Customer’s Protection in Ecommerce Transaction Through Identifying Fake Online Stores

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Abstract - Electronic commerce is the process of doing business transactions online. Most research works on e-commerce transaction has being on ensuring security that will enhance customers’ trust. Thus, a centralized merchant registration retrieval (CMRR) is introduced in e-commerce model and how fake virtual stored is distinguished from legitimate virtual stores were highlighted in this paper. Also, identifying and knowing the merchant location through the use of CMRR were discussed. Finally, questionnaire was distributed to customers who purchase goods and services online to evaluate the application of CMRR in distinguishing fakes virtual stores. Analysis of the data generated showed that CMRR can efficiently be used to distinguish fake virtual stores from authenticated and verified merchant stores.

Keywords: Fake merchants, Central Merchant Registration Retrieval System (CMRRS), online transactions, customer’s trust, E-commerce

1 Introduction

Electronic Commerce is a new way of doing online business [1]. In other words, the act of buying and selling via a telecommunications networks is known as e-commerce. The Internet is an excellent medium to carry out e-commerce transaction. But, consumer confidence is thwarted by the fact that the delivery of goods and services are uncertain, merchants are not known and merchants’ locations are also not known [2]. This makes consumers to be disinterested in online shopping and invariably makes e-commerce not to boom as expected [3].

2 Related works

2.1 Factors affecting trust in Online

There are various types of merchant scam that ranges from merchant using customers personal data, goods or services are not delivered, cloning of website or payment page, fake merchant sites [4, 5, 6].

According to [7], online transactions make use of important and personal information of the consumers and merchants. Securing this information is of great importance and is necessary in defining the e-commerce environment. Thus, the protection of the Internet environment is a necessary step to enhancing e-commerce transaction.

[6] highlighted eight factors that affect trust in e-commerce transaction. Among these factors, merchant reputation which entails merchant integrity and merchant competence is seen as a major factor that can enhance customers trust [8].

E-commerce transactions is not expanding rapidly due to customers distrust on sellers online [9]. Hence, most countries have set bills that will restore confidence to customers [10].

[5] elicited bank security features used to protect online transactions from swindlers. Their work highlighted four steps that banks can use to lessen credit card problems.

[11] highlighted the techniques available for corporate bodies to identify counterfeit of popular Web sites such as e-commerce transaction sites and merchant- customer sites.

[12] described five external and internal factors that can influence consumers’ trust. Among the listed factors was vendor’s reliability and integrity.

[13] researched on four main quality factors: security, privacy, design, and content, which affect e-commerce transactions. Thus the security of the buyers and sellers is essential in enhancing trust and building confidence.

2.2 Survey of security Tools used in E-commerce

The e-commerce transaction entails different stages. The best way that fraud can be combated is to use different security layers at different stages. From the order stage to payment stage, different tools such as Online payment authorization of credit card, Address verification services/ system, Card verification codes, Negative files, Risk prediction techniques/ models, Rules Based Detection, and
MasterCard secure code are security tools used at the payment stage.

2.3 E-commerce vulnerability threats

There is need to check all built website. Hence, [13] proposed a model that is used to test the weakness, threats and quality of e-commerce sites using four main quality factors: security, privacy, design, and content. Therefore, the CMRR, a component of e-commerce model [14] is used to check the authenticity of the online stores for customers online.

3 Problem Formulation

The E-commerce web sites should not only protect credit cards, online store, and sellers’ goods. Customers do not have to visit corporate affairs websites to know about the merchant to transact business with. The e-commerce website should also be able to distinguish fake online stores from legitimate stores. Hence, a CMRR is shown and demonstrated to distinguish fake virtual stored from legitimate virtual stores in e-commerce transaction through the use of rule-based deduction.

4 Research Framework

4.1 Analysis of the Existing System

The Jumia.com e-commerce components do not have CMRR component built into it. Often times, the components of the existing e-commerce web sites comprises the Retail, Shipping, Switching, Report, Merchant, List [14]. Thus, the customer blindly makes transaction with unknown merchant who may not be traced when problem arises.

4.2 The CMRR Component

The CMRR component houses the Merchant information by accepting the Local merchant registration system (LMRS) broadcast. Thus, whenever the Retail Service component request for merchant goods to be showcased, the merchant information details is checked by the CMRR component before it is categorized and viewed by the customer.

The CMRR uses the following rules to distinguish fake online stores from authenticated online stores.

-Rule 1: That the product that comes from virtual stores that are not verified by CMRR should be rejected and should be showcased without an ID number.

-Rule 2: That the product that is coming from merchant who has been authenticated by CMRR is accepted and should be given ID number.

4.3 Evaluating the use of CMRR to identify fake stores

Questionnaires were administered to customers who make online purchases for a period of four months. The respondents’ generated data was analyzed using descriptive method in SPSS.

A five point Likert was used; Strongly Disagreed, Disagree, Neutral, Agreed, Strongly Agreed. The scaling options were scale of 1-5, where Strongly disagreed = 1, Disagree = 2, Neutral = 3, Agreed = 4, Strongly Agreed = 5

From the generated result, the CMRR component in e-commerce model was compared with the Jumia e-commerce model in having the advisory capability to identifying fake online stores. The findings are tabulated in Table 1. The findings showed that CMRR has the ability to verify that the merchant address received at the time of uploading product category conform to the address in the Country’s corporate affairs. The CMRR also has the ability to advise customer on address verification system mismatch for online merchants. Thus, the CMRR aid the customers to transact business with trusted virtual stores. These major attributes of CMRR makes the component unique and necessary in e-commerce model.

<table>
<thead>
<tr>
<th>Features</th>
<th>Jumia e-commerce model</th>
<th>CMRR in e-commerce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevent immediate crediting of merchant account until delivery report is received</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Customize how to handle merchants that return AVS mismatch codes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Ability to advise customer on AVS mismatch for online merchants</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Verify that the merchant address received at the time of uploading product category conform to the address in the Country’s corporate affairs</td>
<td>Customer is unaware</td>
<td>Yes</td>
</tr>
<tr>
<td>Uses Merchant Product ID to identify online stores that have no traceable physical location</td>
<td>Customer is unaware</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The respondents average mean values is shown in Figure 1. These mean values were obtained by taking the average score of each of the respondents answer to each question. The higher the mean values, the better the feature of the tested tool. Thus, the third feature of the CMRR seems to be the best quality feature having average mean value of 4.571.
5 Discussion

In this paper, the CMRR component has the capability to distinguish fake online stores from genuine online stores. This is achieved through the use of Merchants verification filter to verify that the merchant address received at the time of uploading product at customers’ request conform to the address in the CMRR database. Also, CMRR uses customized filters to handle merchants that return address verification mismatch codes, as well as advise customer on such mismatch. CMRR uses rule based deduction technique to aid customer to distinguish fake online stores and identify and prevent legitimate stores from being rejected.

6 Conclusion

In this study, the CMRR has shown to have the capability to distinguish fake online stores from genuine online stores. Thus, advising the customer on how to identify reliable merchants to buy goods and services. The findings in this paper can be used for further research work.

7 References