Research Article

Performance Appraisal System and Its Optimization Method for Enterprise Management Employees Based on the KPI Index

Jin Peng

1School of Management, Guangdong University of Science and Technology, Dongguan 523000, China
2School of Business & Economics, University of San Carlos-Downtown Campus, P. Del Rosario Street, Cebu City 6000, Philippines

Correspondence should be addressed to Jin Peng; 20200185@usc.edu.ph

Received 23 March 2022; Accepted 12 May 2022; Published 24 June 2022

Academic Editor: Wen-Tsao Pan

Copyright © 2022 Jin Peng. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Enterprise human resources management plays an important role in enterprise development, and it is an important support for the resisting the risk of market competition. The quality of enterprise managers and whether the performance appraisal is reasonable and effective directly affect the operation status and overall benefits of enterprises. Therefore, in order to enhance the competitiveness and achieve the development goals of the enterprise, the enterprise needs a set of scientific performance appraisal systems for enterprise management personnel. By combining the characteristics and research status of enterprise managers’ performance evaluation, the shortcomings of the current popular enterprise managers’ performance evaluation system were analyzed and pointed out in this paper, and the optimization method of enterprise managers’ performance evaluation system based on KPI indicators was studied and put forward, which can provide a certain theoretical support for enterprises to improve their management level and market competitiveness.

1. Introduction

Since entering the 21st century, especially with the rapid development of science and technology and the market economy, all kinds of enterprises [1, 2] have also shown a vigorous development trend, and the competition among the enterprises has become increasingly fierce. In the increasingly fierce market competition environment, how to obtain competitive advantage and maintain the sustainable and stable development of enterprises is a problem that every enterprise must face and solve.

“Science and technology are the primary productive forces,” which illustrates the extreme importance of talents to enterprises, society, and national development [3, 4]. For enterprises, talents are one of the indispensable resources and the key to the core competitiveness of enterprises. Therefore, modern enterprises pay more and more attention to human resource management. In order to improve the market competitiveness of enterprises, they have been committed to exploring effective methods of human resource management.

Performance management is the core of human resource management [5, 6]. It can be said that all the overall management and operation of the enterprise are management-oriented and are carried out around performance. Performance appraisal is the key link and core content of performance management [7, 8]. It is a process and method that an enterprise uses specific standards and indicators to evaluate employees’ past work behavior and work performance under the established strategic objectives. And, the results are used to positively guide employees’ future work behavior and work performance. As the basis of personnel employment, personnel training, determination of labor remuneration, and the means of personnel incentive, it is very important for the sustainable and healthy development of enterprises. So, a scientific, sound and perfect performance appraisal system has very important strategic significance to enhance the level of enterprise human resources development and enhance the competitiveness of enterprises. More and more enterprise managers [9, 10] pay attention to the methods of performance appraisal, many companies begun to use the performance appraisal to
Performance appraisal is one of the important ways of enterprise human resource management. It is also an effective way to strengthen the management of enterprise managers, and it is also an effective method to motivate enterprise managers [14, 15]. However, due to the small proportion of enterprise managers in enterprise employees, the current performance appraisal means are mainly for general employees, while there are few studies on the performance appraisal of enterprise managers. Therefore, at present, the performance appraisal of enterprise managers usually has some shortcomings, such as the performance appraisal procedure is not detailed enough, the performance appraisal index setting is not reasonable enough, the performance appraisal method is not flexible, and the conclusion is not scientific and reasonable enough.

It should be paid more attention to the performance appraisal of enterprise managers and the construction method of the corresponding evaluation system by combining the current characteristics of enterprise managers' performance management. The commonly used performance management methods and their shortcomings, and the characteristics of enterprise managers and the performance management methods applicable are comprehensively analyzed. An optimization method of enterprise managers' performance appraisal system based on KPI indicators is obtained. Finally, taking an enterprise as an example, by analyzing the characteristics of the current management mode of the enterprise and the shortcomings of the performance appraisal system of the enterprise's managers, the performance appraisal system of the enterprise’s managers is constructed by applying the KPI index performance appraisal theory, and the key index system and evaluation methods of the enterprise's managers' performance appraisal are reasonably put forward to improve the enterprise’s performance appraisal index system and make the enterprise's performance appraisal index system more comprehensive, rationalize and scientific, make full use of performance evaluation and assessment means to mobilize the enthusiasm of enterprise managers, improve their work efficiency and management level, and provide strong support for the sustainable and stable development and growth of the enterprise.

