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Application research on information disclosure quality evaluation index system in Chinese food industry

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ABSTRACT

The listed company information disclosure quality is deteriorating, but perfect the evaluation index system of information disclosure is not established in China. This article attempts to apply the analytic hierarchy process through the expert scoring to determine evaluation index weights of listed company information disclosure in China, and applies the evaluation system in the food industry, in order to check and correct the index system.

KEYWORDS

The listed company information disclosure quality; The evaluation index system; Information disclosure quality evaluation.

INTRODUCTION

In China, the listed company must abide by “the company law” and” the securities law”, so information disclosure has the two legal requirements. Unfortunately, the current our listed companies are widespread insider trading and market manipulation and this kind of behavior is deteriorating. It is reported that since 2012, there were more than 10 listed companies punished by the CSRC due to the open ticket information disclosure violations. Therefore, this article wants to explore the information disclosure quality of listed company in the food industry. According to the principle of information disclosure system, to compare the results by grading and the "integrity file" rating established by the Shenzhen Stock Exchange (SZSE),and wants to establish a set of more scientific evaluation index system of information disclosure quality of listed companies in order to provide reasonable suggestions, to improve the existing evaluation index system of information quality of listed companies, to gradually perfect the information disclosure quality, to standardize the market economic operation system, and to promote China's economic development rapidly.

LITERATURE REVIEW

Summary of foreign research literature

Foreign research on accounting information disclosure quality measure is mainly empirical research, the target to measure the quality of information disclosure mainly includes individual proxy variables, and researchers self-built disclosure index and Information disclosure rating result of authority. (1) the more typical research used the individual agent variables to measure the quality of the accounting information disclosure[1,2]; (2) Robbins WA & Austin KR.(1986), Botosan (1997), Gerald K Chau & Sidney J Gray (2002), Richard Piechocki (2004), and Jinbae Kim (2005) self-built information disclosure index to measure the quality of information disclosure[3-7]; (3) and these were also typical in the authority of the evaluation index: standard & poor's index (S&P), the index of AIMR, the authority index of FAF and the CIFAR index, etc.

Review of domestic literature

The domestic research on accounting information disclosure measures mainly drew lessons from foreign experience, also divided into the above three methods to measure the quality of information disclosure. (1) Use a proxy variable to measure the accounting information disclosure quality. For example, Wang Wei & Jiang Gaofeng (2004) used “the temporary announcement and quarterly report numbers” to measure it[8], Xia Lijun & Lu Xiaonan (2005) used "listed companies for information disclosure and was denounced by the Stock Exchange" to measure it[9]; You Jiaxin & Li Bin (2007) use “surplus radical degree and surplus smoothness” to measure it[10]. (2) Domestic scholars rarely self-built information disclosure index to evaluate information disclosure quality research. For example, Wang Yongmei (2003), Tang Yuejun (2005), Xie Zhihua & Cui Xuegang (2005), Yuan Jianguo (2005), Qi Shou & Bai Mo (2005), and Wang Yanyan (2010) all used different self-built index to measure the information disclosure quality of listed companies[11-16]. (3)The Shenzhen Stock Exchange information disclosure of the evaluation results is more authoritative in China. The Shenzhen Stock Exchange evaluated the company by “the self-assessment and the assessment ", the inspection result is divided into four levels such as A (very good), B (good), C (qualified), and D (unqualified), and we can see the evaluation results in its official website (http://www.szse.cn). This is China's only evaluation index system of listed company information disclosure released by authorities

Literature review

Literature at home and abroad show that the majority of foreign scholars studies have tended to use the authority of the evaluation results by related organization as indicators of quality of information disclosure of listed companies, and has made relatively abundant research results, and the results were more authoritative and reliability. But the most famous international rating agencies always choose large

multinational company or the world top 500 enterprises as the research object, so we are unable to obtain the results released by the most famous international rating agencies for all the listed companies in China.

