

# A Study on Earnings Quality Evaluation of Listed Hotel Companies

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## ABSTRACT

The evaluation index system for the earnings quality of listed hotel companies were constructed in this paper. And the indicators included the indices of income quality, profit quality and gross profit margin. Based on two dimensions of growth and volatility, the indices of income quality and profit quality were selected. AHP was used to calculate the weight of each index. Then the earnings quality of six listed hotel companies in China was evaluated. The results indicated that those companies with higher gross profit margins always had higher earnings quality. Furthermore, the evaluation indicators for asset quality and cash flow were also constructed. And the characteristics of six companies were comprehensively analyzed from earnings quality, asset quality and cash flow. The analysis showed that most companies with higher earnings quality always had either higher asset quality or higher cash flow.

**Keywords:** *listed hotel company, earnings quality, evaluation, Analytic hierarchy process*

## 1. INTRODUCTION

With the development of China social economy and the improvement of consumption potential, the hotel industry is expanding fast. Listing is an important way for hotel's development. Listed companies in the hotel industry are usually hotel groups, which are benchmark companies in the industry and have good profitability. At present, the academic community has reached a consensus on the evaluation indicators of listed companies' profitability. And the indicators include net profit, return on equity, earnings per share, return on total assets and sales profit rate etc. But these indicators cannot reflect the earnings quality of listed companies<sup>[1]</sup>. As a more appropriate indicator to evaluate the financial status of enterprises, the earnings quality has been paid more and more attention by scholars and investors. Enterprises with good earnings quality are mainly shown as follows: first, they have good profitability; second, their profits are guaranteed by cash flow; third, they have good development potential<sup>[2]</sup>. Earnings quality evaluation is very important as it relate to the interests of investors, creditors and other stakeholders.

Liang et al. defined earnings quality as the internal reveal of the true operating results, economic benefits and development capabilities of an enterprise, which is an evaluation result of the profitability, cash ability

and growth of the current enterprise profit<sup>[2]</sup>. Wang believed that the earnings quality directly reflected the current earnings and potential development of listed companies<sup>[1]</sup>. In essence, the earnings quality reflects the current and future profitability of the listed company.

Domestic scholars mainly evaluated earnings quality from three perspectives: cash flow statement, income statement, comprehensive perspective. As to cash flow statement, Chu et al. pointed out that the earnings quality should reflect whether the profit is accompanied by the cash inflow, and the specific evaluation criterion is "the difference degree between the relevant profit index value calculated on the accrual basis and the relevant profit index value calculated on the cash basis". In general, the smaller the difference is, the higher the earnings quality will be<sup>[3]</sup>. Li believed that the earnings quality was based on cash basis and reflected whether the profit of an enterprise had the corresponding cash inflow<sup>[4]</sup>. Lu believed that the earnings quality could be evaluated by the volatility of the company's cash flow index<sup>[5]</sup>. The second way is to evaluate from the perspective of income statement. Jiang et al. believed that the profit of main business was positively related with the earnings quality and corporate value separately. He conducted an empirical analysis on the profit composition of listed companies from 1993 to 1999, and found that the profit of main business accounted

for a relatively low proportion in the profit composition of listed companies in China <sup>[6]</sup>. Xu et al. introduced non-recurring profit and loss to evaluate the earnings quality of enterprises, and found that it is common for listed companies in China to adjust accounting earnings through non-recurring profit and loss items <sup>[7]</sup>. Yang judged the earnings quality of enterprises by comparing the proportion of operating profit and non-current account in the total profit <sup>[8]</sup>. The perspective of income statement pays more attention to the authenticity of earnings, and advocates that the operating profit excluding the non-current account should be used to replace the total profit to evaluate the profitability of an enterprise. The third way is to study the earnings quality from a comprehensive perspective, that is, to evaluate the overall situation of financial statements. Huang constructed a logical framework for financial statement analysis from three aspects of earnings quality, asset quality and cash flow. Among them, earnings quality includes income quality, profit quality and gross profit margin, and asset quality and cash flow can further reflect the quality of earnings <sup>[9]</sup>. He pointed out that the earnings quality should reflect the matching degree of accounting income and real income, as well as the reasonable reflection of profit structure, income source mode, operating cash support, asset compaction degree and financial behavior <sup>[10]</sup>. Through empirical research, Chen et al. found that the four indicators of comprehensive leverage, operating gross margin, net cash flow from operating activities per share, and total asset turnover were significant for explaining the company's earnings quality <sup>[11]</sup>. Comprehensive perspective often uses income, profit, cash flow and other indicators to evaluate the earnings quality of listed companies.

