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TRUST MODEL TO INCREASE PURCHASE INTENT AMONG E-COMMERCE CONSUMERS

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ABSTRACT

This paper draws a comparison between proposed trust model and other online trust models, with special emphasis on eBay, as one of the best trusted sites in this field conducted by comparisons with similar sites in this paper, and it has been identified strengths and weaknesses that exist in the eBay site and a solutions for those problems has been proposed. Proposed model depends on a secured database by assurance key (AK), technically known as the AK-DB, which contains a unique number for each consumer can not possess other, and designed AK generation and verification system (AKGVS). The proposed AKs are intended to replace credit card numbers, as a tool for verification of consumer identity when conducting electronic transactions. After that capture a picture of the face of the consumer using a digital camera is stored digital image in the database (Image-DB) by his/her AK and then compared this data in a trusted third party (TTP) database equipped with technology Face Recognition (FR), where is verified by online verification (OV) system. After verifying the customer's AK and image, it is compared that data with the blacklist (BL) that have all of his/her data remnants precedent set by the TTP to make sure that the consumer has no previous offenses and then allow or not to allow him/ to practice e-commerce through the website. When allowed to practice E-Commerce in e-fulfillment of the terms of trade becomes (seller / buyer) to know each other, which, in turn, leads to increase the trust among them, and the formation of a secure e-community. Were generated AK system test and compare the results with the system used in the generation of credit cards results then were analyzed this data using the ANOVA statistical analysis to identify the results, the results proved that proposed model has made the best of these credit cards results, There is a significant difference and statistically significant (Sig. 0.000), then the proposed model assessing the same method adopted in the evaluation eBay model. Finally, proposed new e-payment mothed more secure and easy such as (Hassa service) or use of social networks such as (Twitter) in financial transactions.
Keywords: *Assurance keys (AK) , credit cards, trust, electronic commerce (E-Commerce), electronic consumers (E-Consumers), trusted third party (TTP)*

1. INTRODUCTION

The rapid growth in technology sales via Internet provided an opportunity of e-commerce between consumers, and this turn provides a lot of effort and time for the consumer, but there is a major barrier, a lack of trust between individuals and this reduces the intention of purchase intent, therefore, there is a need to increase trust between the people and promote the purchase intentions for the consumer over the Internet.

Recently hacking of eBay accounts during February and March 2014, lead to the requirement for more caution when conducting any electronic process, and the search for models of trust to engage in electronic transactions. Trust is related to interdisciplinary subjects, including Philosophy, Psychology, Economics and Computer Science [1, 2].

The sociologist Luhmann [3] wrote: *"Trust and trustworthiness are necessary in our everyday life. It is part of the glue that holds our society together"*.

Trust is the belief of a participant that the other participant will fulfil their promise. It is a very critical element and should be treated as an important reference when conducting E-Commerce processes [4]. Trust plays a critical role in determining consumers' purchase decisions [5].

Several studies depend on the consumer reputation by tracking past behavior on the Internet, for example [2], and from the point of view of this study that rely on a reputable past behavior in the provision of trust is important, but

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also must take into account those that are calculated trust different in other ways . The study suggests that the mechanisms put in place to encourage trust in the Internet, such as the use of technology to enhance trust, that technology may help strengthen, rather than dissolve, and that was the view that the promotion of the use of technology is not a solution.

Trust models are mechanisms that enable parties to build trust; [6].

Trust models compute trust on behalf of their users by using different kinds of information, such as opinions from other participants, their users' own experiences, social-network information and others [7]. Thus a good trust model should help its user to avoid participants that do not honor agreements and advise her to select interaction partners that honor them.

The compute of trust model depend of information sources, this information sources fall into three point: The information can be obtained through interaction with agents, by asking for opinions, or by using the information from the environment.

Trust model use this information compute the values of trust [7].

Because the first and second sources of information are the most common in current trust models, we highlight the third source, which stated that his example may be through social networking.