At present, commonly used enterprise personnel performance appraisal process is shown in Figure 1. Figure 1 shows that, in general, the enterprise staff performance appraisal process can be divided into five stages. They are (1) stage 1—the signing stage of objectives and tasks. At this stage, according to the enterprise's development plan and annual work plan, the annual work priorities and objectives and tasks of the enterprise's managers are defined in the form of meetings, and the objectives and task statements are signed by the enterprise’s managers. (2) Stage 2—target task implementation stage. In this stage, enterprise managers should formulate corresponding implementation plans according to the specific target tasks signed in stage 1 and implement them in the work of the whole year. (3) Stage 3—objective feedback stage. The HR department of the enterprise will regularly or irregularly give feedback to the managers of the business department on the completion of the objectives and tasks by e-mail, and the department director will communicate with all the managers by interview. (4) Stage 4—performance reward accounting stage. This stage is an important part of the enterprise management strategy, which is conducive to stimulating employees’ work enthusiasm. The performance bonus work is to calculate and distribute the performance bonus to the employees of the enterprise according to the performance appraisal results after the end of the appraisal cycle of each quarter. (5) Stage 5—performance appraisal feedback stage. The superior decision-makers and managers of the enterprise communicate and feedback on the performance appraisal work. Managers can put forward the advantages and disadvantages of the current performance appraisal system according to their actual work and provide guidance and suggestions for the further improvement of the performance appraisal system.

As the backbone of the enterprise [12, 13], the managers of the enterprise are not only the executors of the enterprise strategy but also the makers of the enterprise tactics. They play a pivotal role in connecting the preceding and the following. They have the important function of dredging the decision-makers and the executive level of the enterprise. They are the indispensable backbone of the enterprise. Therefore, the exertion of managers’ work efficiency plays a key role in improving enterprise performance and realizing enterprise strategic objectives. Performance appraisal is one of the important ways of enterprise human resource management. It is also an effective way to strengthen the management of enterprise managers, and it is also an important part of the enterprise management strategy, and it is also an important way of enterprise human resource management. It is also an effective way to strengthen the management of enterprise managers, and it is also an important part of the enterprise management strategy, and it is also an important way of enterprise human resource management. It is also an effective way to strengthen the management of enterprise managers, and it is also an important part of the enterprise management strategy.
The characteristics of current enterprise management personnel performance management is combined \[16, 17\]. The commonly used methods of performance management and the shortage of them are analyzed and studied in this paper. Through a comprehensive analysis of the enterprise management employees’ characteristics and the performance management system for them, it is found out that enterprise management personnel performance appraisal should focus on the key points and the corresponding evaluation system of construction methods, and a kind of enterprise management personnel performance evaluation system based on KPI index optimization method is obtained. Finally, an enterprise is taken as a study example, by analyzing the characteristics of the current enterprise management mode \[18, 19\]. Then, the key index system and evaluation methods of the enterprise’s managers’ performance appraisal are reasonably put forward to improve the enterprise’s performance appraisal index system and make the enterprise’s performance appraisal index system more comprehensive rationalize and scientific. By making full use of the performance evaluation and assessment means to arouse the enthusiasm of enterprise management, improve their work efficiency and management level, which can provide strong support for the enterprise’s steady development.

2. Related Works

In order to ensure that the human resource can play a positive role in enterprises, enterprises need to establish a scientific and effective performance appraisal system \[20, 21\]. As the core of employee management, performance appraisal plays a great role in promoting the core competitiveness of enterprises. After decades of development, Chinese market enterprises have initially established a series of assessment systems from the grass-roots level to the middle level and then to the top level. However, among the above systems, the assessment system for middle-level managers is the weakest. As an important component of the performance evaluation system, most enterprises adopt a unified set of indicators, which are applied to all employees of the enterprise at the same time \[22, 23\]. Although there are much study works on middle managers performance evaluation in China, most of them are about the performance appraisal model and existing problems, and there is still a lack of research on the general performance appraisal index system of middle-level managers in enterprises.

