Impact of Reward and Recognition System on Employee Performance Level of Small Enterprises in Haryana

Punam Bizla¹, Dr. Ajay Poddar²

¹Ph.D. Scholar, Department of Commerce, Om Sterling Global University, Hisar, Haryana, India
²Professor, Department of Commerce, Om Sterling Global University, Hisar, Haryana, India

Abstract:
In the study titled "Impact of Reward and Recognition System on Employee’s Performance Level of Small Size Enterprises in Haryana State," an investigation into the interplay between rewards, recognition, and employee performance in small-sized enterprises was conducted. The study collected data from 312 respondents out of an intended 500, and these findings were used to derive valuable insights through descriptive statistics and exploratory factor analysis (EFA). The results indicated that respondents generally held positive awareness and perceptions regarding rewards, recognition, and organizational systems. EFA revealed that eight principal components explained a substantial 84.90% of the variance in the dataset, suggesting their pivotal role in understanding the underlying patterns. However, it’s essential to acknowledge the limitation that the results pertain exclusively to the participating respondents, and non-responses or technical issues were not represented, warranting consideration of potential biases in the interpretation. This research sets the stage for further exploration into the complex dynamics of employee perceptions and their connection with organizational practices in small-sized enterprises.

Keywords: Reward, Recognition, Employee.

Introduction
In the current dynamic and intensely competitive economic environment, companies are coming to understand that their most precious resource is their own people. The performance of employees has become a crucial factor in accomplishing organisational goals, maintaining expansion, and cultivating a competitive advantage in the marketplace. Acknowledging the vital function performed by workers, establishments have endeavoured to find inventive methods for inspiring and involving their staff. Among the tactics used, incentive and recognition programmes have become well-known as crucial elements of HRM procedures [1].

In order to provide a thorough and nuanced awareness of how reward and recognition systems influence and improve individual and team performance in the workplace, this research paper sets out on a broad exploration of this complex relationship. The purpose of this study is to examine the various facets of reward and recognition strategies, as well as their broader implications for the development of organisations. This research attempts to shed light on the complexities of this important area of HRM by exploring the components that make up successful reward and recognition programmes.
The concept of rewarding and recognizing employee contributions is rooted in the principles of motivation and the psychology of human behavior [2, 3, 4]. Individuals are inherently driven by the desire for appreciation and acknowledgment of their efforts. Therefore, organizations have adopted reward and recognition systems as strategic tools to align individual and team efforts with the overarching goals of the organization [5, 6].

Reward systems encompass a spectrum of incentives, both monetary and non-monetary, offered to employees in acknowledgment of their contributions and achievements. Monetary rewards may include bonuses, pay raises, or profit-sharing programs, while non-monetary rewards can take the form of flexible work hours, professional development opportunities, or public recognition. On the other hand, recognition programs involve acknowledging and celebrating employee achievements through praise, awards, and public acknowledgments. These programs foster a culture of appreciation and reinforce the idea that employees' efforts are valued. The relationship between effective reward and recognition systems and enhanced employee performance is a dynamic and symbiotic one. Well-structured systems not only motivate employees to meet and exceed performance expectations but also foster a sense of loyalty, commitment, and job satisfaction. When employees feel recognized and rewarded for their contributions, they are more likely to remain engaged and devoted to their work, resulting in increased productivity and a higher level of commitment to the organization's success.

Furthermore, reward and recognition systems can significantly impact team dynamics and collaboration within the workplace. They promote a sense of camaraderie and mutual support, encouraging employees to work collaboratively to achieve common goals. This teamwork often leads to improved overall organizational performance. In light of these considerations, the research in this paper aims to examine the nuanced aspects of reward and recognition systems and how they influence the performance levels of individual employees, teams, and the organization as a whole. This research will involve a comprehensive review of existing literature, case studies, and empirical data to provide a well-rounded understanding of the subject. By gaining deeper insights into the impacts of reward and recognition systems on employee performance, this research intends to assist organizations in designing and implementing more effective strategies to motivate and engage their workforce. Ultimately, it is our hope that this study will contribute to the enhancement of employee performance and, consequently, the achievement of organizational goals in today's competitive and dynamic business environment.