We propose here that the environment is composed of a group of consumers, these consumers will be known to each other by AK and image [8, 9].

A study [7], stated that trust models are often associated with the decision-making process. There are two models of trust. Firstly, trust models without a decision-making mechanism are the most common forms of trust. They provide rules, formulas or algorithms that describe how to calculate trust, but at the same time they do not provide any guidance on how to use that information in the decision-making process. Secondly, there are trust models with a decision-making mechanism. Either form of trust model provides rules and formulas or algorithms describing how to calculate the value of trust, and then describe how to use that information in decision-making processes.

Purchase intent is one of the decision-making processes which often adopt a model of trust.

1.1 Problems with Trust Online:

Interpersonal contact is a traditional factor in transactions and there are many attempts to compensate for it; in this case the customer is part of the transaction and this facilitates trust. Many other attempts lead to this tendency through analyzing the customer's expectations and database. Some propose transforming web sites into customer-centric service centers offering digital experience and good trustworthy services [10].

1.2 Trust and Authentication:

Trust is a key factor for maintaining secure business transactions and is attainable by verifying the customer, uncovering the customer's identity and thereupon granting permission to finalize the deal [11].

Authentication is another problem arising from the lack of interpersonal contact that puts the customer in direct contact with the retailer and the items [12]. Most E-Commerce sites (eBay is an example) rely on the consumer's verification through a credit card. eBay uses a system of verifying the other party by PayPal, which in turn depends on the registered credit card to verify for the consumer.

In this paper, we propose the use of an AK component of 16 digits for each consumer to be an alternative to credit card numbers that are used to verify that the consumers dealing with them are trustworthy. Also we will review how to generate these figures and how to check them and then compare the test results of AK with the results of a test group using credit cards in the same field. Then we will analyse the results of the comparison using the statistical analysis (ANOVA) system to determine the feasibility of using the AK alternative to credit card numbers.

The paper is organised as follows: Section 2 introduces the literature review that contains previous studies of using credit cards in E-Commerce, types of credit cards and the mechanism used for generation and verification of it, data set collection and modern payment methods. Section 3 presents an illustrative application for reviewing the steps used to generate and verify AK. It also presents the results of testing AKs with test credit cards and analyses the result using the (ANOVA) system for statistical analysis. Section 4 present the methods

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used to evaluate proposed model. Section 5 gives conclusions.

2. LITERATURE REVIEW

eBay uses a system for verification from the other party by PayPal, which in turn depends on the registered credit card to verify from the consumer [8, 9].

2.1 Previous studies

Most E-Commerce websites use credit cards for verification online. In this section we review some of the studies that have touched on the use of credit cards in E-Commerce and take advantage of them providing trust.

Lee and Cho [13] confirm that the opportunities that are offered through auctions on the Internet do not provide for consumers offline, therefore, these auctions operate to prevent fraud by putting in preventive controls to achieve the users' identities revealed through kiting and phantom credit cards. The findings of this study provide a safe environment that is the first condition to conduct online transactions. However, truly preventive controls to prevent fraud and to deter consumers are still restricted because of privacy concerns. Therefore, the study recommended the development of systems that provide a balance between preventive controls and deterrent controls which operate to restrain consumers from dishonest online fraud, and at the same time look for ways to protect honest users. Through the application of ideas of fraud detection systems from sites on the Internet, this study can help companies to identify any susceptible behaviour, and improve the efficiency of the subsequent detection of fraud.

Shandan and Dan [14] suggest that honesty is the key to the success of E-Commerce. This study suggests things that are built on honesty and credit will lead to the success of E-Commerce and a belief that the credit crunch could get something out of them. However, there's nothing to promote the awareness of credit and to establish a system of personal loans and legal rules, and thereby, improve the means of payment, and enhance technical support.

Martins and Cardoso [15] suggested that an investigation should be conducted with credit card holders because it helps support the strategic decisions of the present and the future.