2.1. Related Theory about Enterprise Performance Management. Performance is a very important concept in the organization management. In order to improve the efficiency of organization and management, people have carried out extensive and indepth research on this concept \[24, 25\]. People’s understanding of performance will vary according to their fields and disciplines.

In the view of sociological point, the meaning of performance is that each member of the society undertakes their own responsibilities according to the roles determined by the social division of labor. Their right to exist is guaranteed by the performance of others, and their performance guarantees the right to exist of others. Therefore, as a member of the society, if we benefit from the society, we must give back to the society. To complete our own performance is our obligation as a member of the society. If we benefit from society, we must give back to society \[26\].

In the view of management point, the performance is the result of organizational expectations. It is the effective output of organizations at different levels to achieve goals, including personal performance and organizational performance. The personal performance viewpoint in enterprises mainly includes performance is the result; performance is behavior; performance is the quality of ability; and performance is the unity of result, behavior, ability, and quality. The overall performance of an organization is the task and goal of the whole enterprise. It is based on individual performance. However, individual performance cannot guarantee organizational performance. Organizational performance is the coordination and integration of individual performance. There are both connections and differences between them.

In the view of economic point, performance and compensation are a group of corresponding relationships in the operation of enterprises. Performance is the degree of individual contribution to the enterprise, and compensation is a positive form of enterprise pay to individual. When employees enter the enterprise, they must complete the tasks assigned by the enterprise. At this time, the degree of personal performance is evaluated due to the tasks they completed. And, salary is a kind of reward for employees to complete the roles. This relationship fully reflects the law of equivalent exchange in the market economy.

Performance itself is an objective existence, but performance needs to be subjectively evaluated by reviewers and organized into effective performance information which will affect the organization’s management decisions \[27, 28\]. Therefore, performance should refer to the work behaviors, methods, and results expected by the organization and evaluated through multiple levels in order to achieve the organization’s goals. It should not only focus on the results but also on the process of achieving the results, which reflects the process of an employee complete a certain task.

2.2. Performance Evaluation for Enterprise. Performance appraisal \[29, 30\] refers to the process in which the subject of appraisal uses scientific appraisal methods to evaluate the completion of employees’ work tasks, the performance of employees’ work responsibilities, and the development of employees against the work objectives or performance objectives and feeds back the evaluation results to employees. Performance appraisal mainly assesses employee’s contribution to the organization. It is a management communication activity for managers to improve the employee ability and performance and organization strategic objectives. Its essence is human resources management to develop existing staff information about existing employees and provide scientific basis for employees’ compensation, promotion,
Performance evaluation mainly includes three meanings: (1) Performance appraisal takes the business objectives of the enterprise as a starting point, evaluates the employee's work process and result, and combines the evaluation results with the various functions of human resource management to effectively promote enterprise to achieve its goals. (2) Performance appraisal is an integral part of the human resource management system. It is an appraisal conducted by using a set of management system and some organizational institutional norms, processes, and methods. (3) Performance appraisal is an evaluation based on objective facts on the behavior, ability, attitude, and performance of the members of the organization in their ordinary work performance.

According to the viewpoint of modern management, performance appraisal is a process of learning, improvement, and control. Its main goal is not only to get a fair appraisal result but also to truly improve the performance of enterprises and employees and achieve the development goals of enterprises and the improvement of employees' quality through continuous, dynamic, and two-way communication. Performance appraisal mainly includes the formulation of performance standards, performance communication, performance appraisal, performance feedback and guidance, performance improvement and replanning, and application of performance appraisal results.

According to the viewpoint of modern management, performance appraisal is a process of learning, improvement, and control. Its main goal is not only to get a fair assessment result but also to truly improve the enterprise and the staff individual performance and achieve the development goals of the enterprise and the improvement of employees' quality through continuous, dynamic, and two-way communication. Performance appraisal work mainly includes the formulation of performance standards, performance communication, performance appraisal, performance feedback and guidance, performance improvement and replanning, and application of performance appraisal results.

Figure 2 shows the main methods of performance appraisal used currently.

It can be seen from Figure 2 shows that the main methods of performance appraisal at present include KPI method, objective management method and 360-degree performance evaluation method, and assessment center method.

