How to Avoid Credit Risk of Network Shopping with the Establishment of Reputation Mechanism of E-Commerce Enterprises

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Abstract: As a new fashioned shopping mode, network shopping has been presenting a growth trend both in its user scale and transaction scale in recent years. Meanwhile, the complaints of network shopping are increasing by years which reveal many credit risks, such as fictitious trading, quality problem, price fraud, internet fraud and so on, that influenced greatly on the reputation formation of e-commerce enterprises. The reputation of e-commerce enterprise is regarded as the intangible assets of sustainable development which forms the competitive advantages of the enterprise. Based on the reputation thoery, this paper analyzes the condition of credit imperfection of online shopping by combining with the theory of the e-commerce chain in order to establish the optimized system of the reputation mechanism and promote healthy development of the e-commerce enterprises. Through the actual case study on e-commerce enterprises such as Alibaba, Jingdong, this study estabilshes the credit evaluation system of network shopping so as to improve the security of network shopping and increase the users' trust to e-commerce enterprises.

Keywords: network shopping, credit risk, theory of reputation, reputation mechanism, e-commerce enterprise

1. INTRODUCTION

According to the report of CNNIC (China Internet Network Information Center) statistics, the user scale of network shopping in China had reached 361 million with the growth rate of 19.7% as of December 2014, and it has reached 413 million with the growth rate of 14.3% to December 2015, that is higher than the internet users' growth rate of 6.1% with the volume growth of online shopping remaining at about 33.3% [1]. With the rapid development of online shopping in China, a series of problems such as fictitious trading, quality problem, price fraud, the internet fraud and so on, has appeared that hinder its development. On the basis of the public service platform of China's E-commerce Complaints and Rights, it shows that complaints of network shopping accounted for 47.6% and 43.7% of the total complaints in 2014 and 2015 separately, that reached 52.8% [2] of the total complaints in the first half of 2016. The increasing credit risk of online shopping trade affects the reputation formation of the e-commerce enterprise seriously. Reputation is the important guarantee to execute contract honestly that is the intangible assets of sustainable development which forms the competitive advantage of the e-commerce enterprise.

2. LITERATURE REVIEW

The standard reputation theory was created by Kreps and Wilson [3], revised and improved by

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Fudenberg and Levinei [4]. Kreps thought that reputation was the information which reflects the historic records and characteristics (utility function) of particular individual, which had the following three traits: (1) 'cognitive', namely the formation of perceptual process and perceptual knowledge based on the information collection and processing by economic entity in the game; (2) 'objectivity', that was the judge to the participant's behavior and feature by another one, and the results of the judgment (cognitive formation) vary with each individual; (3) 'vector', that was, the reputation of A refers to the reputation between A and B or between A and C in the economic relationship. Fombrun put forward the notion of 'reputation creating wealth', explained that if the e-commerce enterprise had abundant reputation capital, it would have more advantages in the competition of the market [5]. Mailath and Samuelson emphasized (2001) that: a) the result of game equilibrium in the market was that the capable enterprise differs themselves from others by choosing high degree of efforts; b) in the property rights trading market, the capable enterprise inclined to enter the market by buying an enterprise with an average level of reputation and hoped to establish a distinguished enterprise [6]. The enterprise can change its self-image and build good reputation. Fama (1980) argued that if it wanted to have long-term competitiveness in the market, the agent must consider the effects of past behavior [7]. Holmstrom (1982) found through the empirical study that the reputation on the market can be used as the alternative of explicit incentive contracts [8].

Therefore, this paper defines that the e-commerce reputation is considered as the perception from various stakeholders (network users, logistics companies, third-party payment enterprises, etc.) according to the direct or indirect information gained to the e-commerce enterprises, and the cognitive formation varied with different individual consumer. At the same time, the e-commerce enterprises tend to build and maintain good reputation by their own efforts (information transparency, image change, multi-lateral cooperation, rewards and punishments) [9].