According to Singh and Aggarwal [16], most of the analytical methods employed were used in the evaluation of credit cards such as: LDA (Linear Discriminant Analysis), SVM (support vector machines), Kernel density estimation, LR (logistic regression), GP (genetic programming). For the analysis of credit card data used in this study, real data were collected from Australian credit cards (Martins and Cardoso, 2012). The study found that modern methods are used, such as the decision tree and neural network, which are better than the traditional methods used in the analysis of LDA and LR.

Below we review some of the types of credit cards, issuers, IIN range and length.

2.2 List of Credit Card Number Formats

(http://www.freeformatter.com/credit-card-number-generator-validator.html)

There are several domains for generating credit card types. The card vendors have a specific format for their card numbers, as shown in the following table:

Table 1: List of Credit Card

Credit Card Issuer	Starts With (IIN Range)	Length (Number of digits)
American Express	34, 37	15
Diners Club - Carte Blanche	300 to 305	14
Diners Club - International	36	14
Diners Club - USA & Canada	54	16
Discover	6011, 622126 to 622925, 644 to 649, 65	16
InstaPayment	637, 638, 639	16
JCB	3528 to 3589	16
Laser	6304, 6706, 6771, 6709	16-19
Maestro	5018, 5020, 5038, 5893, 6304, 6759, 6761 to 6763	16-19
MasterCard	51, 52, 53, 54, 55	16-19
Visa	4	13-16
Visa Electron	4026, 417500, 4508, 4844, 4913, 4917	16

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In this paper, we will focus on the four types of credit cards listed above, as shown in the following table:

Table 2: Some of the Major Credit Cards we will use in this paper.

Card Type	Prefix	Length
MasterCard	51-55	16
VISA16	4	16
VISA13	4	13
American Express	34, 37	15

2.2.1 Generation and verifications VISA16

(http://www.kensodev.com/2010/01/18/source-code-credit-card-number-validation-israeli-visa/, https://github.com/KensoDev/kensodev.com/blob/master/_posts/2010-01-18- source-code-credit-card-number-validation-israeli-visa.markdown)
A credit card validation is being done using something that's called a "weight number". Each credit card number is attached to a weight number and some calculations are done accordingly. So, let's create a class which takes a number and a weight number, we will also create a constructor for this class. Now, we have the helper to check whether a number is odd or even, we have a class to hold the credit card numbers (http://www.kensodev.com/2010/01/18/source-code-credit-card-number-validation-israeli-visa/).

The algorithm says something simple, starting at the right side of the number (credit card number) start attaching weight numbers. Start with 1, then 2 and so on and so forth till the end of the number.
It can take the following format:

4	5	8	0	1	4	0	0	0	1	2	1	3	2	1	8
2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1

Fig.1 Numbers (RN) and weight numbers (WN)

The next step is to multiply the number by the weight number. If the resulting figure is greater than 10, add the first number to the second number. Example: if the resulting number is, say 16, simply add 1 to 6 and the final result is 7.
A typical case would be as follows:

4	5	8	0	1	4	0	0	0	1	2	1	3	2	1	8
2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
8	5	16	0	2	4	0	0	0	1	4	1	6	2	2	8
8	5	7	0	2	4	0	0	0	1	4	1	6	2	2	8

Fig.2 Calculation method – WN

After you do this, simply sum up the result (T-RN)

8+5+7+0+2+4+0+0+0+1+4+1+6+2+2+8=50

Any result should be OK as long as the final figure obtained is divisible by 10. If not then there is something wrong with the credit card.