In the current research of hotel industry earnings quality, the evaluation was based on a comprehensive perspective. Chen analyzed the earnings quality of Jinjiang Hotel from five aspects of growth, stability, security, profitability and cash guarantee, and put forward relevant measures to improve the earnings quality combining internal and external factors <sup>[12]</sup>.

Up to now, there is no unified indicator system for the evaluation of earnings quality, and there are few studies on the evaluation of earnings quality in the hotel industry. Based on current research of earnings quality evaluation index system, we intend to construct a set of indicators for the earnings quality evaluation of hotels from a comprehensive perspective.

## **2. THE FRAMEWORK AND CONTENTS OF THE EVALUATION INDEX SYSTEM**

Based on the earnings quality evaluation index of Professor Huang <sup>[9]</sup>, this paper constructed the earnings quality evaluation index system for listed

hotel companies from three aspects: income quality, profit quality and gross profit margin. Among them, income quality and profit quality are selected based on volatility and growth. When selecting specific evaluation indicators, the relevant research results and the characteristics of hotel industry were both considered. And experts' opinions were also adopted.

Income quality is mainly selected from four aspects: operating income, main business income, profit margin of fixed assets and intangible assets. Huang pointed out that the income from selling goods or providing labor services is a stable and reliable source of cash flow for enterprises <sup>[9]</sup>. He believed that the profits of enterprises should come from the profits created by their main business <sup>[10]</sup>. At present, many hotel groups have diversified their businesses. Their main business refers to businesses directly related to the hotel industry, including guest rooms, catering, and the transfer of management model. The quality of this part of revenue is particularly important for the evaluation of the hotel industry's earnings quality. In the hotel industry, fixed assets often occupy a large proportion, including guest rooms, restaurants, other equipment and facilities. The profitability of fixed assets is an important basis for the sustainability of the hotel industry. For hotel groups, the granting of franchise rights and the export of management model are also important ways for them to make current profits. Therefore, the profitability of intangible assets is also included in the indicator system.

The profit quality is mainly evaluated by net profit, main business profit. Net operating cash flow contained in profit per share (net operating cash flow per share/profit per share). Net profit is the final result of enterprise operation, which can intuitively reflect the current operating benefits of the company. The profits created by the main business of an enterprise has the characteristics of continuity, stability, and predictability. If the enterprise obtains profits from the market while obtaining a considerable net cash flow from operating activities, this kind of profit is reliable <sup>[10]</sup>. The cash flow generated by operating activities is equivalent to the "hematopoietic function" of an enterprise. It is the cash flow created by an enterprise through their core competitive business, which is an important guarantee for the stable development of the hotel industry <sup>[9]</sup>. In terms of measuring the growth and volatility of income quality and profit quality, the corresponding indexes are constructed mainly from the average annual growth rate and inter-annual variation coefficient. The greater the volatility, the worse the quality of revenue and profit <sup>[9]</sup>.

Gross profit margin is the percentage of gross profit to sales revenue, where gross profit is the difference between sales revenue and cost of sales. The gross profit margin is often used to evaluate the company's operating conditions, and compared with financial indicators such as net profit, the gross profit margin is more objective and true, with fewer interference factors, and can discover the company's long-term

competitive advantage <sup>[13]</sup>. For hotel group sales companies, the gross profit margin usually represents the value-added degree of the products they sell. The higher the gross profit margin, the higher the recognition of the hotel brand and the higher the price acceptable to consumers.

To sum up, the index system selected a total of 15 index factors, including 8 growth and volatility evaluation factors for income quality, 6 growth and volatility evaluation factors for profit quality, and 1 gross profit margin. In the index system, the evaluation index of the volatility of income quality and profit quality is an inverse index, and the other indexes are all positive indexes.

The earnings quality evaluation of listed companies in the hotel industry can be expressed as A=(B1, B2, B3), and the selection of specific indicators is shown in Table 1.