Domestic scholars for these search of listed company information disclosure quality evaluation system is still in the exploratory stage, the research system is imperfect, mostly confined to theoretical research, the research methods were normative analysis, the real empirical research literature is relatively few, and has not yet formed a unified, scientific, reasonable and feasible evaluation index system of information disclosure, even to the Shenzhen Stock Exchange information disclosure evaluation result is only a rough assessment of the listed company information disclosure, there were many question, such as, most of evaluation index is relatively general, nor a detail description of evaluation methods and processes, indicators of evaluation are mostly qualitative analysis, etc.

So we should combine with China's specific national conditions, and design a set of suitable listed company information disclosure quality evaluation index system for China's national conditions. This article references the evaluation index of Wang Yanyan (2010), by selecting 32 of the food industry of Shenzhen Stock Exchange listed company, and compares the results of evaluation index system with the "credit archives" in Shenzhen Stock Exchange, in order to establish the more reasonable and scientific evaluation index system for Chinese listed company.

THE APPLICATION OF INFORMATION DISCLOSURE QUALITY EVALUATION INDEX SYSTEM IN FOOD INDUSTRY

The specific design for the research

(1) Sample Enterprises. At present, there are 62 companies listed in Shenzhen and Shanghai stock market in food industry, only 15 of them was listed in the Shanghai market. In ord-er to compare, this article selects all the listed companies listed on Shanghai, the number is 37, and this article is only to evaluate the quality of accounting information disclosure of listed companies in 2012,weeliminated 5 listed companies which first appearedonthemarket in the year of 2012 (002661, 002701, 002695, 002650, 002702), we used the remaining 32 listed companies in Shenzhen. The sample company data mainly comes from the following url, http://www.eastmoney.com/, http://www.cninfo.com.cn/, http://www.szse.cn/, as well as the database of CSMAR.

(2) Information Disclosure Quality Evaluation Model.

This article divided information disclosure quality evaluation index into six dimensions from the timeliness, relevance, comparability, availability, sufficiency, the authenticity by referencing Wang Yanyan (2010). Index of every class is equipped with a number of secondary indexes, and we graded each secondary index for sample companies by contrasting samples companies' annual financial statements, but the primary index weight come the expert's average score by analytichierarchyprocess (AHP). Specific conceptual model diagram is shown in Figure 1:

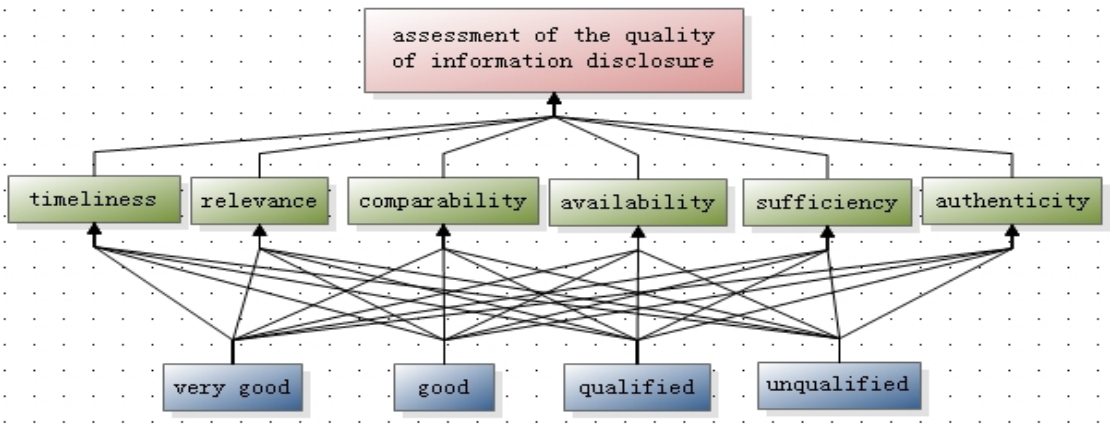

Figure 1 : The conceptualmodel of the listed company information disclosure quality evaluation

Each level of the index system can form a child alone scale, there were six mark sheets, the index of each class has a number of secondary evaluation index, and there were a total of 58 secondary index, and each evaluation index mark is 1 minute. Measuring the quality of information disclosure of listed companies mainly adopts "weighted dichotomy", grade one by one to each secondary index, the result is 1 minute if the index's answer is "yes"; otherwise, 0. Finally, by weighting the sample company information disclosure quality grading result, we got the comprehensive score “F” of the sample company information disclosure quality. The specific model is shown in model (1) and model (2).

