

REPUTATION SYSTEM FOR C2C ONLINE AUCTION

FARIZ RAKHMAN BEY

UNIVERSITI TEKNOLOGI MALAYSIA

# REPUTATION SYSTEM FOR C2C ONLINE AUCTION

FARIZ RAKHMAN BEY

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## **ABSTRACT**

C2C online auction e-commerce is a high risk environment to do a transaction due to the transaction involves is solely between two people without any sense of agreement. Buyer or seller can only guess whether you transaction person is trustworthy. Therefore it is essential to have a reputation system built inside C2C online auction e-commerce. However, most of the reputation system or feedback system that have been built were by far being perfect, number of significant mechanism in most feedback system triggers buyers or sellers to leave unfair rating and bias rating between another. The feedback system in this research introduced 6 mechanisms which are retaliation prevention, reciprocation prevention, free-riding prevention, differentiate buyer and seller reputation score, detail rating for buyer and seller, and have new reputation score. The Feedback system that introduced in this research hopefully will help buyer and seller to have confidence to trust their transaction person as well as strengthen the trust of the C2C online auction e-commerce itself.

## ABSTRAK

C2C e-perdagangan lelong dalam talian merupakan alam yang berisiko tinggi untuk melakukan urusan niaga kerana ia melibatkan urusan niaga antara dua pihak yang tidak terikat dengan persetujuan terdahulu. Para pembeli atau penjual hanya dapat menduga samada orang yang mengurus niaga itu boleh dipercayai atau tidak. Justeru itu, pembinaan sistem reputasi untuk C2C e-perdagangan lelong dalam talian adalah pentingnya. Namun, kebanyakan sistem reputasi atau sistem maklumbalas yang telah terbina itu adalah jauh dijangka sempurna, mekanisme nombor yang bermakna dalam kebanyakan sistem maklumbalas yang diambil dari para pembeli atau penjual memberikan perkadaran yang tidak begitu adil dan terdapat prasangka di antara mereka. Sistem maklumbalas dalam penyelidikan ini memperkenalkan pencegahan pembalasan, pencegahan pertukaran, pencegahan bebas- penunggang, reputasi skor bagi pembeli dan penjual yang berbeza, perincian perkadaran untuk pembeli dan penjual dan memperolehi reputasi skor yang baru. Sistem maklumbalas yang diperkenalkan dalam penyelidikan ini diharap dapat menolong para pembeli dan penjual lebih berkeyakinan untuk dipercayai orang yang mengurus niaga serta memperkukuhkan kepercayaan terhadap C2C e-perdagangan lelong dalam talian diri sendiri.

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## **CHAPTER 1**

### **PROJECT OVERVIEW**

#### **1.1 Introduction**

E-commerce has change the way people shop, last time when we want to go for shopping we go to a market or a mall and we have to look on every store just to find the product that we want. Since e-commerce launch, it rapidly captures the hearts and minds of everyone for its easy shopping and less time to spend on searching the product that we want before we buy them. Electronic commerce or e-commerce is refer to a broad range of business activities that includes taking orders over the phone by means of an automated voice system to interchange of electronic data interchange and web-based business. E-commerce started in 1970 in the form of electronic data interchange (EDI) between companies. One of the famous types of e-commerce today is Consumer to Consumer (C2C) e-commerce, C2C allows users to be the buyer as well as the seller inside the e-commerce website, this amazing feature also allows the seller to sell their used product while still getting high value to it.

Before there is a transaction between buyers and sellers it require a trust from both parties (Yu and Singh 2002; McDiarmid and Irvine 2006; Dai and Luo 2007), buyers must trust sellers if they willing to deliver the product, is the product quality is good to what seller said, seller will deliver the product on time or not, and the seller also must trust the buyer whether the buyer seriously want to buy the product and won't cancel the payment, in other words there are probabilities that both buyers and sellers make fraud transaction (Yu and Singh 2002; Yamamoto et al 2004; Resnick et al 2000).

To trust each other (buyer trust seller and seller trust buyer) in the C2C online auction must be done in an instant, this is because business happen in a second sellers will loose buyers and buyers as well won't wait to trust the sellers, so this is why there is a need to develop reputation system embedded within C2C online auction (Resnick et al. 2000; Zhang 2006; Li and Wang 2005; Yamamoto et al 2004; Yu and Singh 2002).

Reputation mechanisms are emerging as an important component of electronic markets, helping build trust and elicit cooperation among loosely connected and geographically dispersed economic agents (Resnick et al. 2000; Dellarocas 2003). For example, eBay's feedback mechanism is the primary means through which eBay elicits honest behavior among strangers, and thus facilitates transactions over the Internet (Bajari and Hortacsu, 2003; Cabral and Hortacsu 2004; Dewan and Hsu, 2004; Houser and Wooders, 2005; Resnick and Zeckhauser 2002). Study about reputation system in C2C online auction has been done in a quite a while, however online fraud still happen. FTC (Federal Trade Commissions) report that in 2005 Over \$590 million dollars was paid by consumers reporting Internet fraud, with the average amount being \$3,338 and the median amount being \$500; an increase of \$158 per incident compared to 2005, and in 2007 internet fraud reach to 24,376 just on in the internet auction this put internet auction on top 7 of unsafe online business (Federal Trade Comission, 2008). This also means that there is no practical guideline for or the best reputation system.