2.2.2 Flow chart of VISA16 Generation and verifications

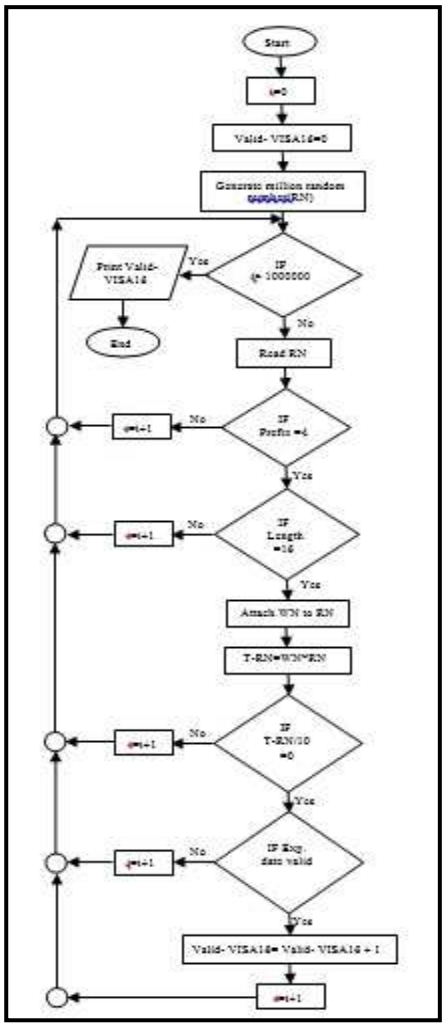

Fig.3 VISA16 Generation and verifications

This figure illustrates the steps taken to generate a 16-digts million random numbers which will be tested to determine the numbers to which VISA16 system applies.

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2.3 Data Set Collections

For the mechanism used to generate credit card numbers and verify them there are several algorithms used in this area, namely:

http://www.kensodev.com/2010/01/18/source-code-credit-card-number-validation-israeli-visa/, https://github.com/KensoDev/kensodev.com/blob/master/_posts/2010-01-18- source-code-credit-card-number-validation-israeli-visa.markdown, http://www.codeproject.com/Tips/515367/Validate-credit-card-number-with-Mod-10-algorithm, http://www.freeformatter.com/credit-card-number-generator-validator.html, www.brainjar.com/js/validation/default2.asp).

In this paper, data were collected from sites specializing in the generation mechanisms numbers of credit cards to test of the mechanisms used in generation credit cards, including credit card, Germany and other credit cards

(http://archive.ics.uci.edu/ml/datasets/Credit+Approval, http://archive.ics.uci.edu/ml/datasets/Statlog+(German+Credit+Data).

Some of them were used in the studies [17-19].

2.4 Modern Payment Methods

Recently emerged modern payment to keep up with the development that has occurred in the information technology methods, including the use of social networking, one of the French banks (http://www.cibeg.com/English/Pages/default.aspx) suggested in coordination with S-money Company (http://www.s-money.fr/), a payment by a twitter account. It is known that all the means of social communication are by mobile, that is why we suggest in our study to use "Hassa service (http://www.hassa.sd/)" for financial transactions between individuals, a Mobile Money service in Sudan offered by Zain (http://www.sd.zain.com/English/Pages/default.aspx) in coordination with Bank of Khartoum (http: // bankofkhartoum.com/) used in daily financial transactions (deposit, withdraw, cash transfer, pay bills or buy top-up), is similar to a normal bank account and your mobile phone number is your mobile account number as well.

HASSA (http://www.hassa.sd/), (a colloquial Arabic word used in Sudan with the meaning of now or immediately) was given to a Mobile Money service launched by Zain (http://www.sd.zain.com/English/Pages/default.aspx) in Sudan in coordination with the Bank of Khartoum. The service is used in daily financial transactions (deposits, withdrawals, cash transfer, paying bills or buying top-up). It's similar to a normal bank account and uses the mobile phone number to serve as a mobile account number as well.

Hassa has its own application which can be downloaded from the website (http://www.hassa.sd/) depending on the type of the user's mobile phone. It is similar to the prepaid card used as a safe alternative to credit cards. The difference is that a prepaid card is filled by drawing against your personal bank account while in HASSA service, the money is transferred from your bank account to your HASSA account that is to your mobile number.

This service was defined by the company providing the service (http://www.sd.zain.com/English/pages/news.aspx?newsid=644) as "A new technological tool enabling all mobile phone users to carry out most of their banking operations and financial services including money transfers, buying different services and paying bills in addition to the use of ATM services and sale points without having to open regular bank accounts.