The main significance of the research is to study the impact of reward and recognitions on employee’s performance level of small size enterprises. Beside this, to examine the important factors of motivation this leads in influencing the employee’s motivation and in boosting up their performance level. It is often quite difficult to inculcate what is actually most beneficial and motivating aspect for creative workforce, but having knowledge of those uncertainties would surely terms to be the advantage for the companies. In addition to this it would also be beneficial for the organization management to understand in actual means what type of recognition and reward system would term to be suitable in developing motivation aspect within creative workers.

The outcome of this research further can be used by others futures researchers in order to sphere up the rewarding system such as frequency, complexity and their effect on job satisfaction and performance level of employees.

Many studies have attempted for example Abraham Maslow’s presented the most popular theory which specify that human depend basically on five need and they are physiological need, safety need, love and belongingness need, esteem need and last is self-actualization need, and each need get fulfilled step
wise right from top to bottom for this reason it is known as hierarchical needs of Maslow’s [7]. According to Inskeep and Hall [8] on Reward and recognition concepts that support talent and knowledge management initiatives, argued on fact that in an organization there exist knowledgeable and talented workers so to keep then for long period of time it’s the core responsibility of HR of firm to come up with reward and recognition concepts. Like by promotion, increasing pay scale, commission, compensation, appreciation, sick leave, travel allowances, insurance allowances, guidance from time to time whenever worker face issues while performing task etc. According to the Michael Armstrong book name “A Handbook of Employee Reward Management and Practice” [9] specifically focuses only on prize administration aspect. Beside this it also focused on themes such as the relationship that exist between human resource cost and motivation, types of reward, techniques to build effective creation of reward strategies and salary structure, methods of job evaluation techniques etc. Moreover and International journal of business and management which has been published by Danish and Usman [10] has studied on Impact of reward and recognition on job satisfaction and motivation. In his journal he talks mainly about the relation that exist between rendering reward system and job satisfaction level as well as on the relation that exist between Recognition of employees performance from time to time and their motivation level.

From the above review of literature it can be specified that many researcher have carried out research on the topic impact of reward and recognition system on employees. As many researchers have carried out research on MNCs companies, IT sector companies. Hence, here in my research I have plan to carry out research on Small Size Enterprises, as they play the major role in boosting up economic growth and most importantly I will try to do the research more minutely.

Material and methods

The schedule was originally designed for 500 potential respondents; however, only 312 respondents provided usable data for the analysis presented in this chapter. The fact that some individuals did not respond or encountered technical issues may have introduced a potential source of bias or non-response error in the study. It’s crucial to recognize that the results and conclusions derived from the analysis pertain exclusively to the 312 respondents who successfully participated, and any insights should be interpreted with the awareness that the non-respondents or those affected by technical glitches are not represented in the findings. Researchers should consider the potential impact of this non-response or technical issues on the overall validity and generalizability of the study's results. After collecting the data, every type of data was coded for statistical analysis. The objective of coding is to create variables from information with an eye towards the analysis. The data was first entered in Ms-Excel and further the data was exported to SPSS-26 for further analysis. The following are the main methods to the research challenge, along with their methodologies:

Descriptive Statistics

A rational and understandable framework for numerical data is provided by descriptive statistics. To evaluate a big number of participants in a research study, may use a variety of procedures or only one measure. Large volumes of data can be interpreted more easily with descriptive statistics. Each descriptive statistic condenses a lot of data into a manageable quantity of language. Researchers employed maximum, minimum, mean, standard deviation, skewness, and kurtosis studies to describe the pattern [11].
Mean:
Arithmetic mean or simple mean of a set of observation is their sum divided by the number of observation, e.g, the arithmetic mean $x$ of $n$ observation $x_1, x_2, x_3, \ldots, x_n$ is given by
$$\bar{x} = \frac{1}{n} \sum_{i=1}^{n} x_i.$$ In case of grouped data,
$$\sum_{i=1}^{n} f_i x_i,$$
where $x_i$’s are the mid values of the classes and $f_i$’s are the respective frequencies.

Among the three means viz. arithmetic mean (AM), geometric mean (GM) and harmonic mean (HM), AM is most widely used for its simplicity in calculation and explanation.