Among them,

1. The KPI refers to the calculation and analysis of key parameters at the input and output ends of the internal process of the enterprise. It is a kind of objective and quantitative management indicators to measure the process performance. It decomposes the strategic objectives of the enterprise, mainly focusing on the work results and performance of employees. Through the key indicators system, it can help enterprise decision-makers to clarify the main responsibilities of employees and further clarify the indicators to measure the quality and efficiency of employees' work. This method can link employee goal, department goal, and the overall goal of the enterprise, which is convenient for managers to evaluate and control the KPI output of the department and employees in stages, and guide employees to move towards the correct goal through the feedback mechanism.

2. The balanced scorecard (BSC) is one of the commonly used methods of performance appraisal methods. It is a new performance management system that implements the enterprise's development strategy into operational measurement indicators and target values from the four perspectives of finance, customers, internal operation, learning, and growth. BSC mainly realizes strategic planning through charts, cards, and tables. The financial dimension measures the parallelism of a person's financial management level. The customer dimension reflects how customers view our problems. The internal process dimension mainly aims to meet shareholders' and customers' dimensional goals. The learning and growth dimension considers the ability improvement and talent training of the company's employees from the perspective of the company's long-term development. The design purpose of the balanced scorecard is to establish a performance management system that meets the long-term development of the enterprise and fully reflects the strategic orientation of the enterprise, so as to ensure that the strategy of the enterprise can be effectively implemented. This method can effectively translate the strategic objectives of enterprise into the performance indicators and actions of all departments and employees of the enterprise, help all employees clearly grasp their personal goals and enterprise development goals, and is conducive to the learning and growth of the enterprise and employees and the improvement of core competence, providing some support for the realization of the long-term development of the enterprise and the improvement of the overall management level of the enterprise.

3. The target management mainly includes two aspects: firstly, it must work with each employee to formulate a set of work objectives that are easy to measure. Secondly, it is to regularly discuss the achievement of their goals with the employees. Its essence is the overall planning based on the development stage, which is gradually decomposed into the strategic objectives of departments and individuals. Its implementation steps are as follows: (a) determine the enterprise objectives and formulate the annual plan objectives according to the enterprise's strategic objectives. (b) Determine the objectives of each department, and the enterprise decision makers and department leaders jointly formulate the annual objectives of the department based on the annual objectives of the enterprise. (c) Determine personal
goals. According to the annual goals of the enterprise and the goals of each department, each person in the enterprise shall formulate corresponding short-term implementable goals to jointly contribute to the development of the enterprise. (d) Job performance evaluation: the decision-makers and department leaders of the enterprise, within the scope of their respective authorities, compare the actual work performance of employees within a certain period of time with the personal goals formulated in the early stage, and review the work results of subordinate employees. (e) Provide performance evaluation feedback. Each department of the enterprise will give feedback on the performance evaluation work of the previous stage through regular work meetings, and each employee will discuss it and timely adjust the work objectives and efforts in combination with the performance feedback and the actual work situation.

(4) The 360-degree performance evaluation method, also known as "comprehensive evaluation method," is a relatively common performance evaluation method. It emphasizes that people-oriented should be taken into account on the basis of respecting objective facts, and multiangle evaluation should be conducted to ensure the fairness and comprehensiveness of the evaluation process, so as to enhance the credibility of the evaluation results. Its basic idea is to regard the test and examination scores of tests and examination as a linear combination of the true points and error scores. Among them, the true score is a theoretical value, which refers to the average value \( E(X) \) obtained through numerous criteria measurements.

\[
E(X) = T. \tag{1}
\]

The relationship between the true scores and assume great score is

\[
X = T + e, \tag{2}
\]

wherein \( X \) is true score values, \( T \) is assuming that true score, and \( e \) is measurement error. In the process of enterprise operation, since the errors of all employees are random and the direction is also random, when the employees are combined enough and the enterprise operation reaches a certain length of time, the measurement errors can offset each other:

\[
E(e) = 0. \tag{3}
\]

According to the introduction of the basic principle of 360-degree performance appraisal method above, its main advantages and disadvantages are as follows: (A) Its appraisal is all-round and multiangle, and the results are objective. (B) On the basis of considering the work output, it also considers the deep-seated competency. (C) Heavy workload in the assessment process. (D) Focus on the comprehensive evaluation, with a large proportion of qualitative evaluation. (E) If the implementation process is not handled properly, it is easy to cause tension within the enterprise.