3. AN ILLUSTRATIVE APPLICATION

We suggested in our paper [9] that a mechanism to generate AK can be used to provide trust among E-Consumers, and in this paper we have modified the length of AK from 20 digits to 16 digits to compare the results with credit cards and then analyse the results of a statistical comparison.

3.1 AK implementation

Implementation of Proposed Algorithm for Generating and Validating of AK's Numbers. In this section, we will review the steps of generating and validating AKs.

3.1.1 Generate AKs Main Menu

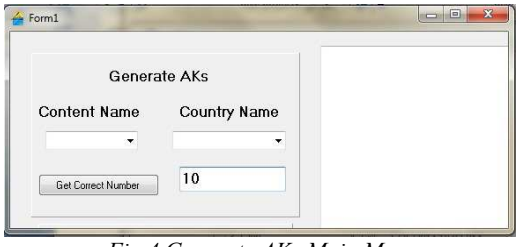

Fig.4 Generate AKs Main Menu

Fig. 4 shows the main menu for generating AKs, which contains the name of the continent

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among six continents (each continent is symbolised by one digit, as shown in Table 3). When choosing one continent, the countries are then shown in the name box and each state is symbolised by three digits, as shown in Table 4.

Table 3: Continent Names and Proposed Codes (Sharfi M. Abbass, et..al, 2012)

Continent Name	Continent Code
Africa	1
Asia	2
Australia	3
Europe	4
North America	5
South America	6

Table 4: Countries of Africa (53) (http://en.wikipedia.org/wiki/Countries_of_Africa),

Content Code	Country Name	Country Code	Range of people
1	South Africa	001	00000001 to 00200000
		. . .	
1	Sudan	008	01800001 to 02000000
		. . .	
1	São Tomé and Príncipe	052	10600001 to 10800000

Table 4 is considered a database for Africa and also this table includes other continents, taking into consideration the number and range of continents as shown in Table 5.

3.1.2 Select Continent Name and Country Name

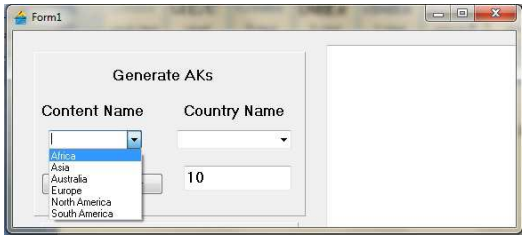

Fig. 5 Select Content Name

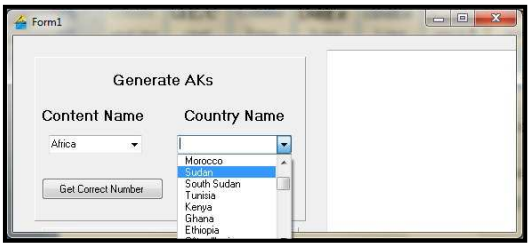

Fig. 6 Select Country Name

After selecting the continent and the state to generate numbers, we indicate the number of AKs to be generated. Here, we generate AKs composed of 16 digits, as shown in Fig. 7. These are required to be Random Number 8-digits, which are symbolised by AK-1 and AK-2 to form the scope of the numbers specified for this state as shown in Table 5 For example, we generated 10 random numbers for Sudan, which is an African state, to explain in detail the AKs and verifications in accordance with the data shown in Tables 3-5.

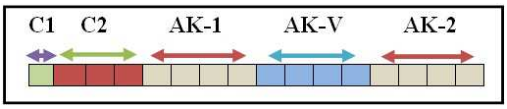

Fig. 7 Details of a proposed AK

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Table 5: The Range Of People In Each Continent And The Range Of Countries In Each Continent.

