Abstract—On the basis of analyzing the characteristics of SMEs' human resource management, this paper identifies the human resource management risks of SMEs, establishes an assessment model to calculate the risk value and provides advices of preventing and controlling different risks.

Keywords—SMES; MANAGEMENT RISKS; system innovation

I. INTRODUCTION

The non-public economy as individual economy, private economy and foreign economy has played a positive role in promoting China's economy development. Small and Medium-sized enterprises (SMEs) account for a very large proportion in the non-public economy. SMEs have made outstanding contributions to China's economy and social development in such aspects of regional economy development, creation job opportunities, meeting consumer's demands and management system innovation[1]. Human resource management is the cornerstone of the SMEs' production and development, and good human resource management can make the enterprise's development strategy be implemented, so as to ensure the good momentum of enterprise's development.

II. SMES' HUMAN RESOURCE AND ITS RISKS MANAGEMENT

A. Characteristics of SMEs' Human Resource Management

For SMEs, different industries have different definitions. For example, in industry, SMEs refer to those enterprises the number of workers is below 2,000, or sales are less than 3 billion yuan, or total assets are less than 4 billion yuan[2]. Human resource management in SMEs refers to such management work of personnel that on the basis of analyzing the external environment, internal conditions and development trends, the small and medium-sized enterprises make the planning of those long-term, overall and fundamental problems[3]. The characteristics of SMEs' human resource management are as follows:

1. Low degree of attention

Senior managers of SMEs, especially the small enterprises usually put more energy into the technology and markets to face the serious crisis of survival. Managers of enterprises usually consider the human resources management as simple, mechanical and transactional work which won’t be taken into account to strategic decision-making and profit creation. Therefore the lack of input makes the human resources management very difficult.

II. Behindhand management concepts

Many SMEs’ human resource management still stays at the level of 1980s or 1990s, only focusing on some specific transactional work[3]. Most managers of SMEs only consider the human resource management as separate modules such as recruitment or assessment, etc, and do not treat it based on system theory, do not have enough knowledge of the coupling between the various modules, so they cannot build a human resource management system based on system theory. The behindhand concepts lead to a relatively low level of the majority of the SMEs’ human resource management.

III. Obsolete management tools

Affected by various factors, SMEs’ human resource management tools are relatively obsolete, and mainly reflected in the following three aspects: i. The management system is not perfect, and using artificial means rather than institutional means to constrain the management process; ii. The degree of standardization is low. Most enterprises have not established a standardized human resource management process, and the management refinement degree is low. iii. The information management tools are behindhand. Many enterprises do not have the professional human resource management information system, and most work is done by handwork.


SMEs’ human resource management risks refer to the deviation of operating results from the targets and the possibility of losses during the process of human resource management[5]. SMEs’ human resource risks management mainly includes the following steps. Shown as figure 1.

Figure 1 Flowchart of SMEs human resource risks management
III. IDENTIFICATION OF SMES’ HUMAN RESOURCE RISKS MANAGEMENT

Compared with the large enterprises, the SMEs have a large gap in terms of capital, technology, human resources and markets, and this will inevitably lead to the lack of the SMEs’ management refinement degree. Large enterprises rely on good mechanism, yet most SMEs rely on the staff’s personal capability. Such characteristics determine that if the SMEs want to grow and develop, they should focus on the following three areas in human resource management: (i) Support the enterprise strategy effectively; (ii). Protect the team’s morale; (iii). Avoid the employee’s dimission.

For the SMEs, the human resource management risks mainly cover the following aspects:

(I). Human resource planning risk. Planning risk is the most common risk in SMEs’ human resource management. It mainly refers to the risk brought by lack of human resource planning or the imperfect planning.

(II). Recruitment risk. Recruitment risk refers to the risk that relates to the lack of recruitment experiences, recruitment information asymmetry and the failure of test tools during the recruitment process, which could lead to the loss of the outstanding candidates.

(III). Appointing risk. Appointing risk refers to the risk that cannot arrange the suitable candidate to the right jobs during the process of SMEs’ human resource management.

