Discussion on Credit Evaluation Indexes Based on Small and Medium-sized E-commerce Enterprises in Shanghai

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Keywords: Credit evaluation system, E-commerce, Evaluation indexes, Data analysis, Association mining.

Abstract. According to the domestic and foreign traditional and E-commerce credit rating experience, this paper first introduces the concept of E-commerce credit evaluation system and its development, secondly from the national and regional standards, based on the causes of E-commerce credit risk and the existing problems of the system, indicator data of Shanghai 99 representative of various types of E-commerce businesses is analyzed. At the same time the paper discusses the rationality of credit rating indicators, analysis of the significance of each indicator, and puts forward measures to improve the standard to promote E-commerce enterprises in Shanghai more stability, health and rapid development.

Introduction

Nowadays it is a knowledge-based economy with a quick digital network, the information industry will become the most important industry in the competition for state power and also the strategic pillar of the country. As an internet commerce, e-commerce has such characteristics as time domain, efficient and changeable information and records, individualization of interactive conversation and complexity of the main body, which determine that the credit problems are more prominent than the traditional ones. By perfecting the system of credit evaluation system of current e-commerce, adopting reasonable evaluation standards, setting up supervisory bodies to ensure the quality and quantity of the parties involved in the transaction to pay for the goods and deliver the goods, so as to enhance the credit rating of the e-commerce enterprises. Therefore, the research of e-commerce credit rating system has very profound significance for e-commerce and economic development in our country. This paper analyzes and compares the data of 99 small and medium-sized e-commerce enterprises in Shanghai to make a preliminary exploration of the credit rating index for e-commerce enterprises.

E-commerce Credit Evaluation System

Concept

Credit evaluation is based on the norms of the index system and evaluation methods, objective and fair position, the assessment of the object to fulfill the economic responsibility of the ability and credibility of the degree of evaluation, and to a certain symbol of its credit rating of an organized activity. The factors of credit evaluation refer to the main factors affecting the credit evaluation of enterprises, including the quality, ability, capital, collateral and the performance of debt environment. Therefore, credit evaluation index is a set of information data items that reflect the credit status and characteristics of e-commerce enterprises, Level to reflect the e-commerce business credit conditions.

Status Quo at Home and Abroad

Domestic researches on credit index of e-commerce mainly focus on credit, consumer rights protection, logistics, taxation, cash management, traditional marketing and laws and regulations, etc.,
and most of them are qualitative research. In 2016, according to the national standards revision plan of
the State Standardization Administration Commission, China Credit Standardization Technical
Working Group put forward and centralized the "E-commerce Credit - General Rules for Handling
Dispute over Third Party Network Retail Platform Transaction Disputes", "E-Commerce Credit -
Online Retail Credit Evaluation Index System "," E-Commerce Credit - Third Party Network Retail
Platform Credit Management System Requirements "," E-Commerce Credit - Self-service Network
Retail Platform Credit Management System Requirements "and other four national standards have
been soliciting opinions and gradually improve the e-commerce Credit system to promote the healthy
and rapid development of e-commerce [1-2].

The United States is one of the most sound countries in the world for the development of laws and
regulations on credit. Since the 1960s, the United States has made nearly 20 laws directly related to
credit management based on the original credit management laws and regulations. Germany established
a credit system covering the whole society and effectively serving small and medium-sized enterprises
by establishing a public credit information system and vigorously developing the membership model
with private credit bureaus and industry associations as its mainstay. The credit industry in France is a
typical European model, which is dominated by the government and the central bank. The Bank of
France (BNP) has long been committed to rating SME and serving SME financing. The French
government, by establishing a public credit reporting agency, mandates businesses and individuals to
provide credit information to these agencies and legislate to protect the authenticity of the data. Italy has
played an important role in raising SME trust and solving the financing needs of small and
medium-sized enterprises through mutual assistance and guarantee system [3-5].

Problems

There are currently national, industrial and local e-commerce credit rating system, but there are still
some shortcomings. Include the following points:

- Lack of credit for buyers and sellers, resulting in a large trading risk;
- Credit evaluation is not fair and not standardized;
- Lack of relevant laws and regulations, resulting in the e-commerce transactions are not
  controlled, the status of buyers and sellers are not equal and the network fraud serious.

Therefore, actively exploring and establishing a credit model and credit rating model suitable for
the development of e-commerce in our country is of great significance to the development of
e-commerce market in our country.

General Indicators

In the previous research, we identified the following seven major first-level indicators and related
second-level indicators:

- Information disclosure (including corporate identity, annual inspection information, financial
  information, etc.);
- Management practices (including system security, network security, etc.);
- Competitiveness analysis (including human resources, R & D investment, operation and
  management status, competitive position, etc.);
- Seller information (including transaction size, quality of service, effective transactions,
  product quality, means of payment, transaction information, etc.);
- Buyer information (including identification, ability to pay, historical data, performance, etc.);
- Logistics services (including distribution services, privacy protection, logistics systems, etc.);
- Value-added services (including account management, financial support, financial
  management, value-added services, etc.).