Continent Name	Continent Code	Range of Countries	Range of AK-1+ AK-2
Africa	1	001—150	00000001 to 15000000
Asia	2	151—300	15000001 to 30000000
Australia	3	301—450	30000001 to 45000000
Europe	4	451—600	45000001 to 60000000
North America	5	601—750	60000001 to 75000000
South America	6	750—900	75000001 to 90000000

3.1.3 Generation and verifications AKs for Sudan

We generate 10 random numbers for Sudan, which is an African state, to explain in detail the AKs and verifications in accordance with the data shown in Tables 3-5.

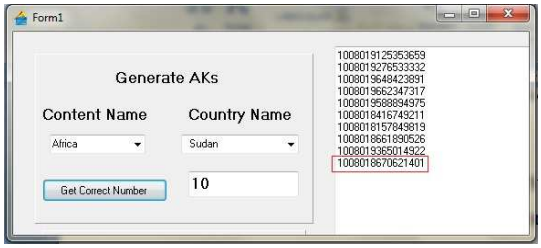

Fig. 8 Generate 10 AKs for Sudan

To verify that the AKs were generated in accordance with the conditions specified, we will test one random number shown in Fig. 8 above. Let us test the last number which is

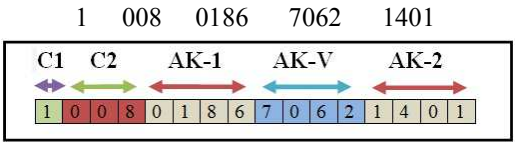

Fig. 9 Details of AKs for Sudan

To test the validity of the number we should fulfil the conditions in all its parts. The conditions are:

i. The C1 is between 1 to 6 as a symbol for the continent; here, C1 is the number 1, if this condition is verified.
ii. The C2 is between 001 to 060, as shown in Table 5; here, C2 is 008, if the condition is verified.
iii. The AK-1 and AK-2 in the range specified for this state are 1800001 to 2000000 as in Table 5; here, AK-1 and AK-2 are 1861401, if the condition is verified.
iv. The total number of AK-V must be divisible by 3, and the total numbers (7 +0 +6 +2) = 15, 15/3 = 5, if the condition is verified.

3.2 Flow chart of AKs Generation and verifications

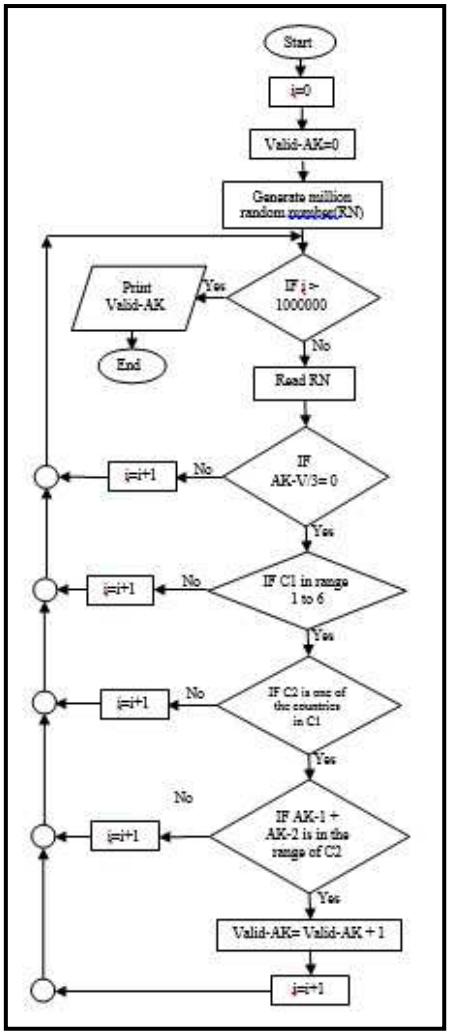

Fig. 10 AKs Generation and verifications

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This figure illustrates the steps taken to generate a 16-digit million random numbers which will be tested to determine the numbers to which the AK system applies.