(IV). Incentive risk. Incentive risk refers to the risk that exists in the SMEs’ incentive mechanism. Incentive risk can be divided into payment incentive risk and intangible incentive risk, in which the most important is the payment incentive risk. Payment incentive risk refers to the risk brought by decoupling between payment management and enterprise strategy, the unreasonable design of payment system and unfulfilment of the payment for the employees.

(V). Performance risk. Performance risk refers to the risk that cannot combine the employees’ real work situation and the performance results during the SMEs’ performance management.

(VI). Training risk. Training risk refers to the risk that the training cannot meet the actual demands of the employees or the deficiency in training planning, training implementation, training effects evaluation and some other aspects.

IV. RISK ASSESSMENT OF SMES’ HUMAN RESOURCE MANAGEMENT

A Risk Assessment Model Of SMEs’ Human Resource Management

Adopt AHP method to build the risk assessment model of SMEs’ human resource management. Based on the above analysis, the target layer is defined as SMEs’ human resource management risks. The criteria layer contains three aspects as strategic support, team morale and staff stability. Program layer contains six types of specific human resource management risks, and they are planning risk, recruitment risk, appointing risk, incentive risk, performance risk and training risk. Establish the SMEs’ human resource management risks assessment model through the analysis of the relationship among the target layer, criteria layer and program layer. Shown as figure 2.

B. Calculation Of SMEs’ Human Resource Management Risks Value

Adopt experts’ method, according to the characteristics of SMEs’ human resource management, to give the comparative scores of criteria layer and program layer by experts, and eventually determine the risks value of SMEs’ human resource management.

1. Calculation of criterion level

The criteria layer contains three aspects as strategic support (B1), team morale (B2) and staff stability (B3). After the scoring of experts, the discriminant matrix A of criteria layer is as follows.

\[
A = \begin{bmatrix}
1 & \frac{1}{2} & \frac{1}{3} \\
2 & 1 & \frac{1}{2} \\
3 & 2 & 1
\end{bmatrix}
\]

According to the AHP method, the first thing is to estimate the consistency of matrix A. Firstly, get the eigenvalues \( \lambda \) of matrix A, then use CR (Consistency Ratio) to carry on the consistency test, which is to measure if the CR is less than 0.1. The detailed result of the discrimination is as follows.

\[
CR = \frac{CI}{RI} = \frac{\lambda_{max} - n}{n-1} / RI = 0.088
\]

After the comparison, CR<0.1, therefore the consistency of matrix A is considered as acceptable. According to the calculation, the weight vector of matrix A is: \( W_j = (0.1643, 0.2970, 0.5396)^T \).

2. Calculation of program level

The discriminant matrix \( B_1 \) of program layer is as follows.

\[
B_1 = \begin{bmatrix}
1 & 4 & 3 & 3 & 3 \\
\frac{1}{2} & 1 & 2 & 1 & 1 \\
\frac{1}{3} & \frac{1}{2} & 1 & 2 & 1 \\
\frac{1}{2} & \frac{1}{2} & 1 & 1 & 1 \\
\frac{2}{3} & 1 & \frac{1}{2} & 1 & \frac{1}{2} \\
\frac{2}{3} & 1 & \frac{1}{2} & 1 & \frac{1}{2}
\end{bmatrix}
\]

After the comparison, CR<0.1, therefore the consistency of matrix \( B_1 \) is considered as acceptable. According to the calculation, the weight vector of matrix \( B_1 \) is: \( W_{bi} = (0.3809, 0.1453, 0.1210, 0.0856, 0.0961, 0.1711)^T \).

Similarly, to calculate the weight vector of matrix \( B_2 \), \( B_3 \), \( B_4 \). Shown as table 1.

By calculating, we can get the results of the program layer, which is the risks value of the six main risks faced by the SMEs in human resources management. Shown as table 2.

C. Measures To Sme’s Human Resource Management Risks
The greatest damage caused by SMEs’ human resource management risks is to lower the team’s morale and lead to employee’s resignation. Therefore, to control the risks, the enterprises should use different means of control to avoid the damages caused by the human resources risks based on their own circumstances. It can be controlled by the following measures to those SMEs’ human resource management risks identified by this article. Shown as Table 3.