3. The CHARACTERISTICS OF CREDIT RISK OF NERWORK SHOPPING BASED ON THE E-COMMERCE CHAIN

With the rapid development of e-commerce, the credit risk of network shopping is increasing quickly, which is shown as follows:

3.1 Unreal identity information and unsafe personal information

According to CNNIC statistics, 46.3% of Chinese internet users were suffered by network information security incidents in 2014 and 95.9% of Chinese mobile internet users experienced in credit loss in 2015. On the 'Double Tenth Day' in 2015, 98 complaint reports on securities were received by net hunting platform from all over the country, which involved in the total amount of 1.183 million yuan with 12,000 yuan [10] per capita loss.

3.2 Incompatible commodity information and false business promotion

In 2016, consumers' complaint rate of quality problems on commodities reached 14.9%, which was increased by 3.4% than that in 2014. According to statistics show on SIC (State Information Center) in 2015, among 7.5 million promotional commodities, 53% of promotional items were raised the price in advance and were sold at a reduced price on 'Double Tenth Day', in which a small percentage of the goods were raised prices even as high as 200% above.

3.3 Malicious overdraft of buyers and fictitious trades of sellers

In recent years, the personal credit payment products launched by the e-commerce enterprises which provided more opportunities of malicious overdraft for consumers. If you search the keyword 'malicious overdraft on network shopping' on the website of BaiDu, it would appear more than 200 thousand relevant results. At the same time, it is very common that the e-commerce enterprises try to get reputation by fictitious trading, particularly the businessmen register multiple accounts on one platform to obtain good reputation. As

shown in Figure 1, 73% merchants register multiple accounts on one platform in AliExpress, and more than 30% sellers do the same in eBay and Amazon.

3.4 Bad after-sales service and difficult settlement of claims

During the double tenth in 2015, online stores refund rate was 11.7% and the actual return rate was much higher than this number. According to the public service platform of China's E-commerce Complaints and Rights, the sellers were in a perfunctory attitude or became lost and refused to handle sales return when consumers conducted after-sales consulting or safeguard legal rights and claim for compensation. Especially after 'Double Tenth Day' every year, it happened occasionally that goods were damaged and lost in the distribution process due to huge amount of work. The merchants refused to compensate for excuse of good condition of commodities before delivery.

3.5 More poor evaluation and malicious return

The occurrence of 'deliberate poor comments' on the platform damaged the ecological environment of the online shopping greatly. As shown in Figure 2, in 2015, there are 1,466 dishonest cases that the consumers are involved in. Among them, 50% were malicious bad reviews, 28.5% were to brushing a false reputation, 9.4% were to provide false personal information. In addition, some consumers cancel order contract unilaterally or do not pay after receiving goods, etc.. According to Chinese Police Network reported in 2015, a malicious group committed crime in more than 700 cities and the amount of money involved was 770,000 yuan.
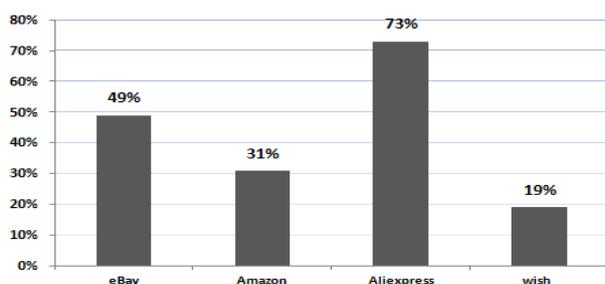

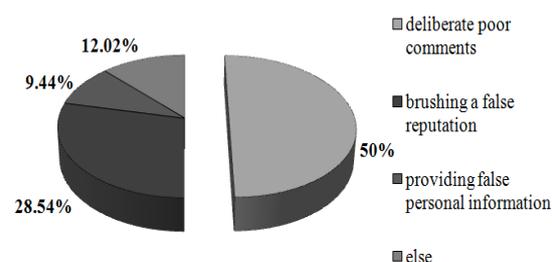Figure 1. Multiple accounts on one platform

Figure2. The condition of consumers faithless

4. CASE ANAYSIS

The case method is chosen for this research, mainly because our research is about 'how' and 'why' questions (Walsham, 1995). This paper tries to establish the reputation mechanism of e-commerce enterprises by deeply exploring credit loss of online shopping in China. Since the existing literature cannot explain the research question in detail, this article will analyze the protective measures on reputation formation by case study.