This study will focus on reputation system in the C2C e-commerce online auction, where the outcome of this study is to develop a prototype of new reputation system that support C2C online auction.

## 1.2 Problem Background

Some examples of the most famous C2C online auctions are eBay, Amazon auction, and Yahoo auction, each of them has their own reputation system. The reputation system in place on *eBay* is however far from being perfect and has proven especially vulnerable to strategic ratings (or non-ratings) that reduce the informational content of feedback profiles (Dellarocas *et al.*, 2006). For example, a buyer or seller can submit an unjustified positive rating, to encourage the transaction partner to reciprocate with a positive rating. Analogously, a participant may elect not to enter a "justified" negative rating for fear of receiving an "unjustified" negative rating in return. Dellarocas *et al.* (2006) and Klein *et al.* (2005) provide empirical evidence of these phenomena of strategic reprisals and reciprocity at work on *eBay*, which ultimately serve to increase artificially the number of positive ratings and reduce negative ratings (Resnick and Zeckhauser, 2002). Dellarocas *et al.* (2006) suggest that "the most efficient way to curb the retaliation/reciprocation problems is probably one suggested recently, consisting simply in keeping the left feedbacks secret until the period in which feedbacks can be given expires. Then agents cannot react anymore, and the feedbacks (if any) can be made public."

The eBay feedback system is used to combat fraud, however this system has a number of weaknesses, including the fact that small and large transactions carry the same weight in the feedback summary, it is therefore easy for a dishonest user to initially build up a deceptively positive rating by buying or selling a number of low-

value items, such as e-books, recipes, etc., then subsequently switching to fraud (Mascllet and Pénard, 2008).

Ebay, Amazon auction, and Yahoo auction does not differentiate the rating system for buyers and sellers per person (eBay 2008, Amazon auction 2008, Yahoo auction 2008), each users rating score is calculated by the combination of users positive and negative feedback that users got either being a buyer or a seller. Author thinks this is unfair to the users, buyers and sellers rating must be differentiate per person/user.

Weinberg and Davis (2004) said that there has been many research regards to reputation system for C2C online auction, however, virtually no research has “gone beneath the surface” to investigate whether consumers utilize and are influenced by the many “detailed” Feedback Profile information elements, such as the individual-auction feedback reviews.

EBay, Amazon auction, and Yahoo auction rating does not taking into account the reputation of the person that gave rating. eBay give 1 for positive feedback 0 neutral and -1 for negative feedback (eBay, 2008) the rating score is not different for the users that have low rating, this also happens in Amazon auction and Yahoo auction (Amazon auction 2008, Yahoo auction 2008). Author thinks that this is not fair towards the buyers and the sellers, bias towards rating is possible to happen with this current system.

Judging by the findings above, this project intends to develop a newly improvised rating system that will enhance the current rating system in order to achieve a good C2C online auction.



- Build a C2C online auction has become a trend
- Reputation system is crucial for C2C online auction to success.
- Lack of reputation system will engage a fraud transaction
- Fraud in internet auction keep increasing
- No practical guideline for or the best reputation system

### **1.3 Problem Statement**

*“How to build a reputation system that can give better support to online auctions?”*

Sub-questions:

- What are the models used for reputation systems?  
What are the problems that arise with existing reputation system?
- How to make fair reputation systems that reduce the bias towards rating?

### **1.4 Project Objectives**

- To identify reputation indicators in C2C online auction e-commerce and to study the different kind of reputation system/model.

- To propose a new reputation system that take into account users rating existence, new feedback rating, and new bias prevention.
- To develop a prototype of C2C online auction e-commerce that embedded with a new reputation system

### **1.5 Project Scope**

- This project will be focus on reputation system (feedback system)
- The website built is just a prototype but the reputation system will be the main priority
- Focused on C2C online auction e-commerce

### **1.6 Project Importance**

- More trust and confident when transaction in C2C online auction e-commerce
- Provide a better understanding of buyer and seller dilemma and request about the current reputation system
- Provide a better understanding about the latest reputation system

## **1.7 Chapter Summary**

In this first chapter a brief introduction about the project and how the project is going to be implemented has been discussed. The problem background and statement has also been discussed in this chapter to give an introduction of the project and to explain why this project has been proposed. The objective, scope and the importance of this project have also been pointed out. Hopefully, by developing the project successfully, the objective and aim of the project can be achieved.

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