### 3. DATASOURCE AND RESEARCH METHOD

#### 3.1 Acquisition and dimensionlessness of index data

This paper took 6 listed companies in the hotel industry in China as examples to carry out earnings quality evaluation. The six listed companies are Jinjiang (600754), Shoulv Hotel (600258), Jinling

Hotel (601007), Huatian Hotel (000428), Dadonghai A (000613) and Lingnan Hotel (000424). All indicator data comes from the annual reports of 6 listed companies. After review, the audit reports of these 6 companies from 2013 to 2018 are all standard unqualified opinions. The authenticity of the annual report after audited by an accounting firm can be guaranteed to a certain extent. The data sources are www.cninfo.com and Sina Finance.

The indicators selected in this paper include two categories: positive indicators and negative indicators. Positive indicators are the indicators that have a positive effect on the earnings quality of the hotel industry. The larger the value of this type of indicator, the more beneficial the improvement of hotel earnings quality. The other is a negative indicator, that is, an index that has a negative effect on the earnings quality of the hotel industry. With reference to Zhong et al. <sup>[14]</sup> on the non-dimensional processing method of positive and negative indicators-extreme value standardization, the calculation formula of standardized index value is as follows. After the specific index is processed, the positive index values are distributed between [0, 1], and the negative index values are distributed between [-1, 0].

$$\text{Positive indicators: } Z_{ij} = \frac{X_{ij} - \min(X_j)}{\max(X_j) - \min(X_j)}, 1 \leq j \leq n, 0 \leq Z_{ij} \leq 1.$$

(1)

$$\text{Negative indicators: } Z_{ij} = \frac{\min(X_j) - X_{ij}}{\max(X_j) - \min(X_j)}, 1 \leq j \leq n, -1 \leq Z_{ij} \leq 0.$$

(2)

**Tab.1 Evaluation index system of earnings quality for listed companies of hotel industry**

Target layer	Criterion layer	Sub-criteria layer	Index factor layer	
Earnings quality A	Income quality B <sub>1</sub>	Growth C <sub>1</sub>	Average annual growth rate of operating income D <sub>1</sub>	
			Average annual growth rate of main business income D <sub>2</sub>	
			Average annual growth rate of profit on fixed assets D <sub>3</sub>	
			Average annual growth rate of profit on intangible assets D <sub>4</sub>	
		Volatility C <sub>2</sub>	Inter-annual coefficient of variation of operating income D <sub>5</sub>	
	Inter-annual variation coefficient of main business income D <sub>6</sub>			
	Inter-annual coefficient of variation of fixed asset profit rate D <sub>7</sub>			
	Inter-annual variation coefficient of intangible asset profit rate D <sub>8</sub>			
	Profit quality B <sub>2</sub>		Growth C <sub>3</sub>	Average annual growth rate of net profit D <sub>9</sub>
				Average annual growth rate of main business profit D <sub>10</sub>
Earnings per share including operating net cash flow average annual growth rate				

	$D_{11}$	Inter-annual coefficient of variation of net profit
Volatility $C_4$	$D_{12}$	Inter-annual variation coefficient of main business profit
	$D_{13}$	Profit per share including inter-annual variation coefficient of net operating cash flow
	$D_{14}$	Average gross profit margin in the past 5 years
Gross profit margin $B_3$	$D_{15}$	

Notes: 1.Average annual growth rate = the sum of the recent 5 years of growth rate/ 5; 2.Inter-annual coefficient of variation = standard deviation of the past 5 years / average of the past 5 years ; 3.The past 5 years refers to the period from 2014 to 2018 ; 4.Growth rate = (data of this year-data of the base year)/data of the base year  $\times$  100%, of which the base year is 2013.

### 3.2 Assignment of index weight coefficient

This paper uses the analytic hierarchy process (AHP) to determine the weight coefficient of the index. AHP decomposes complex issues into several levels. Experts make pairwise comparisons of the importance of indicators. The contribution of the lower-level indicators to the upper-level indicators is obtained by calculating the eigenvectors of the judgment matrix, so as to determine the weight coefficient that each grass-roots indicator contributes to the overall goal<sup>[15]</sup>. When constructing the judgment matrix, in order to simplify the evaluation process, 5 grade scales such as 1, 3, and 5 are used for pairwise comparison. Among them, 1 represents equal importance, 3 represents slightly more important, 5 represents much more important, 1/3 represents slightly less important, and 1/5 represents not important. Ten experts in accounting and tourism participated in the importance judgment process, of which 5 were from universities and 5 were from restaurants. The data analysis uses SPSS software to analyze the reliability of all items in the questionnaire. The Cronbach  $\alpha$  coefficient is 0.918>0.8, indicating that the questionnaire as a whole can effectively measure the information that you want to collect in advance<sup>[16]</sup>. In the process of constructing

the judgment matrix, the selection of values in the matrix is carried out according to the frequency of each option in the answer to each question and whether the judgment matrix is consistent. Finally, three judgment matrices are constructed, among which the A~B layer corresponds to 1 judgment matrix and the B~C layer 2 judgment matrices.