V. CONCLUSION

Personnel are the first power of SMEs, and the human resource management plays a crucial role in developing the SMEs. Due to their own limitations, the SMEs are very difficult to avoid the risks completely in the aspect of risks management, especially the human resource risks management. In this situation, the managers of SMEs should establish the awareness of risks management firmly, improve the level of risks management constantly, and treat the human resource risks management from the strategic perspective. Through the continuous efforts, the enterprises can make efforts to control the human resource risks management effectively, to highlight the efficacy of human resource management, and to build a solid foundation for SMEs’ development.

REFERENCES


![SMEs’ human resource management risks assessment model](image)

**TABLE 1. CALCULATION RESULTS OF WEIGHT VECTOR OF SEMS’ HUMAN RESOURCE MANAGEMENT RISKS**

<table>
<thead>
<tr>
<th></th>
<th>strategic support</th>
<th>team morale</th>
<th>staff stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>planning risk</td>
<td>0.3809</td>
<td>0.0500</td>
<td>0.0665</td>
</tr>
<tr>
<td>recruitment risk</td>
<td>0.1453</td>
<td>0.1349</td>
<td>0.2837</td>
</tr>
<tr>
<td>appointing risk</td>
<td>0.1210</td>
<td>0.2184</td>
<td>0.2147</td>
</tr>
<tr>
<td>incentive risk</td>
<td>0.0856</td>
<td>0.3598</td>
<td>0.2670</td>
</tr>
<tr>
<td>performance risk</td>
<td>0.0961</td>
<td>0.1700</td>
<td>0.1032</td>
</tr>
<tr>
<td>training risk</td>
<td>0.1711</td>
<td>0.0669</td>
<td>0.0657</td>
</tr>
</tbody>
</table>

**TABLE 2. THE SORT TABLE OF SMES’ HUMAN RESOURCE MANAGEMENT RISKS**

<table>
<thead>
<tr>
<th>Sort of risks value</th>
<th>Risk No.</th>
<th>Risk Name</th>
<th>Risk Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C4</td>
<td>incentive risk</td>
<td>0.2649</td>
</tr>
<tr>
<td>2</td>
<td>C2</td>
<td>recruitment risk</td>
<td>0.2169</td>
</tr>
<tr>
<td>3</td>
<td>C3</td>
<td>appointing risk</td>
<td>0.2005</td>
</tr>
<tr>
<td>4</td>
<td>C5</td>
<td>performance risk</td>
<td>0.1219</td>
</tr>
<tr>
<td>5</td>
<td>C1</td>
<td>planning risk</td>
<td>0.1126</td>
</tr>
<tr>
<td>6</td>
<td>C6</td>
<td>training risk</td>
<td>0.0833</td>
</tr>
<tr>
<td>Risks</td>
<td>Measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incentive risk</td>
<td>i. Rational analysis of employees' needs; ii. Establish a competitive wage system in the local area and the industry according to their own ability; iii. Designing flexible benefit plans; iv. Focus on non-material incentives.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recruitment risk</td>
<td>i. Precise pre-recruitment analysis (including job needs analysis, recruitment planning, cost control program, etc.); ii. Summarization of advantages which can attract high-quality talents effectively; iii. Selection of an efficient information dissemination channel; iv. Selection of a reasonable evaluation tool; v. Trial and hiring process by the human resource department and the business department working together closely.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appointing risk</td>
<td>i. Establish reasonable match between employee and jobs mechanism; ii. Fair management positions selection system; iii. Regular job satisfaction evaluation; iv. Establish the employee career development planning.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance risk</td>
<td>i. Establish clear performance plan; ii. Establish a fair performance appraisal system; iii. Establish performance feedback and communication system.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning risk</td>
<td>i. Establish the overall human resource planning; ii. Human resource planning and enterprise development strategy is consistent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training risk</td>
<td>i. Investigation training needs; ii. Construction of the enterprise training implementation system based on its own conditions; iii. Establish an effective training feedback channel.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>