The e-commerce enterprise Alibaba was founded in 1999 by Ma Yun with its value of 'customer first, employee orientation and shareholders supreme'. However, consumers were cheated by nearly 100 employees from Alibaba in 2011 which damaged its value and reputation seriously. Alibaba's security vulnerabilities were reported by foreign media in 2014 and the list of fake commodities during the 'Double Tenth Day' were exposed by State Administration for Industry and Commerce of the People's Republic of China soon afterwards that badly affected the reputation of Alibaba. After that, Alibaba held an 18% stake of Sina worth 586 million yuan by buying its share for easing the crisis and control the spread of bad information. On '3.15' 'safeguard legal rights' day in 2016, Alibaba put forward the slogan of 'Social Governance, Fight Credit Loss' to improve the reputation of the enterprises [11]. Alibaba's big events on credit crisis are summarized as shown in Table 1.

Jingdong was founded in 1998 with the corporate notion of 'people-oriented'. In 2010, it was disclosed that the laptop sold by Jingdong was the refurbished machine that took a sudden turn and made its reputation become worse rapidly. In 2013, it was reported that Jingdong overdue obligations to Oil Union

Petrochemical Company for more than 42 million yuan. Soon, it was said that Jingdong had defaulted for payment to AFU (a cosmetic company) for 13 months and had not returned cash deposit to Ochirly for half a year. It was reported continuously that large amount of false orders occurred on Jingdong net mall, the leakage of the users' information and bad after-sales service in 2015. An investigation team was set up immediately by the company to disclose information to the public timely and transparently, but the corporate reputation was affected to a certain extent. It is well known that many brand merchants withdrew from platform in 2016 with no response from Jingdong that got remarkable influence to its image of corporate reputation. Jingdong's big events on credit crisis are summarized as shown in Table 2.

Table 1. Alibaba's credit crisis	
2010	1,107 (about 0.8%) 'China suppliers' were suspected of fraud.
2011	Company declared 2,326 members 'China suppliers' were suspected of fraud international buyers in the past two years, and there are more than 100 Alibaba staff conspiring. CEO David and COO Elvis resigned.
2014	Foreign media reported on safe loophole of Alibaba, and millions of users' personal information may be leaked.
2014	SAIC reported the fake goods list of Alibaba during the 'double tenth', Alibaba responded fleetly by Sina and dealt with related goods.
2015	Alibaba had a battle with SAIC through Sina for 'the People's Daily' reported the monitoring result of the SAIC, and led public opinion.
2016	The 315 party of CCTV exposed the behavior of brushing in Taobao, Alibaba responded in time, and put forward slogan of 'Society should brush hit single'.

Table 2. Jingdong's credit crisis	
2010	Jingdong was caught in the 'face-lifting gate' incident of notebook. Consumers found a large number of pornography photos and violence video in buy the laptop bought. Jingdong denied it.
2012	Jingdong was caught in the 'quality incident'. Consumers complaint slow return, bad repair.
2013	Jingdong was caught in the 'drag money scandal'. It is reported Jingdong owe more than 42 million payment and cash deposit to Afu and Ochirly for half year. Jingdong did not respond.
2014	Mobil oil officials issued that Jingdong sold the fake engine oil. Jingdong responded the product was sold by the third-party merchants and have been pulled from the shelves.
2015	It is reported there were brushing one false in Jingdong to raise public.
2015	The information of Jingdong's users is revealed to lead fraud.
2015	There were 'sex toys' in the promotion on the 'international nurses' day. Jingdong revoked relevant pages immediately.
2015	The famous writer named Liuliu complained of being rejected by the Requirement of return. Jingdong made up for the loss and apologized
2015	Jingdong was caught in the 'face-lifting gate' incident of iphone Company set up the investigation team to carry out the internal Investigation.
2016	Several brands (Kappa, DURALEX, Jasonwood, etc.) withdraw from Jingdong. Jingdong did not responded to the 'flee tide'.

From the case study above, we can find that the credit risk of online shopping can be divided into the following four categories [12].