Using the judgment matrix to calculate the weights of indicators at each level is divided into two steps: single hierarchical arrangement and total taxis of hierarchy<sup>[17]</sup>. Single hierarchical arrangement refers to calculating the eigenvalues and eigenvectors satisfying  $RW = \lambda_{max}W$  for the judgment matrix  $R = \{r_{ij}\}_{n \times n}$  of each level index, where  $\lambda_{max}$  is the maximum eigenvalue of  $R$ ,  $W$  is the normalized eigenvector corresponding to  $\lambda_{max}$ , and the component  $W_i$  of  $W$  is the weight of the corresponding index order. The total taxis of hierarchy is to use the result of single hierarchical arrangement of all levels in the same level to calculate the weights of the importance of all indicators of the previous level, and finally determine the weights of the indicators of each level relative to the target level. For the highest level, its level single order is the total order. The total taxis of hierarchy is the required index weight, and the index weights of each level are shown in Table 2.

**Tab.2 Result value of weight coefficient of grade A~D index**

Index level	Index code	single hierarchical arrangement	total taxis of hierarchy
A~B	$B_1$	0.3333	0.3333
	$B_2$	0.3333	0.3333
	$B_3$	0.3333	0.3333
$B_1$ ~C	$C_1$	0.7500	0.2500
	$C_2$	0.2500	0.0833
$B_2$ ~C	$C_3$	0.7500	0.2500
	$C_4$	0.2500	0.0833
$C_1$ ~D	$D_1$	0.3750	0.0937
	$D_2$	0.3750	0.0937
	$D_3$	0.1250	0.0312
	$D_4$	0.1250	0.0312
$C_2$ ~D	$D_5$	0.3750	0.0312
	$D_6$	0.3750	0.0312
	$D_7$	0.1250	0.0104

C <sub>3</sub> ~D	D <sub>8</sub>	0.1250	0.0104
	D <sub>9</sub>	0.3333	0.0833
	D <sub>10</sub>	0.3333	0.0833
C <sub>4</sub> ~D	D <sub>11</sub>	0.3333	0.0833
	D <sub>12</sub>	0.3333	0.0278
	D <sub>13</sub>	0.3333	0.0278
	D <sub>14</sub>	0.3333	0.0278
B <sub>3</sub> ~D	D <sub>15</sub>	0.3333	0.3333

### 3.3 Calculation of comprehensive evaluation results

Comprehensive evaluation of the earnings quality of listed hotel companies is the main purpose of this paper. Each indicator in the index system affects the overall evaluation result of earnings quality. Therefore, after obtaining the data value and weight of each indicator, this paper calculates the earnings quality score of each company according to the weighted function method, and the formula is:

$$Q = \sum_{i=1}^n Z_{ij} \omega_i \quad (3)$$

Among them,  $Q$  is the comprehensive score of the company's earnings quality,  $Z_{ij}$  is the standardized value of each indicator, and  $\omega_i$  is the weight of the indicator.

## 4. EMPIRICAL RESEARCH

### 4.1 Overview of listed companies in the hotel industry

At present, the listed companies in the hotel industry in China mainly include Jinjiang Hotel, Shoulv Hotel, Jinling Hotel, Huatian Hotel, Dadonghai A and Lingnan Hotel. Among them, Jin Jiang Hotel, Shoulv Hotel and Huazhu Hotel form the three major domestic hotel groups. On the whole, listed companies in the hotel industry in China mostly adopt a diversified development model focusing on hotel business. Except for a few companies that suffer losses, the rest can achieve higher revenue growth rates, showing a continuous improvement in overall development. The overview of listed companies in the hotel industry is shown in Table 3.