$$F = \sum_{i=1}^{6} F_i * W_i \quad (1)$$

where the sum as i runs one to six of the Fi*Wi, F denotes the composite scores of information disclosure quality for sample companies, and W denotes the weight of each evaluation index.

$$F_i = m / N \quad (2)$$

the index is sent to one point when the company discloses information in accordance with the relevant indexes required, and zero otherwise. then m denotes the number of these indexes whose value is more than zero; N denotes the number of total applied projects.

(3) Setting the index weight

In this study, we set the weight of primary index (six dimensions) mainly according to the importance of the index.weused the analytic hierarchy process (AHP) by the expert scoring, construct paired comparison matrix for the index of six class and Hierarchy single sorting. Expert scoring, we selected 24 experts to constructthe two judgment matrix (including 8 listed company executives, 8 university scholars, 8 investors which have investment in food industry), the specific results as shown in the Figure 2.

$$A = \begin{array}{c} \\ \text{timeliness} \\ \text{relevance} \\ \text{comparability} \\ \text{availability} \\ \text{sufficiency} \\ \text{authenticity} \end{array} \begin{array}{c} \begin{array}{cccccc} \text{timeliness} & \text{relevance} & \text{comparability} & \text{availability} & \text{sufficiency} & \text{authenticity} \end{array} \\ \begin{bmatrix} 1 & 1 & 1 & 4 & 1 & 1/2 \\ 1 & 1 & 2 & 4 & 1 & 1/2 \\ 1 & 1/2 & 1 & 5 & 3 & 1/2 \\ 1/4 & 1/4 & 1/5 & 1 & 1/3 & 1/3 \\ 1 & 1 & 1/3 & 3 & 1 & 1 \\ 2 & 2 & 2 & 3 & 1 & 1 \end{bmatrix} \end{array}$$

Figure 2 : The judgment matrix for primary index of expert scoring

The maximum eigenvalue for A: Thus, the eigenvector is following:

$$\lambda_{max} = 6.35,$$

$$W_i = (0.16,0.19,0.19,0.05,0.12,0.30)^T$$

$$CI = \frac{6.35 - 6}{6 - 1} = 0.07$$

The consistency index, index random consistency index RI = 1.24, the consistency ratio CR = 0.07/1.24 = 0.0565 < 0.1, the result of the judgment matrix passed the consistency check, we get six indicators weight in TABLE 1.

TABLE 1 : The weight of evaluation index

evaluationcriterion	timeliness	relevance	comparability	availability	sufficiency	authenticity
Weight (100%)	16%	19%	19%	5%	12%	30%

The results of sample company information disclosure quality evaluation

We get the level of primary indexweight by expert scoring method, weighted out the sores “F” for 32 sample company information disclosure quality. By looking up the ShenzhenStock Exchange website, at the same time, we get sample company information disclosure quality evaluation level in 2012 (due to space limitations, this part of the data is abbreviated).

Comparing the score of sample companies information disclosure quality with its results of "credit archive"

According to the data from the ShenzhenStock Exchange "credit archive" rating for 32 sample companies, the results are as follows:

TABLE 2 : "credit archives" result analysis table

sample project Rating grades	sample size	Sample accounted for the proportion of the total sample (%)
A (very good)	4	12.50
B (good)	23	71.875
C (qualified)	4	12.50
D (unqualified)	1	3.125
Summary	32	100

According to TABLE 2 above, it can be seen that: (1) in the information disclosure quality performance rating results for the selection of the food industry listed companies of 2012, there were 4 companies for very good, there were 23 companies as good, there were 4 companies for qualified, and 1 company was unqualified, Thus it is concluded that the information disclosure quality of the listed enterprises in the Chinese food industry was good, but a small part is not optimistic. So we should improve the quality of information disclosure to reverse the present situation of the enterprise continuous loss, especially for the ST companies. (2)there was about 25% of the sample enterprises which had punishment records, it showed that information disclosure system in the food industry of China still is not perfected, violation is serious, we need to further improve the legal system, to standardize information disclosure system of listed companies.