Standard deviation:
It is more accurate and detailed estimate of dispersion because an outlier can greatly exaggerate the range. It is expressed by
$$\sigma = \sqrt{\frac{\sum_{i=1}^{n} (x_i - \overline{x})^2}{N}}.$$ Where, $x_i$ = value of the variable for the $i^{th}$ observation
$\overline{x}$ = the mean or average
$N$ = the number of values

Skewness:
Skewness is defined as a lack of symmetry. We investigate skewness to get a sense of the form of the curve we can draw with the data we have. The coefficient of skewness is calculated based on moments.
$$S_k = \frac{\sqrt{\beta_1 (\beta_2 + 3) - 2}}{2(5 \beta_2 - 6 \beta_1 - 9)},$$ where $\beta_1 = \frac{m_3}{m_2^2}$, $\beta_2 = \frac{m_4}{m_2^2}$.
and $m_2$, $m_3$ and $m_4$ are the $2^{nd}$, $3^{rd}$ and $4^{th}$ central moments respectively.

Kurtosis:
It means “flattness or peakness” of the frequency curve. It is measured by the coefficient $\beta_2$ and its deviation $\gamma_2$ given by $\beta_2 = \frac{\mu_4}{\mu_2^2}$, $\gamma_2 = \beta_2 - 3$. Skewness and kurtosis are the two opposite phenomena of frequency distribution. If skewness refers to horizontal property the kurtosis refers to vertical property of the distribution.

Exploratory Factor Analysis
Kaiser-Meyer-Olkin (KMO) Test
The KMO statistic is calculated using the following formula:
$$KMO = \frac{(\sum (correlation between variables))^2}{(\sum (correlation between variables))^2 + \sum (off-diagonal correlation))^2}.$$ Where:
$\Sigma$ represents the summation across all variables.
"correlation between variables" is the pairwise correlation between all variables.
"off-diagonal correlation" represents the average of all off-diagonal correlations in the correlation matrix. The KMO value ranges from 0 to 1, where higher values indicate better suitability for PCA. A KMO value above 0.6 is generally considered acceptable.

**Bartlett's Test of Sphericity:**
Bartlett’s test is based on the chi-squared statistic and is used to test the hypothesis that the variables are uncorrelated. The formula for the test statistic is:

\[ \chi^2 = -\log(\det(R)) \]

Where,  
\( \chi^2 \) is the test statistic.  
\( \det(R) \) is the determinant of the correlation matrix \( R \).
The test statistic follows a chi-squared distribution, and you can calculate its p-value to determine whether the variables are significantly correlated. Calculate the eigenvalues for each factor extracted in EFA. Eigenvalues represent the amount of variance explained by each factor. Sort the eigenvalues in descending order, as they determine the order of importance of the factors.

**Results and discussion**

**Descriptive Statistics**
Descriptive statistics describe, show, and summarize the basic features of a dataset found in a given study, presented in a summary that describes the data sample and its measurements. It helps analysts to understand the data better. Descriptive statistics represent the available data sample and do not include theories, inferences, probabilities, or conclusions. That’s a job for inferential statistics. Each point of reward and recognition were showed in table 1 and explained below.

**Awareness of Reward Concept:** Respondents, on average, have moderate awareness of the concept of rewards (mean: 4.64), with a slightly left-skewed distribution, indicating generally positive awareness.

**Awareness of Recognition Concept:** On average, respondents have a relatively higher awareness of the concept of recognition (mean: 4.96), with a left-skewed distribution, suggesting positive awareness.

**Positive Relationship Between Reward, Recognition, and Performance:** Respondents, on average, strongly believe in a positive relationship between reward, recognition, and their performance (mean: 5.68), with a strongly left-skewed distribution, indicating significant agreement.

**Organizational Reward System:** On average, respondents feel that their organization provides a fair reward system (mean: 5.06), with a slightly left-skewed distribution, suggesting generally positive sentiments.

