study proposes six measures to assess the trust of the participants in the auction sites. The simulation system can show collusion between honest and dishonest participants. The study recommends an appropriate mechanism for trust that leads to improved consumer satisfaction.

The study also recommends the development of trust must be set in the assessment of other places.

In a study in Korea[15], to learn about the importance of trust and security in the electronic payment, so the facts revealed by customer feedback and the trust of the electronic payment system it is one of the key factors in the evaluation of e-commerce in the market. This study suggests that research supports the security and trust to consumers, which expand the results showed positive aspects of security and trust in the use of earnings per share.

This study provides important theoretical and scientific contributions in the field of security and trust, which in turn reflected positively on consumers. In the opinion of the European Commission to provide electronic payment services will not be enough, but should encourage them by providing security and trust services.

The researcher finds that the ease of use of the site and take that into account when designing plays an important role in the increase of consumers and thereby increase the financial return.

But the point of view of consumers from this study that he did not take into account many aspects such as social factors, individual and human factors and awareness, in addition to that credit cards are used by 90% without raising the other methods of payment, and the search was in a small

geographic area and a specific group of learners who have a background good for e-commerce.

Study [16], centres upon customer loyalty as crucial to the survival of auction sellers to purchase and repeat the process of purchasing on the Internet and the success of online purchase. Previous research found that trust in the seller on the Internet leads to frequent purchases online. Previous research also confirmed the importance of concepts of justice in the generation of trust.

This research is a model for the construction of four different kinds of justice between individuals, and is supposed to reflect positively on trust in the community between vendors, which in turn positively impact the repeated purchase intentions. It shows that trust is a positive indicator for large buyers to repeat purchase. The study also shows that justice has a strong positive impact on trust.

This study aims to shed light on the phenomenon of continued buyers of online auctions, the impact of justice and trust in it, and then develop a model of experimental tests showing the intentions of buyers and repeated buying from online auctions.

The study concluded that, although all four types of justice have important indicators but it was the order of these species in terms of the most important are as follows: personal justice is the strongest source of justice, justice, followed by information technology. Either distributive justice and procedural justice have almost equal importance.

In study[17], dealt with the process of electronic communication and its impact on the issue of electronic payment, which is still dangerous and in urgent need of security and trust in electronic payment mechanism in order to be accepted and established as a joint center of financial transactions. Strengthening the system of payment of a new building or below the trust to deal with the amount of safe, secure investments, such investments will prepare a worthy promises to build infrastructure if the infrastructure of many new-to-use security and trust led to a high level of success PK systems work correctly in the public domain, the PK should be easy access for both senders and recipients must have a trustworthy source that specifies that the PKs with parties who wish to completion can be concluded if the parties familiar.

III. PROPOSED MODEL AND HYPOTHESES

According to previous studies, we proposed our model as shown in Fig. 1, which is intended to increase trust among consumers; this in turn leads to the establishment of lasting relationships of trust between consumers and then work to expand the consumer base. The proposed model is based on: The model presented in our paper [18], model Steven[19], model Dimitrios [11], and In addition to the FRS[5].

Trust was supported by TTP, using AK and the FRS. The Model asks if the consumer is registered in the TTP so that if the answer is No, they will be requested to get AK from TTP. But if the answer is yes, they will be requested to get a picture from the device thru a Web camera which is verified by AK. After treatment, if the data match the model, they

will be allowed to carry on its operations as electronically reliable consumer. Otherwise, data will be sent to the black list, then TTP for verification and image update.

Our Model Hypotheses The Following:

- 1) Increasing the number of consumers online.
- 2) Increasing purchase intent between consumers.
- 3) The development of the phenomenon of so-called e-commerce between C2C based on social networks.
- 4) Work on removing the frequency of which being exposed to the consumer when purchasing online.
- 5) Activation of C2C e-commerce and the reduction of intermediaries and brokers and auctions.
- 6) Increasing trust in electronic transactions and thus revive the market-mail.
- 7) Improving the material situation of individuals and businessmen and to low cost electronic trading.
- 8) Encourage the governments of developing countries to develop infrastructure and to engage in e-commerce and to revive the economic situation.
- 9) Making each individual dealers in the area of e-commerce to be trusted.

IV. EXPERIMENTAL RESULTS

Reputation of the seller in the auction sales of more than if a trustworthy and that the wishes of more than buy from him. The study [8], that trust in C2C e-commerce among different from B2C, and the third party a major impact on e-commerce, and therefore consumers should focus on quality and third-party guarantor in order to improve trust in the hearts of consumers to improve the volume of transactions.

From the data collected show that the familiarity and similarity and to ensure structural precedents are important in gaining the trust of members, also found that trust affects the seller and the buyer of the Internet in terms of ability, integrity and goodness. In addition to this the trust in the safety of members and Charity motivate purchase intent, and trust in the seller on the Internet a positive impact on intention to obtain information and purchase intent, [20]. Outlook does not rely on modern technologies of the Internet and it relies on the reliability of the seller [21]. The main factors driving consumers to purchase combines two trends are, TAM [22], and theory of reasoned action (TRA) [12, 23-27], which focused on four groups:

- 1) Trustworthy online merchant (ability, integrity, and charity).
- 2) Medium confidence for online shoppers (technical competence, reliability, and understanding of the medium).
- 3) Infrastructure (contextual).
- 4) Factors (the effectiveness of the functions of a third party, certification, and the effectiveness of security infrastructure).

