The Effect of Strategic Thinking on Employees' Performance and Job Satisfaction in Management and Management of Tehran Water and Sewage Company

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Abstract
The purpose of this study is to investigate the effect of strategic thinking on employee performance and job satisfaction in engineering and construction management of Tehran Water and Wastewater Company. Statistical population in this study is all staffs who work in Water and Wastewater Company Engineering and Construction Departments. The population includes 940 staffs of Wastewater Company Engineering and Construction Departments which was calculated 270 people by using Cochran's formula and random sampling method. Goldman's Strategic Thinking Questionnaire (2005), Moghimi and Ramezan’s Employee Performance Questionnaire (2011), and Ghassemi’s Job Satisfaction Questionnaire (2001) have been used in order to collect data. This study is practical in terms of purpose. The research classification is based on the descriptive-survey method. Descriptive statistics (frequency, percentage and graph) and inferential statistics (Kolmogorov-Smirnov test) were used to analyze the data. Structural equations and Pearson correlation coefficient have been used to test the hypotheses and also One-Sample T-Test has been used to answer the sub-hypotheses of the research. Structural equation modeling was used to study the general fit of the research model. Measurement model test in LISREL software includes confirmatory analysis. The results of study in (p<0.05) level show that strategic thinking affects and explains employee performance and job satisfaction. In other words, strategic thinking elements can affect employee performance and job satisfaction.
Key Words: Strategic Thinking, Job Satisfaction, Employee Performance.

Introduction
Today it is a tangible fact that each person in the organizational process must be in its actual position in terms of actual capabilities and abilities and be continually evaluated by various assessments. Thus, effective steps can be taken to achieve the job goals and to improve the human resources situation and to be aware of the shortcomings and deficiencies. Therefore, deploying the right strategic thinking in each organization and creating the initial facility to use logical tools for managers in order to control the job quantity and quality in various areas, includes important issues that are considered in managing each organization as the foundation and basis of work. Applying these tools and creating the right environment for implementing different methods and adapting them to the actual needs of the organization will enable managers to use the available resources in order to increase efficiency and enhance employee performance. As the success of each organization depends on the optimal use of these tools and the creation of coordination and education, it is necessary for organization managers to look for such tools (strategies) and in order to maintain human resources (Alvani, 2003).

It can also be said that in the age of knowledge-based economics, governmental organizations have had a great opportunity to achieve the goals by strategic thinking. Since the organization's monitoring and evaluation of strategic thinking components is a prerequisite for the planning and implementation of employee performance and job satisfaction in the organization, this research examines a form of convergence of these two in terms of the extent to which they are strongly interrelated and argues that job satisfaction is achieved when strategic thinking is balanced.

Research Question
Human resource is the most important knowledge asset of an organization and therefore it is considered as the source of creativity in the organization. Knowledge asset of employees is one of the most influential components of employee performance. Increasing employees' capabilities has a direct effect on improving the organization's financial results. Human resource is a major factor in the organization in terms of power of thinking and creativity, because any kind of productivity, change and improvement in technical and organizational systems and processes is taken place by humans. Using intellectual potential and capabilities of the organization employees which is considered as “Hidden Asset” requires the creation of structures that can lead the capabilities of the organization employees to meet the current and future goals of the organization (Soltani, 2006).

Job satisfaction in work place is a potential major factor that leads to increased employee performance and employee participation and thus improved productivity. Creating an environment that has strategic thinking has many positive effects for organizations. On the contrary, the lack of strategic thinking can be heavy due to the lack of willingness to respond quickly to changes, risk taking due to inappropriate decisions, poor quality of work, and the need for control. Therefore, identifying the causes of strategic thinking and employee performance is a necessity that, by identifying the cause and corrective actions to create it, can lead to the elimination of the disability, and, ultimately, increase productivity and development process in accordance with the standards. Therefore, in this research, it will be tried to identify the causes of lack of strategic thinking and the factors for creating job satisfaction and factors of employee performance which has a direct role in strategic thinking. The causes that are rooted in strategic thinking are highlighted and the contribution of each of their determinants and their effects

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on employee performance and job satisfaction of engineering and construction management staffs and their increasing commitment, and their positive and negative consequences are identified. In general, managers in Tehran Water and Wastewater management and engineering company face difficult situations, problems or challenges in terms of job satisfaction and employee performance, and their duty is to work as much as possible by using available information. Due to the fact that in today's world all information can be accessed, it is undoubtedly only a part of the information is available due to the limited work environment. By using strategic thinking in the organization, managers can overcome these constraints and overcome the routine of everyday tasks and important organizational decisions.

