# Risks of electronic payment means: online payment through a case study of eBay transactions

**ABDALLAH EL HIRTSI Hamid- C.U.K.M**
**Belkella Brahim- university of Chlef.**

**ABSTRACT**

The emergence of e-commerce has created new financial needs that in many cases cannot be effectively fulfilled by the traditional payment systems. Recognizing this, virtually all interested parties are exploring various types of electronic payment system and issues surrounding electronic payment system and digital currency. Broadly electronic payment systems can be classified into four categories: Online Credit Card Payment System, Online Electronic Cash System, Electronic Cheque System and Smart Cards based Electronic Payment System. Each payment system has its advantages and disadvantages for the customers and merchants. These payment systems have numbers of requirements: e.g. security, acceptability, convenience, cost, anonymity, control, and traceability. Therefore, instead of focusing on the technological specifications of various electronic payment systems, the researcher have distinguished electronic payment systems based on what is being transmitted over the network; and analyze the difference of each electronic payment system by evaluating their requirements, characteristics and assess the applicability of each system.

**Introduction:**

Electronic technologies have changed the way we do business forever. We have seen fast paced change in the last decade not only in information technology advancement but also in business model design and strategic direction. Technology has become central to company operations as well as strategy. Successful companies today recognize electronic technologies and the Internet as mainstream to business success. Electronic payment technology is becoming increasingly important for companies seeking a means for cost cutting, enhanced sells and improved business. The future for electronic payment technology applications will continue to be promising to companies seeking secure electronic payment.

**Problematic:**

What are the risks of electronic payment? And how can we face such challenges?

**1.1-Definition of electronic payment:**

At first glance, defining electronic payment seems to mean different related subdomains that is to say: electronics, informatics, economics… etc. accordingly, the best definition tends to be gathering all aforesaid subdomains without racking our brains, we can say that an electronic payment is system that permits online payment between parties using surrogate of financial tender. The financial surrogate is backed by financial institutions and/or trusted intermediaries. Thus, the intent is to act as an alternative form payment of the physical cash, cheque or other financial tenders.

As payments is an integral part of mercantile process, electronic payment system is an integral part of e-commerce. The emergence of e-commerce (table 1) has created new financial needs that in many cases cannot be effectively fulfilled by traditional payment systems. For instance, new types

of purchasing relationships-such as auction between individuals online-have resulted in the need for peer-to-peer3 payment methods that allows individuals to e-mail payments to the other individual. Recognizing this, virtually all interested parties (i.e. academicians, government, business community and financial service providers) are exploring various types of electronic payment system and issues surrounding electronic payment system and digital currency. Some proposed electronic payment systems are simply electronic version of existing payment systems such as cheques and credit cards, while, others are based on the digital currency technology and have the potential for definitive impact on today‟s financial and monetary system. While popular developers of electronic payment system predict fundamental changes in the financial sector because of the innovations in electronic payment system (Kalakota & Ravi, 1996). Therefore, electronic payment systems and in particular, methods of payment being developed to support electronic commerce cannot be studied in an isolation. A failure to take place these developments into the proper context is likely to result in undue focus on the various experimental initiatives to develop electronic forms of payment without a proper reflection on the broader implications for the existing payment system.

**2-Means of electronic payment:**

Before we tackle the means of electronic payment we should notice that we can find those latters in different environments that allow such operation.

Perhaps the most recognizable and prominent environment is the internet based area

Then comes the public box transaction gadgets found near banks like: ATM, also there occurred into the surface payment through the gadget using the GSM networks like cellphones, IPHONE and such like.

On the basis of the above claim we can divide electronic payment system as follows:

1- Online Credit Card Payment System.

2- Electronic Cheque System .

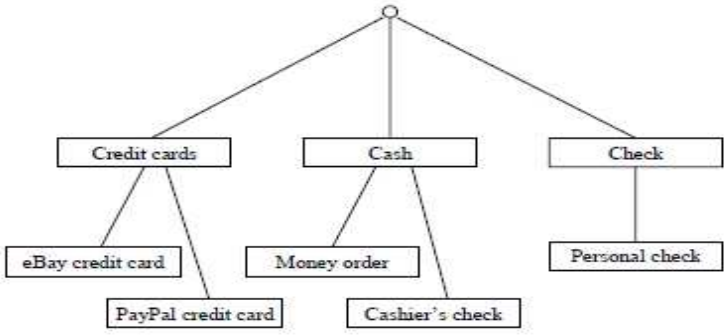
3- Electronic Cash System and.