On this basis, we analyze the related data of 99 E-commerce enterprises in Shanghai and collect the
seven major indexes to improve the general first-level indicators of e-commerce credit evaluation
system.
Credit Data Analysis Based on Small and Medium E-commerce Enterprises

As shown in Fig. 1, the surveyed companies accounted for 34% of the top ten in the industry and 88% of the total of 100 companies, indicating that the enterprises selected in this survey are all representative enterprises of various types of e-commerce enterprises.

Figure 1. Enterprise Industry Ranking Analysis.

Figure 2. Enterprise Industry Ranking Basic Information Analysis.

Data Analysis about Information Disclosure

Disclosure of information mainly to see the transaction of goods and the object of the transaction, whether the rules of good faith trading and self-restraint mechanisms, website disclosure and so on.

As shown in Fig. 2, the classification of enterprises in the industry classification of basic information on the registration of the provisions of the business license, tax registration certificate and the organization code certificate, three cards fully documented as 3, three cards are not recorded as 2; if the business is in the Camp, opening, the record in the book 4, taken from the year of registration of the enterprise to the average of the current year analysis, found that 99% of the surveyed enterprises are all three cards are complete, very few incomplete, and because the three cards are basic, Therefore, if incomplete, other investors will greatly discount this corporate credit rating.

The current ratio represents the combined ability of an enterprise to repay its current liabilities with current assets. According to the data analysis, Figure 3 shows the classification of the quick ratio as the major item. The small item is the classification of the current ratio. It is found that as the above ratio is very small, that is, there is a large gap between the enterprises. This indicator also shows that the enterprise Solvency, linked to credit, allows investors to analyze whether they can trust the company.

Figure 3. Flow ratio and quick ratio analysis.

Figure 4. R & D investment share and industry rankings analysis.

Data Analysis about Management Standards

Management norms system this module is mainly used to assess the soundness of the enterprise management system, test management mechanism is effective and the level of network security. According to Table 1, we can conclude that the data are comparable according to the qualitative indicators ie no, good, medium and general, and no more than 8% of the relevant systems in terms of
system guarantee, while the good ones are 60%, Similar to system security in cybersecurity. Its data and basic information are also similar to financial data, and their nature and nature are the basis and guarantee of enterprise security and credit, so they should be merged into one category.

Table 1. System security and cyber security rating.

<table>
<thead>
<tr>
<th>Corporate Transactions Rules</th>
<th>Settlement agreement</th>
<th>Electronic trading guidelines</th>
<th>Supply chain security mechanism</th>
<th>Buyer Accountability Mechanism</th>
<th>Platform system reliability</th>
<th>Privacy protection mechanism</th>
<th>emergency plan</th>
<th>safety certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Have</td>
<td>18</td>
<td>18</td>
<td>17</td>
<td>17</td>
<td>19</td>
<td>17</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>Good</td>
<td>59</td>
<td>50</td>
<td>46</td>
<td>17</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>37</td>
</tr>
<tr>
<td>Medium</td>
<td>13</td>
<td>17</td>
<td>23</td>
<td>17</td>
<td>22</td>
<td>28</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>General</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Data Analysis about Competitiveness

Competitive analysis includes many aspects, the most important thing is the ratio of human resource quality and R & D investment, to illustrate the enterprise's competitiveness in the same market with other companies analysis for the e-commerce business credit reference.

According to Figure 4, we can see that the proportion of research and development investment in the top 10 companies in the industry, especially the 10 to 30 companies in particular, the average value to reach 2.16% or R & D or technology transfer fee expenses / net income from principal operations over the same period Amount * 100% = 2.16%, the higher the value means that the more R & D investment, the stronger the competitiveness of the industry, and backward business value of the relative weak, we can see R & D investment is in line with the rankings, the sample is a fit indicator, Can judge the competitiveness through this index.

Data Analysis of Financial Value-added Services

Financial value-added services can be divided into account management, financial support, fund management and value-added services. The four sub-categories of indicators for research are given in Table 2.

Table 2. Financial value-added services evaluation form.

<table>
<thead>
<tr>
<th>Value-added service rating</th>
<th>Account management</th>
<th>Financing support</th>
<th>Money management</th>
<th>Value-added services</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>0-50</td>
<td>3</td>
<td>7</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>50-80</td>
<td>4</td>
<td>17</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>80-90</td>
<td>17</td>
<td>11</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>90-100</td>
<td>16</td>
<td>9</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Good</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Medium</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>None</td>
<td>22</td>
<td>22</td>
<td>26</td>
<td>29</td>
</tr>
<tr>
<td>General</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Excellent</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Have</td>
<td>8</td>
<td>8</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>16</td>
<td>15</td>
<td>23</td>
<td>14</td>
</tr>
</tbody>
</table>

Judgments by these indicators, you can see in Table 2 this scoring situation is a centralized distribution, the basic part of 80-100 points, but the credibility of the indicators and the specific scoring situation cannot be well quantified. And it is not easy to rate them. For example, in the
value-added services and fund management, only a few products such as "Alipay" and "Mayi Pay" cannot be scored well and 26% of traditional enterprises have not changed. As an e-commerce company, no financial value-added services can provide ratings. Therefore, the value-added services of financial value-added services are not well adapted to samples and need to be revised.