4.1 The information asymmetry between the seller and the buyer

Due to the virtual network, consumers can only know the quality and nature of goods through merchants' advertisements. It would affect the buyer's judgment to commodities if exaggerated introduction and excessive glamorizing pictures occurred in the advertisements. Therefore, merchants tend to take adventure of issuing false advertising, price fraud, false promotion and false promises, etc. in order to attract consumers and get more profit.

4.2 The failure of the linkage among stakeholders

Many stakeholders are involved among network shopping trade, such as e-commerce enterprises, logistics companies, third-party payment companies, etc..

The credit risk on payment mainly reflects in the following: on the one hand, there is risk of leakage in personal information when consumers submit personal information which includes ID card number, credit card numbers, phone number and so on to apply for credit products. On the other hand, it is short of relevant law regulations on online shopping in China at present.

The credit risk on logistics mainly exists in the following: a) false delivery or inefficient delivery due to the slow distribution; b) goods damage account for inadequate packing, handling during distribution process; c) the goods lost, wrong distribution and miss sending.

4.3 The blocked reputation information dissemination in e-commerce

There are two ways of e-commerce reputation information dissemination: intrapersonal communication and media transmission. The intrapersonal communication depends on consumer's evaluation, mainly online comments that can be controlled by merchants. The media transmission refers that stakeholders can get second hand reputation information of e-commerce enterprise from microblog and blogs. When credit crisis happen, most of the stakeholders learn the crisis accident through news media and internet. The dissemination of media reputation crisis information has direct influence on enterprise's reputation.

4.4 The incomplete regulation system of rewards and punishments of credit risk

At present, our country has not established a comprehensive regulatory network trading laws and regulations, and it is demanded to have a special supervision department to take charge of e-commerce market. The e-commerce enterprises usually adopt the third-party certification method to confirm the information authenticity and credibility of counterparties. It brings huge pressure to the credit supervision towards e-commerce market for the sudden increase of the amount of e-commerce enterprises. The intermediary organization system of network trading in China has not well developed, which make it hard to confirm the credit information of counterparties through the third-party certification organization.

5. THE ESTABLISHMENT OF REPUTATION MECHANISM IN E-COMMERCE ENTERPRISE

5.1 The path of reputation information dissemination in e-commerce enterprise

Based on the above analysis, it can be found that the spread of reputation information in e-commerce enterprise is affected by many factors regarding the media and the cognition toward external environment[13]. The construction of the path of reputation information dissemination in e-commerce enterprise is shown in Figure 3.
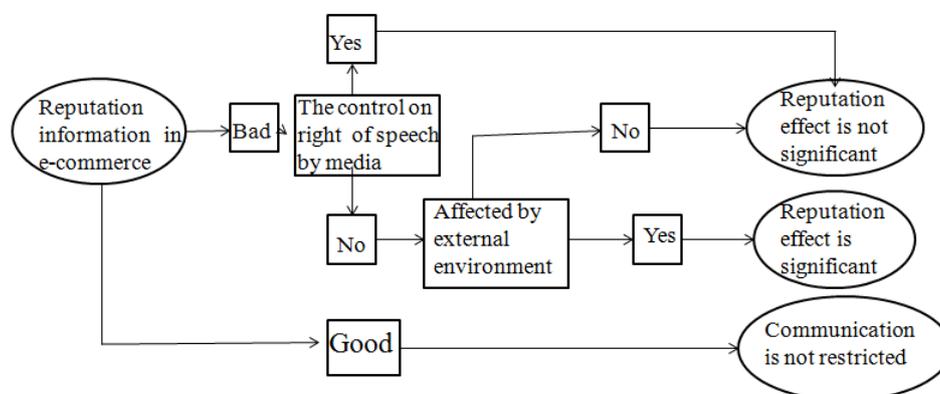

Figure 3. The path of reputation information dissemination

The stakeholders in the network shopping may be betrayed when dealing trade or cooperating with others and the injured party will release what had happened by media. The spread of reputation information in e-commerce enterprise is based on network media, and the stakeholders have different perception reaction toward the reputation information from the media. The reputation information is spread actively by the stakeholders who are easily affected by the external environment and influence their relationships with other stakeholders ultimately.