V. SUGGESTIONS FOR FUTURE RESEARCH

Find many questions inspire consumers to electronic commerce and supposed to answer Search:

- 1) How can I be sure of the credibility of the second party.

- 2) What is the guarantee provided by a third party.
- 3) How can I be certain that my customers' credit card information is not accessible to online eavesdroppers when they enter into a secure transaction on the Web?
- 4) How can I reassure customers who come to my site that they are doing business with me, not with a fake set up to steal their credit card numbers?
- 5) Once I've found a way to authoritatively identify my business to customers and protect private customer information on the Web, what's the best way to let customers know about it, so that they can confidently transact business with me?
- 6) When customers feel confident enough to buy something from me online, how can I enable them to pay me easily using their credit cards or other payment methods?
- 7) How can I verify that customer's credit card information is valid?
- 8) What do I do with payment information?

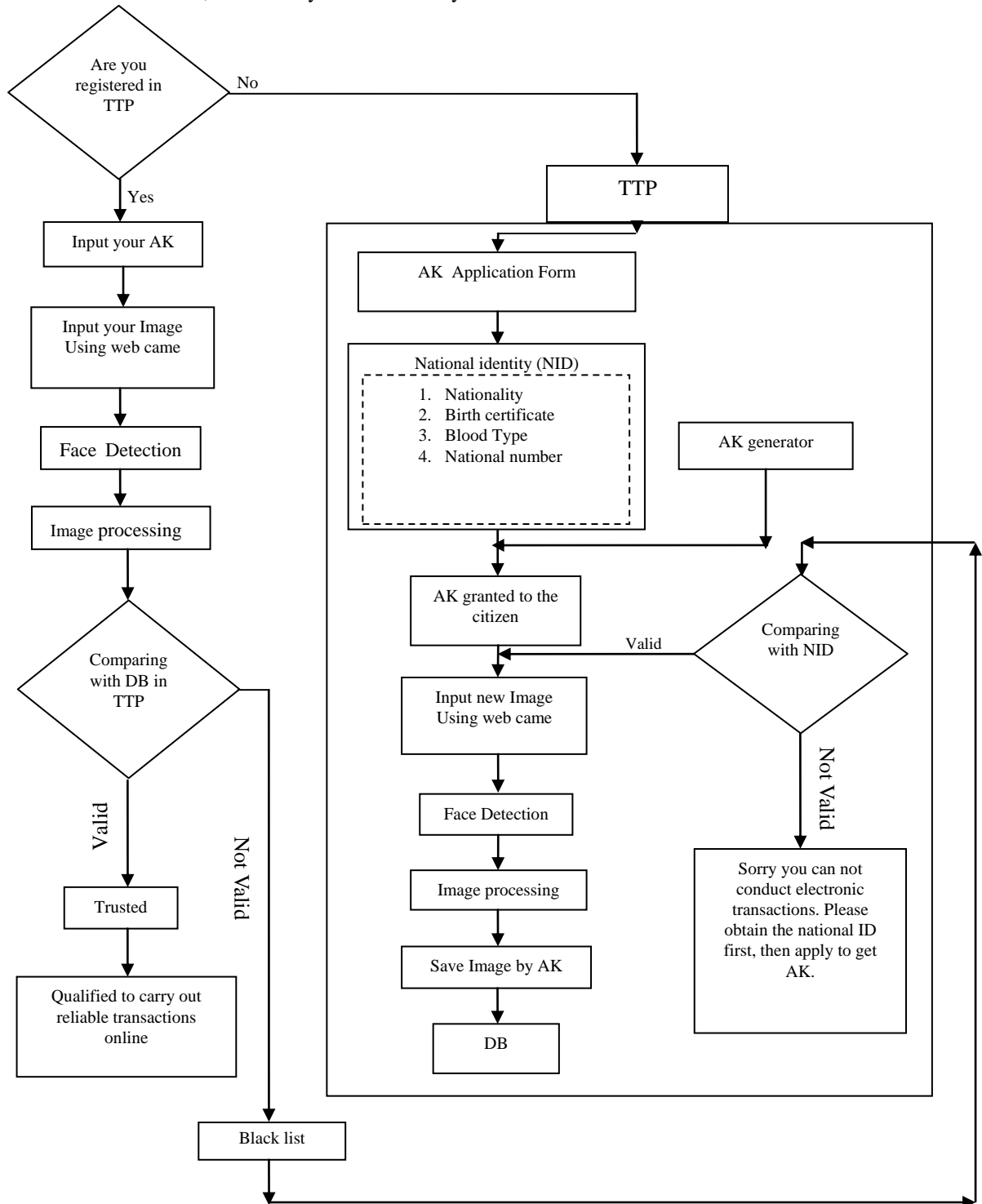


Fig. 1. A proposed model, to build a Model for Trust-building in E-commerce from Consumer to Consumer Perspective in KSA.

VI. CONCLUSION

In this paper, we develop our model in the paper [18], which was built on a model based on TAM and TRA. The paper was developed on the basis of Dimitrios[11], Steven[19], and the use of FRS technology connected with AK, which is stored at the TTP, creating database according to official data. When the consumer's desire to display their goods, his identity is verified by his statements at the TTP, allowing him to engage in a reliable electronic transactions.

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