4- Smart Card based Electronic Payment System.

Generally the most fluent mean in electronic payment is the card based ones such as:

Credit and charge cards(buy now, pay later) ,debit cards(buy now, pay now), cash cards(buy now, prepaid or pay before), digital cash( convential computerized cash by a financial surrogate like PayPal and beenz), e-cheque and mobile wallets

**Figure 1: Nesting Structure for Payment Choice**




**3-Mechanism of electronic payment:**

The process of electronic payment passes through three important ways:

1- The client data validation: where the user must validate and ask for the need or other transactions

2- The surrogate need treatment: here it analyses the data sent by the user

3- the data transfer from the surrogate side to the target economic agent.

## 4- The process of realizing the client need

EXHIBIT 1

Person-to-Person On-Line Payment: Proprietary Account System

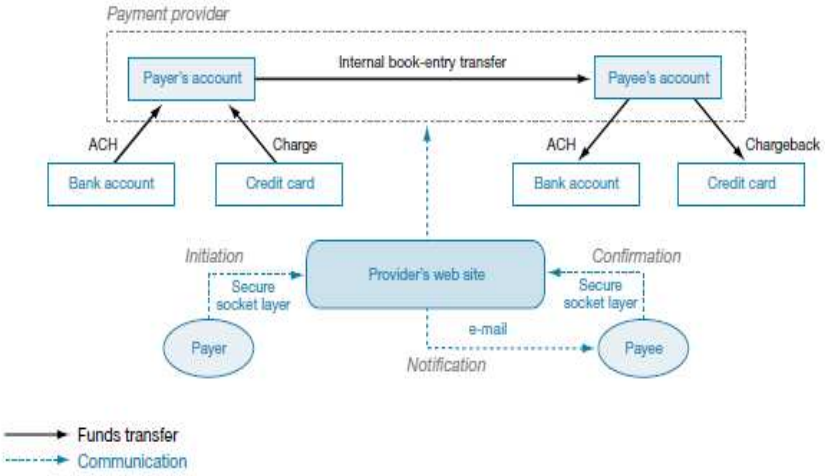
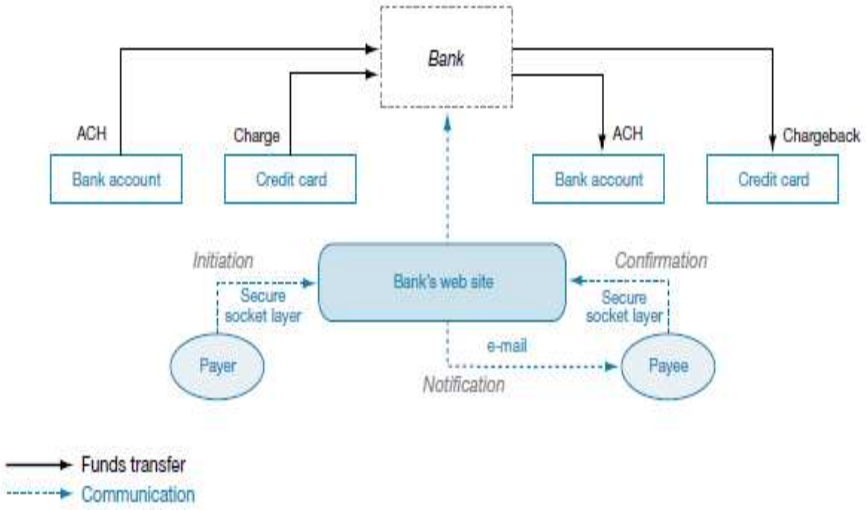
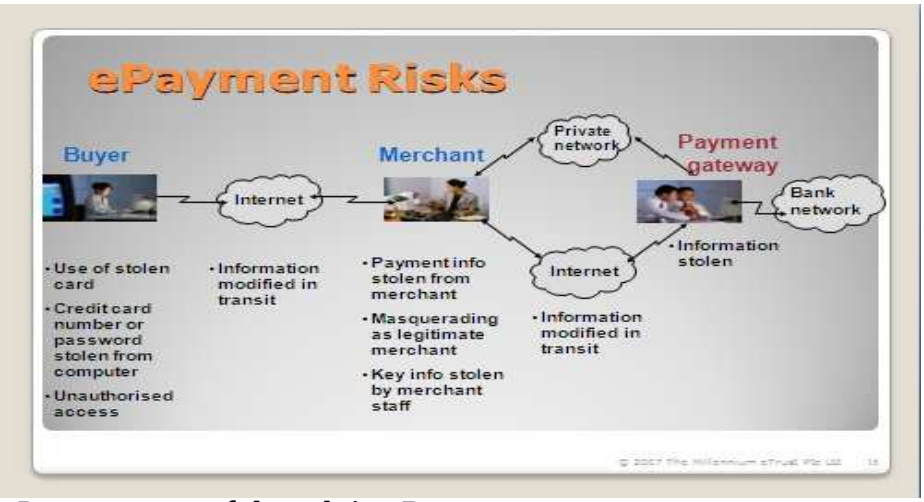