Above by a typical comparison of several modules of data, and then analyze the samples for each of the proxy indicators fit, will be based on the results obtained in the following e-commerce credit rating indicators to make some changes.

**Proposals for Shanghai E-commerce Credit Rating System Indicators**

**Suggestions to Edit**

**Qualitative and Quantitative Indicators.** Qualitative indicators such as financial value-added services in the account management, financial support, financial management, value-added services in the small indicators, and logistics services delivery accuracy, timeliness, product integrity, service satisfaction, delivery, delivery Individual information protection means, system, location tracking, warehousing, logistics planning, etc. cannot be completely determined by hard rules to make judgments, many of the findings to text to describe, not for its good data analysis, and evaluation of future scores Have an impact. Therefore, some should be consistent with the basic management of the classification, increase the quantitative indicators, appropriate to reduce the qualitative indicators using the rating system gives three levels, compared with the level to give specific ratings. This will make the data more persuasive.

**Tedious Indicators.** The current two intermediate indicators of each grading project is too complicated, some indicators are similar, indicators of low effectiveness, too cumbersome indicators not only can not improve the evaluation results, but will weaken him, so as to increase the workload of evaluation and evaluation of the cost. For example, the proportion of total R & D investment in R & D spending to operating income (%), the number of R & D personnel in the company, the ratio of R & D personnel in the total number of companies, and the capitalization of R & D investment are very similar The weight of the index has an impact on the accuracy of the result. One of the most typical examples should be taken as the criterion of the project.

**Basic Management Status.** According to the data analysis, such indicators are a little hard indicators of the basic quality of the business and to determine the legitimacy of e-commerce business continuity and continuity of operations, but not so hard on the financial aspects of the financial indicators should be separated from it separately And because the liquidity ratio, quick ratio and other indicators and ability to repay debt more able to link, so it can merge with the buyer information to become the main basis.

**Management Practices.** Management practices into e-commerce business management system and network security evaluation. Management practices are the basic conditions for implementing scientific management and moving forward to modern management. The principle of seeking truth from facts is necessary because it is similar to the management of basic conditions and can be merged into basic management to reduce cumbersome indicators.

**Financial Value-added Services.** There are four types of financial value-added services that cannot be quantitatively analyzed. For example, there are only a few products such as Alipay and Mayi Pay in value-added services and money management, which cannot be well-quantified and 26% of traditional enterprises No conversion into e-commerce companies. No financial value-added services can provide ratings. Therefore, the value-added services of financial value-added services are not well adapted to samples and need to be revised.

**The Revised New Indicator**

Through the analysis and discussion of all the data, a new level-1 and level-2 indicator area was finally determined as shown in Table 3.
Table 3. E-commerce business credit evaluation standards (new).

<table>
<thead>
<tr>
<th>No</th>
<th>First-level indicators</th>
<th>Second-level indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Business quality</td>
<td>Information disclosure, Management practices, Industry status, complaint rate</td>
</tr>
<tr>
<td>2</td>
<td>Competitiveness</td>
<td>R &amp; D investment, Pay for the brand, Platform construction, Logistics Services</td>
</tr>
<tr>
<td>3</td>
<td>Development scale</td>
<td>Transaction size, Last year's sales</td>
</tr>
<tr>
<td>4</td>
<td>Operational efficiency</td>
<td>Net profit rate, Inventory turnover days, Turnover days receivable</td>
</tr>
<tr>
<td>5</td>
<td>Solvency</td>
<td>Assets and liabilities, Current ratio, Quick ratio</td>
</tr>
<tr>
<td>6</td>
<td>Business prospects</td>
<td>Sales growth, Location, Industry Outlook</td>
</tr>
</tbody>
</table>

Summary

During the course of our research, we find that there are still many credit problems in the country and need to be further solved. For example, the use of qualitative and quantitative evaluation methods combined with, the use of investigators and their professional level of vocational education, strengthen of the internal and external regulatory efforts and so on. This paper improves and modifies the indicator through the presentation of partial data analysis, but does not go deep into the relationship between the specific weight and each indicator to prove the rationality of the indicator of the new scheme, which is the focus of the next step.

Acknowledgement

This paper is sponsored by Management Science and Engineering project of Shanghai Polytechnic University (No. XXKPY1606).

Reference