(5) The objective and key achievement method, whose main objective is to clarify the objectives of the enterprise and the team, as well as the measurable key results achieved by each objective. Its main features are (A) It can effectively avoid the deviation between the implementation process and the goal vision and solve the problem that some key indicators cannot be formulated and measured. (B) To a large extent, giving employees autonomy can stimulate employees’ work enthusiasm and improve the overall work efficiency of the enterprise. (C) This method requires employees to have high quality, strong planning ability, and execution ability.

In this section, several kinds of performance appraisal methods commonly used currently in enterprise management are mainly introduced. The abovementioned performance evaluation methods have their own advantages and
disadvantages in which performance appraisal method an enterprise ultimately chooses should comprehensively consider such factors as the business, operation characteristics, and personnel structure characteristics of the enterprise.

2.3. A Performance Appraisal Management System Based on KPI. In this article, the enterprise management personnel performance appraisal method and assessment system construction are mainly researched. According to the introduction above, due to the relatively small number of enterprise managers, there is less research on the performance appraisal methods of enterprise managers at present.

In the progress of enterprises operation, enterprise management employees play an essential role [31, 32]. They are the backbone for the operation and implementation of enterprise strategic decisions and objectives. At the same time, they are also the key link for timely collecting feedback from grass-roots employees and making decisions. In terms of authority, they are the main leaders of each department of the enterprise and play an important role in the development and decision-making of their respective departments. In terms of salary, it is significantly higher than that of ordinary employees, which is directly related to their ability, quality, and responsibility. In different enterprises, due to the different nature and function division of each department, the management staff is usually not clearly defined. Because of the importance of their positions, enterprise managers are one of the important factors that determine the development of the enterprise [14, 33], which are mainly manifested as follows: (1) as a link connecting senior managers and ordinary employees, they are a transit station for information. Middle managers first need to have a strong knowledge reserve and solid professional knowledge, be able to accurately understand the strategic plan of the company’s decision makers, and convert the plan into specific and operable steps. (2) Middle managers have the ability to solve problems and innovative thinking. They are not only familiar with daily production and operation activities but also have a certain overall thinking. They can help ordinary employees solve difficult problems in their work and give corresponding suggestions. (3) Excellent middle-level managers often become the role models and goals of subordinates. By encouraging subordinates to keep learning and making progress and improving their cultural quality and technical level, they can promote the development of the company’s talent echelon. (4) As the head of the department, the middle-level managers often have business contacts with the personnel of other departments in their daily work. How to ensure that the relevant personnel has high cooperation satisfaction plays an important role in improving the internal work efficiency of the enterprise.

The high-quality enterprise management team can accurately understand the strategic objectives of the enterprise and sensitively perceive the changes in the business environment and lead the employees to respond quickly to determine the efficient operation of each department of the enterprise and timely adapt to the changes in the external environment. However, the enterprise management staff with insufficient ability and quality will not be able to effectively build a top-down communication bridge, which will greatly affect and hinder the normal operation and development of the enterprise. Therefore, the study of enterprise managers’ performance appraisal system and its optimization is one of the important ways to improve enterprise human resource management mode and enhance enterprise market competitiveness.

Figure 3 shows the main components of current enterprise management employees' performance appraisal.

Figure 3 shows that, among the commonly used performance appraisal methods at present, the performance appraisal results of enterprise managers mainly consist of (1) department performance appraisal and the allocation weight of department performance score, (2) evaluation of enterprise decision makers, and (3) individual quarterly and annual work report evaluation. Based on the above, the performance appraisal for enterprise management staff is too subjective and unsystematic to be objective, fair, and just, which not only fails to achieve the expected effect of enterprise performance appraisal but also has an adverse impact on the work enthusiasm and efficiency of enterprise management staff. Therefore, it is urgent to carry out research on the construction and optimization of enterprise management staff performance appraisal system.

Based on the above characteristics, such as the small number of enterprise management staff, the decisive role in each department of the enterprise and the great impact on the operation of the enterprise, this paper studies application of KPI to build and optimize the performance appraisal system of enterprise management staff.