Job satisfaction includes two components: Internal factors (Including rewards, the possibility of progression, health and safety) (Mohammadzadeh, Mehr Vajan, 2001), External factors (Including the immune system and proper equipment) and in general, factors affecting the work environment which also can affect the job satisfaction (Mohammadzadeh, Mehr Vajan, 2001). Increasing the efficiency and productivity of any organization requires the optimal use of all factors affecting the production or the provision of services, and since in each organization the main factor is the human resource, therefore, the organizational productivity and efficiency is also dependent on the employee performance. Ob satisfaction reflects the relative feelings, objective thoughts and behavioral intentions of the employees which contributes to the prediction of employee behavior. Therefore, job satisfaction can be used by presenting the results of past strategies and future employee predictions as part of the evaluations that lead to planning for organizational improvement. It can be said that job satisfaction is more related to the internal and qualitative aspects of the job, such as coordination with talents, challenges, types of cooperation and relationships with others, the reward system based on equity, progress and success, and working environment conditions. Lack of job satisfaction in employees has negative consequences including desertion, absence in work, decreased motivation, disappointment and despar (Mir Kamali, 2007). In this research the effect of strategic thinking on employee performance and job satisfaction in engineering and construction management of Tehran Water and Wastewater Company will be studied.

Research Importance and Necessity
One of the most effective ways to escape from the problems and difficulties of economic and social development is to pay attention to human resources and to make better use of these resources. The special importance of human resources is that it can equip other essential resources for growth and achieve the most possible benefits as the most fundamental factor of production and construction. In order to be among the leading and most successful societies, we need to focus on human resources and its needs. Strategic thinking is one of the available tools to accelerate the correct response to changes and identify these needs. We must also try to develop and empower the human resource and be aware of its needs. Also, in order to enable managers to achieve the goals and objectives of the units and consequently the organizational goals, they need to be aware of the needs and desires of the employees. Considering the mentioned issues, the importance and necessity of this research will be from the perspective that investigating employee performance and job satisfaction with an emphasis on strategic thinking can make a major leap in employee performance and job satisfaction in the engineering and construction management of Tehran Water and Wastewater Company. Therefore, it should be acknowledged that employee performance is not achieved without the use of knowledge and skills. Since employee performance has a wide range of benefits, implementing this research in the engineering and construction management of Tehran Water and Wastewater Company, benefits such as quality improvement, better services to the employees, increasing job satisfaction and increasing the learning curve of knowledge and skills are achieved. By identifying strategic thinking in the engineering and construction management of Tehran Water and Wastewater Company as the basic elements in progressing the goals of engineering and construction management, it can have a profound effect on the development and improvement of the organizational efficiency.

Main Purpose of the Research
Investigating the Effect of Strategic Thinking on Employee Performance and Job Satisfaction in Engineering and Construction Management of Tehran Water and Wastewater Company.

Secondary Purposes of the Research
1. Investigating the Effect of Foresight on Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

Research Hypotheses
Main Hypothesis
Strategic Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

Secondary Hypotheses
1. Foresight Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.
2. Systematic Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.
3. Intelligent Opportunism Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.
4- Conceptual Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

**Literature Review**

In the New Age the management knowledge is more than ever important for continuous change. An organization that does not connect itself with the waves of change is fatal. In a change storm, the proper strategy is that ensures the survival of the organization. Strategic thinking helps managers to formulate strategies for survival and success. Strategic thinking in today's unpredictable environment is an appropriate approach to organizational leadership. According to Minzberg, reinforcing strategic thinking leads to better strategies. He believes that managers with strategic thinking capabilities are able to persuade other employees to find innovative solutions for the success of the organization (Minzberg, 1994).

In this way, strategic thinking can be considered as a prologue to the future design of the organization (Wakabayeshi et al, 2001).

Jamali (2015) conducted a study as “Investigating Intelligent Opportunism and Performance among Iranian Glass Industry Managers”. This study is descriptive and correlational type and in terms of purpose, it is practical. The statistical population of this study is 80 managers of Glass Industry which were evaluated according to the Goldman (2005) model. The findings showed that Intelligent Opportunism has a good effect on managers’ performance.

Mir Mohammad Ali Tajrishi (2015) conducted a study as “Investigating Systematic Thinking and Employee Performance Improvement of Central Branches of Sepah Bank in Tehran”. This study is descriptive and correlational type and in terms of purpose, it is practical. The statistical population of this study is 621 people and the sample size is 237 people by using stratified random sampling. The results show that by confirming all hypotheses with 95% probability, there is a significant relationship between systematic thinking and employee performance improvement of central branches of Sepah Bank in Tehran.