3.3 Results of Testing AKs with Test Credit Cards

To test the proposed AK system we designed a program to read one million numbers of the random component of (16 digits) that are generated under the terms of the generation of random numbers used to test credit cards, which is described in paragraph (2.3 Data Set Collections) to determine the proportion of the numbers that can be achieved where all the conditions form AKs [9] and we repeated this process 10 times and then we extracted the average per account.

Also to test credit cards mentioned in Table 2, we used the same data used to test our AK system for each card. And we repeated this process 10 times for each type of card and then we extracted the average expense ratios for each card and compared with the results we reached in the generation of AKs.

In this section we analyse the result of a comparison between our proposed AK system and the credit cards mentioned in Table 2 that were used in the verification of E-Consumers, using (ANOVA) analysis.

3.3.1 One- way analysis of variance

The one-way analysis of variance (ANOVA) is used to determine whether there are any significant differences between the means of two or more independent groups

Table 6 - The Means Of The (5) Groups

Data	Mean	Std. Deviation	Coefficient of Variation
MasterCard	100046.70	264.581	0.003
American express	100128.10	424.643	0.004
visa 13	99919.70	328.436	0.003
visa 16	100011.30	292.512	0.003
AKs	464.00	25.513	0.055
Total	80113.96	40230.376	0.502

Table 7 One – Way Analysis Variance Between The (5) Groups

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.930	4	1.983	223053.404	.000
Within Groups	3999687.200	45	88881.938		
Total	7.931	49			

From table 7 above the significance level (Sig) is (0.00) which is below (0.05), therefore, there is a statistically significant difference between the five means.

Table 8 Multiple Comparisons (Tukey Post-Hoc Test)

Multiple Comparisons						
(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
American express	MasterCard	-81.400-	133.328	.973	-460.25-	297.45
	Visa13	127.000	133.328	.875	-251.85-	505.85
	Visa16	35.400	133.328	.999	-343.45-	414.25
	Aks	99582.700*	133.328	.000	99203.85	99961.55
MasterCard	American express	81.400	133.328	.973	-297.45-	460.25

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	Visa13	208.400	133.328	.528	-170.45-	587.25
	Visa16	116.800	133.328	.904	-262.05-	495.65
	Aks	99664.100*	133.328	.000	99285.25	100042.95
Visa13	American express	-127.000-	133.328	.875	-505.85-	251.85
	MasterCard	-208.400-	133.328	.528	-587.25-	170.45
	Visa16	-91.600-	133.328	.958	-470.45-	287.25
	Aks	99455.700*	133.328	.000	99076.85	99834.55
Visa16	American express	-35.400-	133.328	.999	-414.25-	343.45
	MasterCard	-116.800-	133.328	.904	-495.65-	262.05
	Visa13	91.600	133.328	.958	-287.25-	470.45
	Aks	99547.300*	133.328	.000	99168.45	99926.15
Aks	American express	-99582.700-*	133.328	.000	-99961.55-	-99203.85-
	MasterCard	-99664.100-*	133.328	.000	-100042.95-	-99285.25-
	Visa13	-99455.700-*	133.328	.000	-99834.55-	-99076.85-
	Visa16	-99547.300-*	133.328	.000	-99926.15-	-99168.45-

*. The mean difference is significant at the 0.05 level.

3.3.2 Summary

From the results so far, we know that there are significant differences between the groups as a whole. The table above, Multiple Comparisons, shows which groups differed from each other. We can see from the table that there is a significant difference between AKs and all other groups, and at the same time there are no differences between the other (4) groups.

3.3.3 The Features of AK

Our proposed AKs differs from the unique number of the credit card as follows:

- All consumers have an AK number that depends on the continent and the country where the number belongs to the consumer, through which to identify the nationality of the consumer and the continent where he belongs.
- The number is checked at the three stages: First, the comparison between the symbol of the continent and the country code (if the number matches the country and the continent). Second, use the four boxes (AK-V) to verify if these numbers are divisible by three. Third: if the random numbers (8 box) are from within the specified range of this state (Table 4)
- The consumer cannot have more than one AK

4. EVALUATE PROPOSED MODEL

With the huge development of information technology, in general, and e-commerce, in particular, the number of trust models increased, because of its importance. Several mechanisms appeared to evaluate such models. The above evaluation of e-commerce models are used by using or enabling Business Process Re-engineering (BPR) [20]. Evaluation methods became more advanced. Most researches are being based, when evaluating trust, on a reputable trust model (P2P3) [21].