**Recognition During Work Hours:** Respondents, on average, feel moderately recognized during working hours (mean: 2.70), with a slightly right-skewed distribution, indicating mixed opinions, leaning towards lower recognition.
Appreciation for Work: On average, respondents feel moderately appreciated for their work (mean: 4.13), with a left-skewed distribution, indicating stronger agreement with appreciation.

Genuineness of Organizational Reward System: Respondents, on average, believe that their organization genuinely follows a reward system (mean: 3.96), with a left-skewed distribution, suggesting strong agreement.

Supervisor Guidance: On average, respondents feel moderately guided by their supervisors (mean: 3.55), with a slightly left-skewed distribution, indicating a positive perception of guidance.

Encouragement for Training Programs: Respondents, on average, feel strongly encouraged to join training programs (mean: 4.11), with a left-skewed distribution, indicating strong encouragement.

Impact of Reward System on Performance and Motivation: On average, respondents believe in a positive impact of the reward system on their performance and motivation (mean: 3.85), with a left-skewed distribution, indicating a moderate level of agreement.

Impact of Recognition System on Performance and Motivation: On average, respondents feel moderately about the impact of the recognition system on their performance and motivation (mean: 3.55), with a slightly left-skewed distribution.

Impact of Reward and Recognition on Overall Development: On average, respondents think there exists a positive impact of reward and recognition on their overall development (mean: 3.98), with a left-skewed distribution, indicating a moderate level of agreement.

Open and Trustworthy Working Environment: Respondents, on average, perceive the working environment as open and trustworthy (mean: 3.85), with a left-skewed distribution, suggesting a moderate level of agreement.

Effect of Recognition on Skills and Competencies: On average, respondents feel that the recognition concept helps them upgrade their skills and competencies (mean: 3.45), with a slightly left-skewed distribution.

Satisfaction with Payments: On average, respondents are moderately satisfied with the payments they receive for their efforts (mean: 4.75), with a slightly left-skewed distribution.

Differentiation Based on Caste: On average, respondents perceive little differentiation based on the caste system (mean: 3.36), with a nearly symmetric distribution.

Effect of Reward and Recognition on Self-Centeredness: On average, respondents believe that the reward and recognition concept doesn't make them self-centered individuals (mean: 3.66), with a slightly left-skewed distribution.
Desire for Long-Term Retention: On average, respondents express a desire for long-term retention if their organization provides a strong rewards system (mean: 3.68), with a slightly left-skewed distribution.

Communication with Subordinates: On average, respondents feel relatively free to communicate with their subordinates (mean: 3.74), with a slightly left-skewed distribution.

Provision of Medical Facilities: On average, respondents feel that they are provided with medical facilities when injured on duty (mean: 3.66), with a slightly left-skewed distribution.

Guidance by Leaders: On average, respondents believe they are properly guided by their leaders when stuck on tasks (mean: 5.45), with a left-skewed distribution indicating strong agreement.

Positive Job Position Feelings: On average, respondents have a positive feeling toward their job position (mean: 5.19), with a slightly left-skewed distribution.

Impact of Reward and Recognition on Organizational Development: On average, respondents perceive a positive impact of reward and recognition on the organization's development as a whole (mean: 5.40), with a left-skewed distribution suggesting strong agreement.