Figure 4 shows the main ways in which enterprise management employees play a role in the realization of enterprise target A in the process of enterprise operation.

As can be seen from Figure 4 that, (1) at the target level, the enterprise formulates a strategic objective by comprehensively considering its own business characteristics, scope, market demand, and other factors. (2) At the implementation criteria level, according to the enterprise strategic objectives set by the enterprise decision-makers, all departments of the enterprise should respond quickly under the leadership of their respective competent leaders and formulate several implementation criteria according to the division of responsibilities and tasks of the departments. (3) The scheme level, with the cooperation of the management staff of each department of the enterprise, formulates the practical operation scheme according to the implementation criteria. The operation scheme specifies the task division and completion time nodes of each department.

According to the main process of realizing the strategic objectives of the enterprise as shown in Figure 4, in order to build a performance appraisal system for enterprise management employees, firstly, it is necessary to clarify the key capabilities that the enterprise management employees should have to achieve the strategic objectives of the enterprise. Secondly, evaluate the relationship between the capabilities and the realization of the strategic objectives of the enterprise. Thirdly, reevaluate the weight relationship
between the main competencies of enterprise management staff. Finally, the enterprise management staff performance appraisal system and its optimization method are obtained.

In the construction progress of the enterprise management staff performance appraisal system, the principles of diversification of KPI indicators, evaluation subjects, and indicator weights should be followed.

Figure 5 shows the construction process of enterprise management employee performance appraisal system based on KPI.

Figure 5 shows the construction process of the enterprise management employees' performance appraisal system based on KPI. It is mainly as follows: (1) evaluation subjects are diversified. In order to avoid the subjective bias of evaluators, when evaluating the performance of different management employees in the enterprise, a number of evaluators are selected from various aspects and different groups. (2) The KPI indicator system is diversified. According to the business characteristics of the enterprise, the KPI indicators for the performance appraisal of enterprise management employees are layered. In the figure, the KPI indicator system for the performance appraisal of enterprise management employees is divided into two levels. (3) Calculate the weights of multiple indicators.

The specific calculation process can be as follows:

According to the characteristics of enterprises and market concerns, by consultation with various parties (such as experts from colleges and universities, enterprise managers, and grass-roots employees), the weight relationships of different KPI indicators at all levels of the enterprise management staff performance appraisal system are compared, and the weights of various factors are calculated by using mathematical algorithms.

Determine the weight judgment matrix $A$ of factors in the same level, and its mathematical formula can be expressed as

$$A_{n \times n} = \left( a_{ij} \right)_{n \times n}$$

where $a_{ij}$ represents the importance relationship of the index $i$ than index $j$, and their specific values can be found in Table 1. The relationship between $a_{ij}$ and $a_{ji}$ is

$$a_{ji} = \frac{1}{a_{ij}}$$

The weight calculation steps are as follows: calculate the maximum eigenvalue of the judgment matrix and its corresponding eigenvector and take the eigenvector corresponding to the maximum eigenvalue of the matrix through consistency solution as the weight vector.

1. Calculate the elements of judgment matrix every line of products $M_i$

$$M_i = \prod_{j=1}^{n} a_{ij}, \quad (i = 1, 2, \ldots, n).$$

2. Calculate the $n$th root of each $M_i$

$$\overline{W}_i = \sqrt[n]{M_i}.$$  

3. The characteristic vector normalization processing obtains the corresponding weight coefficient:

$$W_i = \frac{\overline{W}_i}{\sum_{i=1}^{n} \overline{W}_i}.$$  

4. Consistency check: its purpose is to judge whether the constructed matrix is reasonable and to calculate the maximum eigenvalue of the judgment matrix.

$$AX = \lambda_{max}X,$$
where $X$ is the eigenvector corresponding to the largest characteristic root $\lambda_{\text{max}}$ of the judgment matrix.

The weight calculation of different KPI indicators in other levels adopts the same process as above and will not be repeated here.