In conclusion, we can find that the cognition toward external environment is controlled by the perception of various stakeholders and the control on the right of speech is affected by e-commerce enterprises during the dissemination of reputation information in e-commerce. Therefore, the e-commerce enterprises can gain the control of reputation information dissemination through establishing a good

alliance with network media so as to set up a good reputation information mechanism system.

5.2 The optimized system of reputation mechanism in e-commerce enterprise

According to reputation theory, e-commerce reputation is the operational result of social mechanism. This social mechanism includes various stakeholders in the network shopping, such as electronic business platform, e-commerce enterprises, logistics companies, the third-party payment companies, consumers and so on. The changes caused by a stakeholder will affect the transmission of reputation information in the phase, so as to affect the result of the transmission of the electronic business reputation. Therefore, we should identify information with big data technology by the reputation information database to restrict information distortion, increase the transparency of trading and reduce the asymmetry between transaction costs and information, so as to control the credit risk in the process of network shopping[14].

Based on reputation theory and combined with the mode of reputation information transmission, this article puts forward the optimized system of reputation mechanism in Chinese e-commerce enterprise, which is as shown in Figure 4.
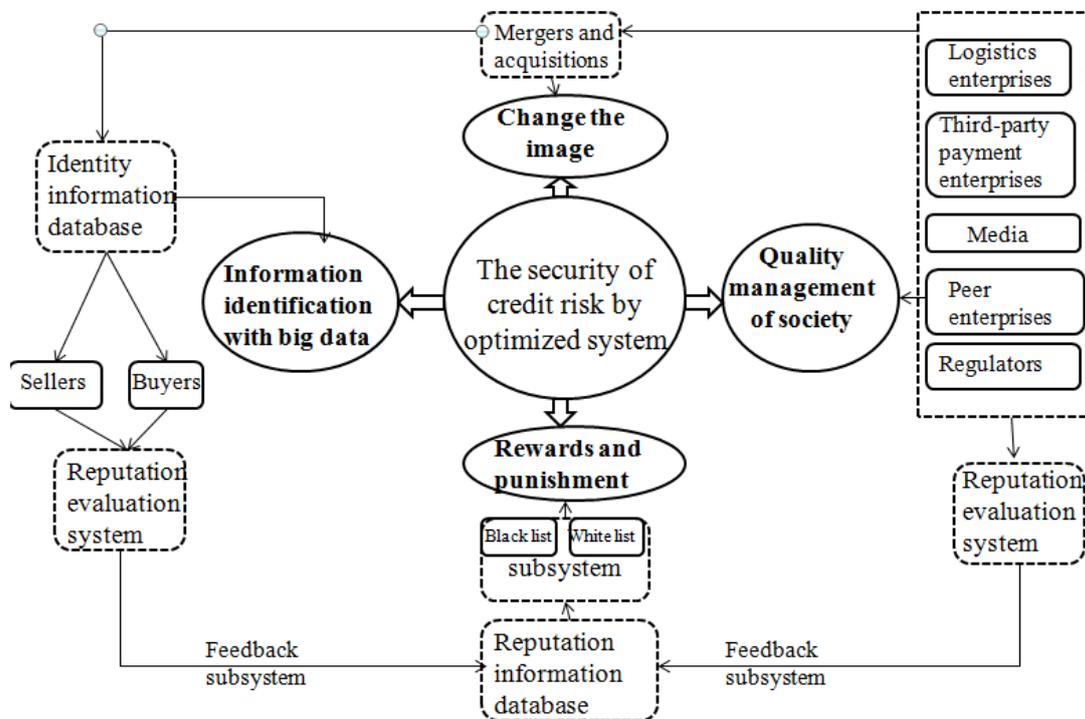
Figure 4. The optimized system of reputation mechanism in e-commerce enterprise

As shown in Figure 4, there are four ways to realize the optimization of the reputation mechanism in e-commerce enterprises as follows: identifying information with big data technology, strengthening quality management of society, changing the image and conducting rewards and punishments. In the process of network shopping, the transaction between e-commerce enterprises and online users make the identity information database more perfect to provide basis for information identification with big data technology. Society should strengthen management of stakeholders among the online transaction to reach linkage. At the same time, the stakeholders can improve the reputation information database through the reputation evaluation system to implement rewards and punishment by releasing black and white list.