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Mini Stat</th>
<th>Maxi Stat</th>
<th>Mean Stat</th>
<th>SD</th>
<th>Skewness Statistic</th>
<th>Std. Error</th>
<th>Kurtosis Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are you aware about the concept of reward?</td>
<td>1.000</td>
<td>7.000</td>
<td>4.640</td>
<td>1.733</td>
<td>-0.248</td>
<td>0.327</td>
<td>-0.375</td>
<td>0.644</td>
</tr>
<tr>
<td>2. Are you aware about the concept of recognition?</td>
<td>1.000</td>
<td>7.000</td>
<td>4.960</td>
<td>1.698</td>
<td>-0.674</td>
<td>0.327</td>
<td>0.256</td>
<td>0.644</td>
</tr>
<tr>
<td>3. Does there exist positive relationship between reward, recognition and your performance level?</td>
<td>1.000</td>
<td>7.000</td>
<td>5.680</td>
<td>1.578</td>
<td>-1.518</td>
<td>0.327</td>
<td>2.436</td>
<td>0.644</td>
</tr>
<tr>
<td>4. Does your organization provide the reward system to you for the work you do?</td>
<td>1.000</td>
<td>7.000</td>
<td>5.060</td>
<td>1.622</td>
<td>-0.460</td>
<td>0.327</td>
<td>-0.935</td>
<td>0.644</td>
</tr>
<tr>
<td>5. Are you being recognized during working hours of your organization?</td>
<td>1.000</td>
<td>5.000</td>
<td>2.700</td>
<td>1.526</td>
<td>0.366</td>
<td>0.327</td>
<td>-1.345</td>
<td>0.644</td>
</tr>
<tr>
<td>6. Are you being appreciated for the work that you perform?</td>
<td>1.000</td>
<td>5.000</td>
<td>4.130</td>
<td>1.194</td>
<td>-0.969</td>
<td>0.327</td>
<td>-0.216</td>
<td>0.644</td>
</tr>
<tr>
<td>7. Does your organization genuinely follow the reward system?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.960</td>
<td>0.999</td>
<td>-1.124</td>
<td>0.327</td>
<td>1.388</td>
<td>0.644</td>
</tr>
<tr>
<td>Question</td>
<td>Value1</td>
<td>Value2</td>
<td>Value3</td>
<td>Value4</td>
<td>Valuation1</td>
<td>Valuation2</td>
<td>Valuation3</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>8. Does your supervisor guide you from time to time?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.550</td>
<td>1.309</td>
<td>-0.534</td>
<td>-0.805</td>
<td>0.644</td>
<td></td>
</tr>
<tr>
<td>9. Are you being encouraged to join the training program to improve your competencies and skills?</td>
<td>1.000</td>
<td>5.000</td>
<td>4.110</td>
<td>1.050</td>
<td>-1.374</td>
<td>0.327</td>
<td>1.608</td>
<td>0.644</td>
</tr>
<tr>
<td>10. Is there a positive impact of reward system on your performance and motivation level?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.850</td>
<td>1.026</td>
<td>-1.016</td>
<td>0.327</td>
<td>0.848</td>
<td>0.644</td>
</tr>
<tr>
<td>11. Is there a positive impact of recognition system on your performance and motivation level?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.550</td>
<td>1.309</td>
<td>-0.534</td>
<td>0.327</td>
<td>-0.805</td>
<td>0.644</td>
</tr>
<tr>
<td>12. Do you think there exist positive impact of reward and recognition on yours overall development?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.980</td>
<td>1.047</td>
<td>-1.111</td>
<td>0.327</td>
<td>0.990</td>
<td>0.644</td>
</tr>
<tr>
<td>13. Is the working environment open and trustworthy?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.850</td>
<td>1.099</td>
<td>-1.045</td>
<td>0.327</td>
<td>0.749</td>
<td>0.644</td>
</tr>
<tr>
<td>14. Does Recognition concept help you to upgrade your skills and competencies?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.450</td>
<td>1.136</td>
<td>-0.410</td>
<td>0.327</td>
<td>-0.232</td>
<td>0.644</td>
</tr>
<tr>
<td>15. Are you satisfied with the payments you receive for the efforts you give for the company?</td>
<td>1.000</td>
<td>7.000</td>
<td>4.750</td>
<td>1.568</td>
<td>-0.665</td>
<td>0.327</td>
<td>0.745</td>
<td>0.644</td>
</tr>
<tr>
<td>16. Are you being differentiated from other employees on the basis of caste system?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.360</td>
<td>1.302</td>
<td>-0.057</td>
<td>0.327</td>
<td>-1.477</td>
<td>0.644</td>
</tr>
<tr>
<td>17. Does Reward and Recognition concept help you to become self centered individual?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.660</td>
<td>0.960</td>
<td>-0.342</td>
<td>0.327</td>
<td>-0.137</td>
<td>0.644</td>
</tr>
<tr>
<td>18. Do you like to get retained for longer period of time if your organization continuously provides you with best rewards system for better performance?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.680</td>
<td>1.015</td>
<td>-0.339</td>
<td>0.327</td>
<td>-0.441</td>
<td>0.644</td>
</tr>
<tr>
<td>19. Do you feel free enough to communicate with yours subordinates?</td>
<td>1.000</td>
<td>5.000</td>
<td>3.740</td>
<td>0.984</td>
<td>-0.445</td>
<td>0.327</td>
<td>-0.175</td>
<td>0.644</td>
</tr>
</tbody>
</table>
20. Are you being provided with medical facility whenever you get injured while performing your duties?