Tab.3 Overview of Listed Companies in the Hotel Industry unit: ten thousand yuan

listed company	Main Business	Operating income in 2018	Proportion of hotel business revenue
Jinjiang Hotel	Limited service hotel operation and management business, Food and catering business	1469742	98.40%
Shoulv Hotel	Hotel investment and operation management business	853881	94.73%
Jinling Hotel	Hotel investment management, tourism resource development, hotel supplies trade	103580	46.66%
Huatian Hotel	Hotel service	95813	90.51%
Dadonghai A	Hotel accommodation and catering business	2952	89.59%
Lingnan Hotel	Business travel business, large accommodation business, automobile service business	707787	1.15%

### 4.2 Comprehensive analysis of earnings quality

Combining the annual report data of 6 listed hotel companies from 2013 to 2018, using the above indicator system and calculation method, the standard

values of the earnings quality evaluation index and the comprehensive score of the earnings quality of the 6 companies in the past 5 years from 2014 to 2018 are obtained. The results are shown in Table 4 and Table 5.

**Tab.4 The Standardized value of single index of earnings quality evaluation system for listed hotel companies**

Indicator code	Jinjiang Hotel	Shoulv Hotel	Jinling Hotel	Huatian Hotel	Dadonghai A	Lingnan Hotel
D <sub>1</sub>	0.2599	0.1097	0.0828	0.0000	0.0297	1.0000
D <sub>2</sub>	0.2619	0.1112	0.0841	0.0000	0.0242	1.0000
D <sub>3</sub>	0.6501	0.6721	0.3802	0.0000	0.4589	1.0000
D <sub>4</sub>	0.8781	0.8797	0.6517	0.0000	0.8920	1.0000
D <sub>5</sub>	-0.5227	-0.6138	0.0000	-0.0005	-0.0752	-1.0000
D <sub>6</sub>	-0.5424	-0.6298	-0.0437	0.0000	-0.0500	-1.0000
D <sub>7</sub>	0.0000	-0.0594	-0.0495	-0.2110	-1.0000	-0.0556
D <sub>8</sub>	-0.2045	-0.0320	0.0000	-0.1719	-1.0000	-0.0340
D <sub>9</sub>	0.8051	0.9812	0.6071	0.0000	0.4935	1.0000
D <sub>10</sub>	0.5418	1.0000	0.5664	0.0000	0.8584	0.7922
D <sub>11</sub>	0.0656	0.0775	0.3391	1.0000	0.4916	0.0000
D <sub>12</sub>	0.0000	-0.0899	-0.0528	-0.1485	-1.0000	-0.0630
D <sub>13</sub>	-0.5215	0.0000	-0.7249	-1.0000	-0.2889	-0.2784
D <sub>14</sub>	-0.1112	-0.0525	0.0000	-1.0000	-0.8542	-0.1419
D <sub>15</sub>	1.0000	0.8099	0.3710	0.2820	0.6662	0.0000

**Tab.5 Earnings quality evaluation results of listed companies in the hotel industry**

listed company	Income quality $B_1$	Profit quality $B_2$	Gross profit margin $B_3$	Earnings quality $A$
Jinjiang Hotel	0.0613	0.1001	0.3333	0.4947
Shoulv Hotel	0.0294	0.1676	0.2700	0.4670
Jinling Hotel	0.0460	0.1044	0.1237	0.2741
Huatian Hotel	-0.0040	0.0237	0.0940	0.1137
Dadonghai A	0.0225	0.0941	0.2221	0.3387
Lingnan Hotel	0.1866	0.1359	0.0000	0.3225
average value	0.0570	0.1043	0.1739	0.3351

Combining the evaluation results of the hotel's income quality, profit quality, and gross profit margin, SPSS is used to carry out cluster analysis, and K-means clustering method is used in the classification process, and the number of categories is set to 3. The clustering results show that Jinjiang Hotel, Shoulv Hotel and Dadonghai A are in the first category, Jinling Hotel and Huatian Hotel are in the second category, and Lingnan Hotel is in the third category. From the perspective of total earnings quality scores, Jinjiang Hotel, Shoulv Hotel and Dadonghai A have higher earnings quality, followed by Lingnan Hotel, and then Jinling Hotel and Huatian Hotel, namely Category 1> Category 3> Category 2. If the average value of income quality, profit quality, and gross profit margin is used as the standard, the characteristics of these three types of hotel listed companies are shown in Table 6.