Assuming enterprise management staff performance appraisal system is divided into two layers, the score can be calculated by the following formula.

$$F = \sum_{i=1}^{n} \left( W_i \times \sum_{j=1}^{m} E_{ij} \right). \quad (10)$$

In the formula, it is assumed that the established performance appraisal system for management employees of an enterprise is divided into two levels, of which the first level has $n$ KPI indicators; There are $m$ KPI indicators in the second level corresponding to each indicator in the first level. $W_i$ is the $i$th index weight in the first level; $E_{ij}$ is the weight of the $i$th indicator in the first level and the $j$th indicator in the second level.

### 3. A Practical of Enterprise Management Employees’ Performance Appraisal Optimization

#### 3.1. Introduction to an Enterprise

The target enterprise studied in this paper is a large enterprise mainly engaged in passenger cars and special vehicles. The company has experienced more than 60 years of development, its market occupation is leading in China. It has a good corporate image in the hearts of consumers and has formed a unique corporate culture. There are more than 6000 employees in the enterprise. Among the existing employees, the comparison between the number of enterprise management employees and ordinary employees, educational background, and age structure are shown in Figures 6~8, respectively.

Figures 6~8 show that (1) the number of management employees is far less than the ordinary employees, only $6.53\%$ of the total staff number. (2) Most employees have bachelor degree or above, and the majority of them are undergraduates and masters, which indicates that the quality of talents in the enterprise is high. (3) The number of employees under the age of 35 is the largest, accounting for

---

**Table 1: The judgment matrix scale method.**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Two factors are equally important</td>
</tr>
<tr>
<td>3</td>
<td>The $i$th index is slightly more important than the $j$th index</td>
</tr>
<tr>
<td>5</td>
<td>The $i$th index is more important than the $j$th index</td>
</tr>
<tr>
<td>7</td>
<td>The $i$th index is obviously more important than the $j$th index</td>
</tr>
<tr>
<td>9</td>
<td>The $i$th index is extremely more important than the $j$th index</td>
</tr>
<tr>
<td>2, 4, 6, 8</td>
<td>Between the two adjacent judgment value</td>
</tr>
</tbody>
</table>

---

**Figure 5:** Flow diagram of the construction process of enterprise management employees’ performance appraisal system based on KPI.
35.74% of the total number of employees. Those aged 35–40 took the second place, accounting for 28.63% of the total. The above two groups are in their prime of life, and they are also the main body of the employees of the enterprise, indicating that the employees of the enterprise can adapt to work with greater intensity, and the development potential of the enterprise is great.

Figures 9 and 10, respectively, show the market share of the two types of vehicles mainly operated by the enterprise in recent 5 years and the profitability of the enterprise in recent 5 years.

According to the comprehensive analysis of Figures 9 and 10, it shows that (1) the bus market share of the enterprise is significantly higher than that of special vehicles. (2) The market share and corporate profits of the two vehicles have shown a relatively stable upward trend in the past five years. However, due to the outbreak of COVID-19 in 2020, the market share and profits of the year have declined. (3) Based on the employee structure and strength of the enterprise, the enterprise still has a great upward trend by optimizing the enterprise’s human resource management strategy.

### 3.2. Construction of Enterprise Management Staff Performance Appraisal System

According to the construction method of performance appraisal system for enterprise management employees based on KPI indicators analyzed in Section 2.3, and referring to Figure 5, the performance appraisal system for enterprise management employees is constructed as follows. (1) Establish the evaluation subject. In order to conduct performance appraisal for enterprise management employees fairly and objectively, the enterprise specially organizes grass-roots employees. A certain number of management staff and enterprise decision makers are transferred to form an enterprise management staff performance evaluation team. (2) Determine the KPI indexes. According to the opinions of the enterprise management staff performance appraisal evaluation team, the indexes of the management staff performance appraisal system are divided into two levels. Among them, the KPI indexes of the first level include management performance, personal ability performance, and personal attitude performance. Based on this, the evaluation judgment matrix $A$ of the first level indexes can be constructed.

$$
A = \begin{bmatrix}
a_{11} & a_{12} & a_{13} \\
a_{21} & a_{22} & a_{23} \\
a_{31} & a_{32} & a_{33}
\end{bmatrix}
$$

(11)
second level indexes corresponding to each of the first level indexes are the completion of financial indexes, customer service achievements, internal operation effects, and internal team learning and growth. Decision making ability, overall planning and coordination ability, leadership and communication ability, learning and innovation ability; professional dedication, sense of responsibility, team spirit, and discipline.