|                | 1.000 | 5.000 | 3.660 | 1.073 | -0.726 | 0.327 | 0.315 | 0.644 |

21. Whenever you get stuck while performing your task are you being guided properly by your leaders?

|                | 1.000 | 7.000 | 5.450 | 1.475 | -0.913 | 0.327 | 1.343 | 0.644 |

22. Is there a positive feeling towards your job position?

|                | 1.000 | 7.000 | 5.190 | 1.532 | -0.564 | 0.327 | 0.367 | 0.644 |

23. Do there exist positive impact of reward and recognition system on organization development as whole?

|                | 1.000 | 7.000 | 5.400 | 1.561 | -0.761 | 0.327 | 0.499 | 0.644 |

Exploratory Factor Analysis: Factor analysis is used to categorize variables, or factors, that describe the outline of associations within a set of observed variables. It is a technique applied for reducing data to recognize a minimum number of factors that explain the maximum of the variance found in a large number of manifest variables. The hypothesis for the study can also be generated through EFA (Hair, et al., 2010). The results of EFA are explained with

1. KMO & Bartlett’s Test, which is test Adequacy of Sample:

   The “Bartlett's Test of Sphericity”, is used to examine if k samples have identical variances. Identical variances across samples are known homogeneity of variances Usually, the value of Kaiser-Meyer Olkin (KMO) is “0 < KMO < 1. If, KMO > 0.05,” the sample is satisfactory, and we may advance with the Factor Analysis. In general, the “KMO value >0.6” is good. Bartlett’s Test of Sphericity considering a 95-percent level of Significance,” \( \alpha = 0.05 \).” The p-value (Sig.) of 0.00 < 0.05; therefore, the Factor Analysis is effective to test the null hypothesis that the correlation matrix has an independence matrix. If “p < \( \alpha \),” we, therefore, discard the null hypothesis \( H_0 \) and accept the alternative hypothesis (H1) that there may be a statistically noteworthy interrelatedness between variables as depicted in table 2.

   Table 2 KMO and Bartlett’s Test

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett’s Test of Sphericity</td>
<td>0.694</td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>3975.757</td>
</tr>
<tr>
<td>df</td>
<td>990</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.000</td>
</tr>
</tbody>
</table>

2. Eigen-values:

   The Eigen values indicate the modifications of the factors. The output table is named a Total Variance explained. The initial components are the actual numbers of the variables used in the factor analysis, whereas the total column covers the Eigenvalue. In the table 3, the value of first factor will always be highest Eigen values as it explains the maximum variance. Similarly, factor next to first explain the left-over variance and so on with other following factors of same variable. The value of last factor becomes the least, which means that the factors are explaining a very lesser left-out part. The percentage of variance
designates the percent of total variance defined by each factor, and the cumulative percentage explains the collective percentage of variance labelled by the current and the scheduled factors. The rotation sums of the squared loading signify the distribution of the variance after the varimax rotation with Kaiser Normalization. The “varimax rotation” attempts to maximize the variance of each of the factors. **Eigen Values >= 1**

**Table 3 Total Variance Explained**

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>PC 1</td>
<td>8.770</td>
<td>0.000</td>
<td>100.000</td>
</tr>
<tr>
<td>PC 2</td>
<td>0.001</td>
<td>0.003</td>
<td>99.996</td>
</tr>
<tr>
<td>PC 4</td>
<td>2.930</td>
<td>6.512</td>
<td>73.169</td>
</tr>
<tr>
<td>PC 5</td>
<td>1.804</td>
<td>4.008</td>
<td>77.177</td>
</tr>
<tr>
<td>PC 6</td>
<td>1.393</td>
<td>3.097</td>
<td>80.274</td>
</tr>
<tr>
<td>PC 7</td>
<td>1.077</td>
<td>2.393</td>
<td>82.667</td>
</tr>
<tr>
<td>PC 8</td>
<td>1.009</td>
<td>2.242</td>
<td>84.909</td>
</tr>
</tbody>
</table>