It can be seen from Table 6 that the income quality and profit quality of the three types of hotel listed companies are high or low, but the first category of hotel listed companies all have higher gross profit margins, and the second and third types have lower gross margins. interest rate. In terms of earnings quality, the first type has high earnings quality, while the second and third types are lower (the third

category has slightly higher earnings quality than the second type). Judging from the characteristics of the B-level evaluation value, the level of gross profit margin is very important to the earnings quality of hotel. For example, the first-type company Dadonghai A only has gross profit margin as high, but the earnings quality score is higher than Lingnan Hotel, who's profit quality and income quality evaluation both are high. This reflects that higher earnings quality does not necessarily require higher income quality and profit quality. For example, in the first category of companies, Shoulv Hotel and Dadonghai A have lower income quality. Among the top companies, Jinjiang Hotel and Dadonghai A have lower profit quality, but both have higher earnings quality. Although Lingnan Hotel' gross profit margin is 0, its income quality and profit quality are relatively high, so its earnings quality is relatively high. From the analysis results, the earnings quality of hotel is mainly related to gross profit margin, followed by income quality and profit quality. However, this is only an analysis of the situation of the selected company, and it is also related to the establishment of the indicator system. The level of gross profit margin not only directly affects the profit content of sales revenue, but also directly determines the investment space of

enterprises in research and development and advertising promotion<sup>[10]</sup>.

**Tab.6 B level value characteristics of listed hotel companies**

listed company	Income quality $B_1$	Profit quality $B_2$	Gross profit margin $B_3$	Earnings quality $A$
Jinjiang Hotel	high	low	high	high
Shoulv Hotel	low	high	high	high
Jinling Hotel	low	low	high	high
Huatian Hotel	high	high	low	low
Dadonghai A	low	high	low	low
Lingnan Hotel	low	low	low	low

Note: High means that the evaluation value of the index is higher than the average, and low means the evaluation value of the index is lower than the average.

**4.3 Analysis of asset quality and cash flow**

The level of earnings quality will be directly affected by asset quality and cash flow<sup>[9]</sup>. This paper uses them as positive impact indicators to construct an indicator system. Asset quality is mainly selected from two aspects: asset structure and cash content. Asset structure refers to the proportion of various assets to total assets, The evaluation of the asset structure of the hotel industry focuses on the proportion of fixed assets and intangible assets. For chain hotels, especially high-end hotels, the investment scale of fixed assets such as guest rooms and restaurants and others, is one of the most important criteria for measuring hotel’s market competitiveness. Xing et al. found that intangible assets have a significant and positive contribution to the operating performance of listed tourism companies, and the contribution of intangible assets of hotel companies is much higher than that of scenic and comprehensive tourism listed companies<sup>[18]</sup>. Cash content refers to the ratio of corporate cash assets (cash and cash equivalents and marketable securities that can be realized at any time) to total assets. Sufficient cash reserves can effectively reduce corporate debt repayment risks and are a relatively

important asset in corporate daily operations. In summary, the analysis of asset quality items has selected three indicators: annual average fixed assets ratio, annual average intangible assets ratio, and annual average cash asset ratio.

The cash flow is mainly analyzed from the perspective of net operating cash flow, and the selected indicator is Sales to Cash Flow Ratio. Net operating cash flow is the net cash inflow generated by an enterprise through its main business, which represents the ability of an enterprise to create cash flow in its daily operations. Sales to Cash Flow Ratio indicates how much cash the company actually receives in each yuan of operating income, and can truly reflect the level of sales quality of the company. The calculation formula is:

$$\text{Sales to Cash Flow Ratio} = (\text{Net Cash Flow from Operating} / \text{Operating Income}) \times 100\% \quad (4)$$

To sum up, the introduction of the supplementary indicator system for asset quality and cash flow has selected 4 indicator factors, including 2 asset structure evaluation factors, and 1 each for cash content and net operating cash flow. All evaluation indicators are positive indicators, as shown in Table 7.

**Tab.7 Asset quality and cash flow evaluation index system**

Target layer	Criterion layer	Index factor layer
Asset quality $B_4$	Asset structure $C_5$	Average annual fixed assets ratio $D_{16}$ Annual average intangible assets ratio $D_{17}$
	Cash content $C_6$	Annual average cash asset ratio $D_{18}$
Cash flow $B_5$	Net cash flow from operating $C_7$	Annual average sales to cash flow ratio $D_{19}$

After calculating the above-mentioned 4 index values using the annual report data of 6 listed hotel companies, the standardized value of each index is obtained through extreme value standardization processing. At the same time, AHP is used to determine the weights of various indicators for asset quality projects. Combining the standardized values and weights of various indicators, the weighted

function method is used to calculate the evaluation results of asset quality. The cash flow item has only one indicator factor, so the standardized value of this indicator is the evaluation result of the cash flow. The specific calculation method is the same as the above calculation method of profit quality. The calculation results are shown in Table 8.