EXHIBIT 2

Person-to-Person On-Line Payment: Bank-Account-Based System



## 4 - risks on electronic payment:




## 5- case stuy of the website eBay:

Presently, eBay, Yahoo!, and Amazon.com are the major players in online auction markets. According to eBay, its site has over 49 million registered users. Forrester Research projects that online consumer marketplaces will conduct over 25% of all online sales by 2006. Recently, Forrester Research changed its definition of online retail to include auctions, because survey respondents make 10 percent of their purchases on eBay.

The whole address of eBay is: http://www.ebay.com this is perhaps the most powerful website in the overall electronic payment providers.

It supports different formats of electronic payment including PayPal, MasterCard, debit card and even the mobile phone software tools that allow surfing and doing transaction on eBay through a mobile phone environment by using compatible mobile phone application based on java and other environment.

First it's compulsory to create an account in that website and specify the mode payment that the client wants to use throughout his transactions with other e-financial agents.

However, eBay is suffering from deadly and even fatal risks that are summed up in the following points:

1- phishing attacks throughout fake login pages

2- refund policy flaws and problems

3- the overflow, worms attacks by hackers

4- unauthorized access to databases through SQl injections

5- session hijacking of authorized client accounts

6- The restrict use of electronic payment to just a narrow range of countries

6-**Recommendations**:

Different solutions can be traced out in order to either put rid off or just allegiate the effects of such risks on E-Commerce evolution. Those solutions can be carved up into:

1- The parties to the transaction must trust each other

2- Buyer must believe that seller is legitimate and will deliver the goods

3- Buyer must believe that goods are as represented and are worth the price

4- Seller must believe that buyer is legitimate and will pay for the goods purchased

5- Parties need a secure environment in which to conduct the electronic transactions

6- Seller needs to protect the details of the transactions

7- Buyer needs to be certain that his/her information is securely handled and stored

8- Buyer needs to be certain that information is not stolen that it can be inappropriately used

9- **Must provide security**: resistance to fraud and online attacks

10- **Reliable**: highly available and accessible at all times

11- **Cost effective**: cost per transaction should be low even for micro-payment

12- **Integrated and scaleable**: interoperable amongst different systems, payment methods and multiple servers distributed across the Internet

13- **Convenient and easy to use**: should support several devices

14- **Anonymity**: should protect the identities of parties to the transactions and should not monitor the sources of finance

15- Identification and authenticate

16- the ability to verify both the transacting parties

17- Authorisation

18- the ability to validate the rightful owner to the transaction

19- Integrity and confidentiality

20- the ability to transmit the transaction securely

21- the ability to store the transaction properly

22- Accountability

23- The ability to provide audit trail as evidence in dispute

24- Policies for sharing risks and liabilities

25- the mechanism to settle disputes/non-repudiation

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