The Principal Component Analysis (PCA) yielded insightful results, with the extraction of eight principal components (PC 1 to PC 8) from the original dataset containing 23 variables. While PC 1 exhibited the highest initial eigenvalue at 8.770, signifying substantial variance in the data, it was associated with a minimal percentage of explained variance (0.000%). Similarly, PC 2, with an initial eigenvalue of 0.001, contributed only 0.003% to the cumulative variance, indicating limited relevance. However, as we progressed to PC 3 through PC 8, the initial eigenvalues remained substantial, and the cumulative percentage of explained variance steadily increased. By the time we reached PC 8, the cumulative percentage of variance reached an impressive 84.909%, suggesting that these eight principal components are pivotal in comprehending the underlying structure and patterns within the dataset.

These findings imply that a considerable portion of the dataset's variance can be effectively captured and analyzed by focusing on these eight principal components, rendering them the primary factors responsible for the variance within the 23 variables considered in this analysis. Consequently, further exploration and analysis may be best directed towards these influential components for a more streamlined and meaningful investigation of the data.

**EFA Determinants of Complete scale**

The results of the statistical analysis you've provided pertain to a factor analysis, a powerful data reduction technique commonly used in the field of statistics and social sciences. Let's break down the key findings and their implications. First, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is a statistic that assesses the suitability of your data for factor analysis. A KMO value of 0.694 indicates that your dataset is moderately suitable for this analysis, meaning that there is some shared variance among your variables that can be extracted and interpreted as underlying factors. The Bartlett’s Test of Sphericity is used to test the hypothesis that the correlation matrix of your variables is an identity matrix, which would suggest that your variables are unrelated. With an alpha (α) of 0.00, it seems this test has produced
a significant result, implying that your variables are not unrelated. This supports the idea that factor analysis can be applied to your dataset.

The Chi-Square value of 3975.757 with 990 degrees of freedom is likely related to the significance of your factor analysis. It's common in factor analysis to examine the chi-square statistic for model fit. In your case, it appears you have a large chi-square value, which might suggest that the model might not fit perfectly, but it could be influenced by the large sample size.

Eigenvalues play a crucial role in factor analysis. Eigenvalues greater than or equal to 1 are typically used as a criterion for retaining factors. It's mentioned that components with eigenvalues >1 have been isolated, indicating that these factors are considered significant and contribute meaningfully to the understanding of your data.

The fact that the components explain 84.909% of the total variance signifies that the factors derived from the analysis are collectively capturing a large proportion of the variability in your dataset. This suggests that the factors extracted are a meaningful representation of your data. Finally, the mention of varimax rotation with Kaiser Normalization is a technique often employed to simplify and improve the interpretability of factor loadings. It aims to maximize the variation of each factor, which can make it easier to understand and label the factors based on their associations with the original variables.

Conclusion

From the above facts provided descriptive statistics offer valuable insights into the respondents' perceptions and beliefs regarding concepts like rewards, recognition, organizational systems, and workplace dynamics. These statistics serve as a fundamental foundation for the subsequent exploratory factor analysis (EFA), a method aimed at uncovering latent structures within the dataset. The EFA results, based on Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity, confirm the suitability of the data for factor analysis. The KMO value of 0.694 suggests that the dataset contains shared variance that can be extracted into meaningful factors. Additionally, the significant result of Bartlett's Test underscores the interconnectedness of the variables, reinforcing the appropriateness of factor analysis. Eigenvalues are pivotal in factor analysis, with components having eigenvalues greater than 1 deemed significant. In this analysis, components with eigenvalues exceeding 1 were isolated, indicating their importance in understanding the dataset. These components collectively account for a substantial 84.909% of the total variance, emphasizing their relevance in interpreting the data. The application of varimax rotation with Kaiser Normalization further enhances the interpretability of the factors, making it easier to comprehend their relationships with the original variables. This approach maximizes the variance captured by each factor, aiding in their meaningful characterization.

References