**Tab.8 Evaluation results of asset quality and cash flow of listed hotel companies**

<b>listed company</b>	<b>Asset quality <math>B_4</math></b>	<b>Cash flow <math>B_5</math></b>
Jinjiang Hotel	0.3998	1.0000
Shoulv Hotel	0.2502	0.9535
Jinling Hotel	0.4223	0.8283
Huatian Hotel	0.2129	0.2808
Dadonghai A	0.7543	0.1169
Lingnan Hotel	0.6230	0.0000
Average value	0.4438	0.5299

Based on the average of the two indicators, it can be found that there are significant differences in the asset quality and cash flow of listed hotel companies. Based on the results of the earnings quality evaluation, companies with higher earnings quality do not have higher asset quality and cash flow. For example, Jinjiang Hotel and Shoulv Hotel have lower asset quality, and companies with lower profit quality also exist Advantageous projects, such as Jinling Hotel, have higher cash flow. On the whole, companies with higher earnings quality still have room for improvement in asset quality or cash flow, and companies with lower earnings quality can also improve their earnings quality by improving asset quality or cash flow. From a financial perspective, earnings quality, asset quality, and cash flow are the three logical entry points for systematic and effective analysis of financial statements. Only in this logical framework can major omissions and biases occur<sup>[10]</sup>.

## 5. DISCUSSION AND CONCLUSION

An empirical study on the earnings quality of six listed hotel companies from 2014 to 2018 found that there are large differences in the earnings quality of each hotel. Jinjiang Hotel, Shoulv Hotel and Dadonghai A have higher earnings quality, followed by Lingnan Hotel. Again for Jinling Hotel and Huatian Hotel. From the perspective of specific evaluation indicators, the quality of earnings is mainly related to gross profit margin, followed by income quality and profit quality. The analysis of the two influencing factors of asset quality and cash flow found that companies with higher earnings quality still have room for improvement in asset quality or cash flow, and companies with lower earnings quality can also improve by improving asset quality or cash flow Profit quality. In summary, in order to improve earnings quality, listed companies in the hotel industry should focus on gross profit margin, asset quality and cash flow items in their daily operations, gradually improve the quality of income and profit, and ultimately achieve high-quality sustainable development.

Regarding the possible problems in the earnings quality of each hotel, the following suggestions are hereby made: (1) Pay attention to the management and control of daily costs. The cost of the hotel industry mainly includes procurement costs, kitchen costs,

room costs and other costs. Effective cost control depends on a sound management system, such as: establishing a sound material procurement and acceptance system, determining a reasonable purchase quantity and negotiating lower prices on the basis of ensuring the quality of purchased materials; establishing a complete kitchen supervision system , Standardize the operation of kitchen staff to avoid waste; establish a sound internal accounting mechanism, compile monthly cost reports, analyze and control the differences in costs and expenses of various departments. (2) Strengthen accounts receivable management. At present, hotels mostly use credit sales promotion methods. Most of the current operating income is based on accounts receivable, which greatly increases the hotel's operating risks. Therefore, hotels should establish an effective accounts receivable management model, and It runs through every process of daily transactions. For example, the customer's credit evaluation should be performed before the transaction, and the credit level is used to determine whether to allow the credit sale of the house. Each account receivable is checked and registered during the transaction. After the transaction, the credit sale time can be used to determine whether to take the collection procedure and use incentives to encourage customers to repay early. (3) Optimize asset structure. The main business of the hotel, such as accommodation, catering, etc., must rely on supporting hardware facilities. Although hotels are currently exploring diversified investment models, their focus should be still on the hotel business sector. With the upgrading of national consumption, people's requirements for hotel accommodation conditions and the quality of supporting facilities are getting higher and higher, accelerating the upgrade of corresponding service facilities is the most important task of the hotel. (4) Focus on main business. Hotel companies should seize market opportunities, focus on accommodation and catering businesses, accelerate the construction and layout of high-end hotel products, improve the profitability of their main business, reduce investment in non-recurring projects, and take the development of main business as the current core task, and steadily development to improve operating efficiency.

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