In our paper [9], we have conducted a comparison of five models. We concluded that eBay is the best and therefore the proposed model has been compared with the eBay model.

It has been evaluated and compared with eBay evaluation, because the study [7], evaluated the proposed trust models without decision-making mechanism, we evaluated our proposed model in general and compared it with eBay evaluate. However, it has to be noted that the mechanisms of decision-making used in our proposed model, such as verification using AK and FR were evaluated. Added to that the use of secure and easy payment methods, such as Hassa service.

4.1 The Evaluation Roles for eBay Model

In this section, we worked hard to make the trust model capable of increasing purchase intent among C2C and compared with the trust model used by the eBay site and an evaluated model, according to the following points:

Scalableness: System should support variations in load without human intervention. As more and more people join the Internet, more and more users attempt to access the website and request information simultaneously; they must be served without fail.

Availability/Reliability: The system should provide 24/7 availability with almost no downtime period.

Security: System should authenticate users and protect against unauthorized access to data. Such

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access could have disastrous effects for an online marketplace.

Usability: Different users should be able to access different content in different categories. Multiple users must be able to bid on items at the same time.

Performance: Users should be provided with fast response times. This is especially necessary when a bid is coming to a close and the user wants to ensure that he/she gets the chance to see the last bid.

4.2 Proposed Model is Characterized by the eBay Model

First: study [22], evaluated trust models that were used in the studies [23-25], which evaluated trust based on Bayesian risks, and on the basis of recommendations that focus on distribution system trust; also trust was calculated according to the data of transactions. It turned out that these studies evaluated trust within the same P2P network, but did not address how to assess trust if access to other P2P networks occurred. Therefore, the study [22], aimed to solve this problem by developing a model to assess trust in the event of access to various P2P networks. This was based on calculations and data through the development of a specific part of trust, which is Trusted Platform Module (TPM), supported by electronic signature technology providers. In our OV model, we used AK and facial recognition technology for consumer and the seller, which prevent impersonation.

Second: The study [26] worked on the development of management mechanism trusts from which is calculated the value of trust. This study found that some e-commerce sites such as eBay rely on ratings that previous trading has seen. This value can only reflect the state of public trust or global Seller's. It is not restricted to new transactions, so the buyer can easily fall victim to swindlers in new transactions, where the seller can acquire a good reputation by selling at a lower price.

After gearing customer trust, some buyers start changing high prices; thus trust has to be a permanent basics for past and future transaction. This study also provides a new method to assess trust, where it is compared with previous trading transactions, and in this case the value of new trading transactions is determined, the study found that this method can determine and prevent any fraud or fraudulent transactions. This study lacks a way to verify that the seller is the same account holder, i.e. you must make sure that all transactions are for a single vendor. People should not be able to enter a pseudonym to exploit others and their business reputation. Our model proposes to prevent this, because when you display an item or service it must be verified by AK, using the photo maintained by TTP. No consumer can have more than one AK. In proposed model there would be punishment for vendors who act fraudulently; data would be sent to a blacklist (BL) and vendors would be prevented from practicing sales through the Internet [8].

5. CONCLUSION

The results indicate that our proposed system would generate more trust among E-Consumers. Furthermore, our system shows information about consumer AK owners like his/her continent and state and thus can refer to the third party in the event of any type of violation or deception, using the GPS. Thus the consumer is reassured about a deal with someone who knows a lot about the information that will make it trustworthy. Consequently, the proposed system can lead to the formation of e-commerce relationship between two or more consumers and then evolve to form an electronic community that can take advantage of each other.

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