After testingby the index system in this article, the disclosure quality composite scores of sample companies is shown in TABLE 3. According to the statisticsprinciple "upper limit is not included", we assume that the evaluation results of 60 points (0.60) to pass the test, under 60 minutes (0.60) for D (unqualified); 60-75 minutes (0.60 0.75) for C (qualified); 75-75 (0.75 0.85) for B (good); More than 85 points (0.85) for A (very good).

TABLE 3 : Information disclosure quality score analysis table

sample project Score range and level	sample size	Sample accounted for the proportion of the total sample (%)
Above 0.85 (A)	4	12.50
0.75—0.85(B)	19	59.375
0.60—0.75(C)	8	25
Below 0.60(D)	1	3.125
Summary	32	100

According to the TABLE 2 and TABLE 3, we found that:

(1) there is a big difference between comprehensive score and the results of Shenzhen Stock Exchange "credit archive" rating; we hold that the main reason for the difference was the different information disclosure evaluation index system. The difference mainly concentrated in the aspects of qualified and good performance. Other aspects there are evident differences of samples is "outstanding (class A)", the number of samples for excellent or more than 85 points was 4, but they had different content, the sample for the score of 85 points above included “002385”, “002515”, “002216”, and “002507”. But the four listed companies of the results in "credit archives" for A (good) included “002385”, “002216”, “002507”, and “002387”. In this paper, the comprehensive score of “002515”by using the evaluation system of was 0.8864(very good, A), but it was for B in the "credit archive" disclosure ratings. And the comprehensive score of “002387”by using the evaluation system of was 0. 0.8288 (good, B), but it was for A in the "credit archive" disclosure ratings. But overall, the evaluation index system used in this paper and the Shenzhen Stock Exchange rating system has certain relevance, 75% of them are exactly the same such as “002385”, “002216”, “002507”. It had some reference value to perfect the information disclosure quality system of listed company.

(2)Differences of 11 ranking points in two kinds of evaluation system of listed companies are only poor level, and through further analysis, there are differences of company mainly those at each level on the edge of the company (the company's information disclosure quality comprehensive score was near the interval threshold divided by this article). Thus it can be seen that the results of the two kind’s evaluation system for sample evaluation are basically consistent.

(3) If qualified for 60 points (0.60), the percent of pass for sample companies is 93.75% in information disclosure quality comprehensive score; the percent of pass is 96.875% in "credit archives". As a whole, the information disclosure quality of listed companies in Chinese food industry is in good condition, but particularly high quality company (rating very good or more than 85 points) is less.

CONCLUSION AND LIMITATIONS

The conclusion

(1) In this article, we got the first-grade index weight by expert scoring method and the second-grade index mark by looking up the annual reports of listed companies (the second-grade index value is obtained by using the weighted dichotomy and on average); we calculated the composite scores for the sample company information disclosure quality. According to the synthesis score “F”; the sample company information disclosure quality is divided into A, B, C, and D four grades. And by comparing the level of assessment between the synthesis score and the “credit archive”, we found that most of the sample companies had almost the same level, which means, it is valid to evaluate the quality of information disclosure in any one of these two kinds of evaluation system. Therefore, we can get more objective results from different angles to evaluate information disclosure quality.

(2) The differences of the company are mainly those in each level on the edge of the company, so we can say that the two kinds of evaluation system for sample evaluation result is basically consistent, namely, it is valid for the sample company by using the evaluation index system of this article.

(3) According to the results, most of the sample companies can disclose its accounting information in accordance with the statutory time prescribed by the laws and regulations. But their information disclosure is not voluntary. For example, the annual report disclosure time of legal requirements is within 4 months, but we found there was about 30% of listed companies whose annual reports disclosing time was after April 25th in collecting the secondary data, it explained that enterprise voluntary information disclosure ability is poor. We should encourage companies to disclose information as soon as possible, provide investors with the latest business information, better to make investment decisions.