Thus, judgment matrix, $B_1$, $B_2$, and $B_3$ of the second level index evaluation can be built as follows.

$$B_1 = \begin{bmatrix} b_{111} & b_{112} & b_{113} & b_{114} \\ b_{121} & b_{122} & b_{123} & b_{124} \\ b_{131} & b_{132} & b_{133} & b_{134} \\ b_{141} & b_{142} & b_{143} & b_{144} \end{bmatrix},$$

$$B_2 = \begin{bmatrix} b_{211} & b_{212} & b_{213} & b_{214} \\ b_{221} & b_{222} & b_{223} & b_{224} \\ b_{231} & b_{232} & b_{233} & b_{234} \\ b_{241} & b_{242} & b_{243} & b_{244} \end{bmatrix},$$

$$B_3 = \begin{bmatrix} b_{311} & b_{312} & b_{313} & b_{314} \\ b_{321} & b_{322} & b_{323} & b_{324} \\ b_{331} & b_{332} & b_{333} & b_{334} \\ b_{341} & b_{342} & b_{343} & b_{344} \end{bmatrix}.$$ (12)

According to formulas (6)–(8) and the judgment matrix of the above four evaluations indexes, the weight values of the two-level evaluation indicators of the enterprise’s management staff can be calculated. Combined with formula (10), the performance appraisal results of the enterprise’s management staff can be calculated. Using this performance appraisal method can objectively and fairly get the evaluation results of enterprise management staff, which has a positive effect on stimulating the work enthusiasm of management staff, improving the sense of belonging and well-being. At the same time, it can also activate the working atmosphere of the enterprise and improve the vitality and market competitiveness of the enterprise.

### 3.3. Enterprise Operation Forecast after Optimization of Management Staff Performance Appraisal System

In view of the shortcomings of the current performance appraisal system for management employees in an enterprise, the previous article analyzed the current performance appraisal characteristics, business scope and market position of the enterprise are analyzed, and the construction and
optimization method of the performance appraisal system for enterprise management employees based on KPI indexes is proposed.

Figures 11 and 12, respectively, show that the market share forecast and earnings forecast of the two types of cars of the enterprise mainly engaged in the next five years after the optimization of the enterprise management staff performance appraisal system.

Figures 11 and 12 show that, after the optimization of the performance appraisal system for the management staff of the enterprise, (1) market share of the two types of automobiles mainly operated by the enterprise and the profitability of the enterprise have been steadily improved, indicating that the market competitiveness of the enterprise has been effectively improved. (2) In combination with the comparison of Figures 9 and 10, the market share of the two types of automobiles mainly operated by the enterprise in 2002, and the only small increase in enterprise profits, it shows that the enterprise has a certain adaptation period for the adjustment of the performance appraisal system.

4. Conclusions

In this paper, the characteristics and related research status of enterprise staff performance appraisal was combined, and the deficiencies of current enterprise management staff performance appraisal are pointed out. Based on the analysis of the structure, job responsibilities, and functions of enterprise management staff, the construction and optimization method of enterprise management staff performance appraisal system based on KPI was put forward. Finally, an automobile enterprise was taken as an example, and its shortcomings of the current performance appraisal of the enterprise were analyzed. Applying the process results of the enterprise management employee performance appraisal system based on KPI studied in this paper, establishing a diversified management employee performance appraisal team, putting forward a diversified and multilevel enterprise management employee performance appraisal index system, and optimizing the enterprise management employee performance appraisal system. Based on the operation of the enterprise in the past five years, the profit forecast of the enterprise in the next five years and the market share of the two types of automobiles mainly operated by the enterprise were forecasted after the optimization of the performance appraisal system of the management staff. The results show that, after the optimization of the performance appraisal system of the management staff, the enthusiasm of the management staff has been improved, and the vitality and market competitiveness of the enterprise have been enhanced.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The author declares no conflicts of interest.

Acknowledgments

This work was supported by 2019 Young Innovative Talents Project of Colleges and Universities in Guangdong Province: Research on the positioning and transformation development path of small and medium-sized enterprises in Dongguan under the background of Guangdong, Hong Kong, and Macao Dawan district (no.: 2019WQNCX130).

References