The traits of good reputation in e-commerce enterprises include: scientific management mechanism and good public praise. One crisis event may damage the reputation of e-commerce enterprise badly that could

not be repaired easily [15]. Thus, it is necessary to establish the reputation management system of e-commerce enterprises. According to Figure 4, the establishment of reputation mechanism in e-commerce enterprise should be focused on the following fields.

5.2.1 To establish identity information database and identify credit risk with big data technology

It is necessary to develop third party credit certification body and perfect information disclosure system. The transparency of information is the basis of reputation formation in the e-commerce and the establishment of identity information database is the guarantee of honest trade. The government should introduce standardized evaluation index to guide the information database. On the one hand, identity information database of the stakeholders must be perfected; on the other hand, the reputation information database must be improved with the publication of the list of trustworthy certification bodies and enterprises at regular intervals in order to promote the healthy development of credit institutions.

The establishment and spread of e-commerce reputation information mainly rely on online reviews. In the era of big data, the network platforms, merchants and the shopping habits of consumers have become increasingly diversified, and it is necessary to extend the data sources for the collection and analysis of consumer data. So we should identify supplier's risk with big data technology, such as invalid evaluation filter, praise ratio optimization and shopping evaluation information extraction, so as to build a reasonable business credit system to provide a reference for the online consumers.

5.2.2 To establish multi-lateral cooperation mechanism and strengthen quality management of society

It is imperative to establish multi-lateral cooperation mechanism. The strategic alliance among stakeholders can be used as not only the access to acquire various resources, but also the way to spread the information of social status. The e-commerce enterprises can gain control of the payment and logistics distribution by forming an alliance with logistics enterprises and third-party payment enterprises to reduce the credit risk caused by failure linkage among stakeholders. In the meanwhile, the e-commerce enterprises can control speaking right of the stakeholders by forming an alliance with network media [16].

To improve the quality of social management need actively promote the innovation of concept, system, mechanism and method in e-commerce. At present, the 'Guiding Opinions on Strengthening the Credit Construction in E-Commerce Field' has been introduced, but a complete system of laws and regulations has not yet been developed.

5.2.3 To establish system of rewards and punishment and change the corporate image by merging

Low cost of credit loss is one of the important reasons to lead the enterprises take risk on credit loss. Government should improve the network shopping disciplinary mechanism and give strong disciplines to dishonest stakeholders, such as building a reputation subsystem to issue the 'dishonest list' on the internet.

It takes a long time to form the reputation of e-commerce enterprise, which would be damaged in a few minutes under the situation of credit loss. In the property rights trading market, the capable enterprise inclined to enter the market by buying other enterprises with an average level of reputation and hoped to build up a distinguished enterprise. Therefore, the e-commerce enterprise can change its self-image and establish a good reputation through transaction of merging and acquisition.

6. CONCLUSIONS AND PROSPECTS

The network shopping in China has been developed for more than 10 years which has gained important achievements on stimulating economic growth and promoting the transformation and upgrading of domestic enterprises. But, there is still a big room for the improvement to reduce credit risk in network shopping and promote the construction of credit system.

The reputation mechanism of the e-commerce enterprise is of great importance to the healthy

development of online shopping in China, and the formation of reputation can be realized by big data technology, quality management of society, rewards and punishment mechanism, and image changes. On a long point of view, firstly, in the big data era, the identification of information with big data technology will be increasingly common. Secondly, the quality management of society will be continuously strengthened, the laws and regulations about network shopping will become more and more perfect and the punishment mechanism of credit loss will be more and more rigorous with the increase of the cost on credit loss among stakeholders. Furthermore, reputation evaluation system will become more standardized and efficient with complete information in identity information database. Finally, the linkage among stakeholders will become more strengthened, with 'honor one you honor them all' and 'injure one you injure them all'. The reputation mechanism will play more and more important role in reducing credit risk and guaranteeing the safety of network shopping.

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