(4) the evaluation results showed that the average score of the information disclosure quality for sample company was 0.7926. It shows that overall information disclosure quality of Shenzhen listed company in China was good, but we also found that the highest score of the sample companies was 0.9144, the lowest was 0.5025. Information disclosure quality showed large variations, we should arouse

extensive attention especially for ST companies. In this paper, we suggest to set different evaluation system for ST companies in order to avoid deceiving investors.

(5) Through the analysis of the sample companies, we found that the social responsibility of listed companies to disclose situation as a whole is poorer, about more than 80% of the company did not have social responsibility report, which means it is imperative to perfect corporate social responsibility disclosure system.

Limitations

(1) The sample companies were only listed in Shenzhen food industry, it remains to be further research whether all test results are suitable for the evaluation of China's all the listed companies.

(2)In this paper, the application of the listed company information disclosure index evaluation index system completely referenced the research of Wang Yanyan (2010), and it is the direction of further research whether the index system of her research is scientific, reasonable, and valid.

(3) In this paper, we used expert scoring method to determine the first-grade index weight, and this method has certain subjectivity, it may affect the level of the determination of index weight to a certain extent, which makes the evaluation results of sample company information disclosure quality has a certain deviation.

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REFERENCES

[1] U.Bhattacharya, H.Daouk, M.Welker; The world price of earnings opacity. The Accounting Review, **78(3)**, 641-78 **(2003)**.

[2] F.Lakhal; Stock market liquidity and information asymmetry around voluntary earnings disclosures: New evidence from France. International Journal of Managerial Finance, **4(1)**, 60-75 **(2008)**.

[3] W.A.Robbins, K.R.Austin; Disclosure quality in governmental financial reports: An assessment of the appropriateness of a compound measure. Journal of Accounting Research, **24(2)**, 412-21 **(1986)**.

[4] C.A.Botosan; Disclosure level and the cost of equity capital. The Accounting Review, **72(3)**, 323-49 **(1997)**.

[5] Gerald K Chau, Sidney J.Gray; Ownership structure and corporate voluntary disclosure in Hong Kong and Singapore. the International Journal of Accounting, **37(2)**, 247 **(2002)**.

[6] Richard Piechocki; The Transparency of annual sustainability reports, Corporate Reputation Review, **7(2)**, 107-24 **(2004)**.

[7] Jinbae Kim; Accounting transparency of Korean firms: Measurement and determinant analysis. The Journal of American Academy of Business, Cambridge, **2**, 222 **(2005)**.

[8] Wang Wei, Jiang Gaofeng; Information disclosure transparency and the cost of capital [J]. Journal of Economic Research, **7**, 107-114 **(2004)**.

[9] Xia Lijun, Lu Xiaonan; Research on the correlation between earnings management and information disclosure quality of listed companies [J]. Journal of Contemporary Economics and Management, **27(5)**, 145-150 **(2005)**.

[10] You Jiaxing, Li Bin; Information transparency and corporate governance efficiency—empirical evidence from China listed company general manager change [J]. Journal of Nankai Management Review, **10**, 73-79 **(2007)**.

[11] Wang Yongmei; The empirical study on voluntary disclosure index of listed company financial information [J]. Journal of securities market leader, **9**, 45-49 **(2003)**.

[12] Tang Yuejun, Cheng Xinsheng, Lv Feishi; The research on China's listed company information disclosure system evaluation and information disclosure index [J]. Journal of Shanghai's Financial, **3**, 27-40 **(2005)**.

[13] Xie Zhihua, Cui Xuegang; Information disclosure level, market driven and government regulation based on China's listed companies' data [J]. Journal of Auditing Research, **4**, 39-45 **(2005)**.
[14] Yuan Jianguo, Yu Aiqin, Yanghui; The construction for accounting information quality evaluation index system [J]. Journal of business accounting, **12**, 50-51 **(2005)**.
[15] Qi Shou, Bai Mo; Discussing about constructing the financial information disclosure evaluation index system of listed companies [J]. Friends of the Accounting, **7**, 56-57 **(2005)**.
[16] Wang Yanyan; Evaluation index system of the public company accounting information disclosure quality research [M], master degree in Anhui university, **5**, 23–25 **(2010)**.