Kiani (2015) conducted a study as “Investigating Systematic Thinking and Job Satisfaction in Employees of Iranian Insurance Company”. This study is descriptive and correlational type and in terms of purpose, it is practical. The statistical population of this study is 490 people and the sample size is 237 people by using simple random sampling. The results show that there is a significant relationship between systematic thinking and job satisfaction in employees of Iranian Insurance Company.

Ajdahan (2015) conducted a study as “Investigating Conceptual Thinking and Employee Performance Improvement of Fasa Gas Company”. This study is descriptive and correlational type and in terms of purpose, it is practical. The statistical population of this study is 280 people and the sample size is 190 people by using simple random sampling. The results show that there is a significant relationship between conceptual thinking and employee performance improvement in Fasa Gas Company.

Sotani (2011) in a study as “Strategic Thinking of Infrastructure Managers of Transformation and Excellence of Organizations” concluded that managers with strategic thinking are constantly producing strategy and strategy is an innovation.

Ghafouri (2010) in a study among employees of Isfahan Municipality shows that there is a positive and significant correlation between organizational justice and different areas of organizational commitment and job exhaustion and job satisfaction.

Varca (2014) found that employees with higher levels of job satisfaction and job skills had higher productivity than their colleagues.

Wanprag et al (2011) show that there is a relationship between job satisfaction and public health, and job satisfaction increases by increasing age, equipment and salaries.

Based on the results of the study by Lussier (2009), it is proposed that job dissatisfaction is a clear indication of stress. Also the results of numerous researches show that if managers can create an environment that makes people feel pleasant about them, they can increase their self-esteem and create a satisfactory level of job satisfaction. The first step is to avoid harming or humiliating others which means that to avoiding something that causes the person's self-concept to gradually weaken and the environment for them to be filled with frustration and stress. In contrast, if there are ways to develop genuine relationships based on respect and interest and actively help individuals to improve their self-image, job satisfaction becomes increasingly commonplace in people.

Morgan (2009) found some results in a research on employees of an official organization: Addiction to work leads to increased blood pressure, stress and occupational stress and job dissatisfaction.

Skat et al (2004) in a study as “Multi-Level of Empowerment, Performance and Satisfaction” concluded that there is a positive relationship between empowerment, performance and satisfaction (Quoted by Mir Aghaei, 2007).

Choi and Lee (2003) investigated knowledge management strategies in 54 Korean companies and divided them into four static, human-based, system-based and dynamic strategies. The results show that dynamic strategy leads to higher performance of organizations.

**Conceptual Model**

**Research Analytical Model**

Each organization with its special and unique strategy creates a different context and specific requirements for employee performance. Employees, according to the assumptions of strategic thinking of their unit, perform a particular function for the organization. Employee performance and job satisfaction are the main issues in all areas of the organization and affect the organization's fate. Therefore, according to the certain strategic assumptions, strategic thinking is the basis of employee performance and job satisfaction, and thus affects the effectiveness and efficiency of the organization.
In this study, the effect of strategic thinking on employee performance and job satisfaction is investigated. The researcher is looking for an appropriate strategy framework that provides the best background for creating employee performance and job satisfaction, and provides the basis for bringing the organization to a constructive level, which results in an organization appropriate in growth, innovation, critique and progression. In order to achieve educational and organizational desirability and also creating favorable conditions for the development of strategic thinking and job satisfaction, this hypothetical model was considered between strategic thinking, employee performance and job satisfaction.

Figure 2- The Effect of Strategic Thinking on Employee Performance and Job Satisfaction (Adopted from Goldman’s Strategic Thinking (2005), Moghimi and Ramezan’s Employee Performance and Ghassemi’s Job Satisfaction)
Research Methodology

Methodology

This study is practical in terms of purpose. The research classification based on the method is descriptive-survey. Field method has been used in this research.

Statistical Population and Sample

Considering that the purpose of this study is to investigate the effect of strategic thinking on employee performance and job satisfaction in engineering and construction management of Tehran Water and Wastewater Company, The mentioned population includes 940 employees of engineering and construction management of Tehran Water and Wastewater Company based on the data of this organization and by using random sampling and Cochran formula, 270 people were calculated. About 262 people responded to the questionnaires completely which the observed data from these people were analyzed.

\[
n = \frac{Z^2 p q}{d^2 \left(\frac{1}{N} \right) + \frac{Z^2 p q}{d^2 - 1}}
\]

In the formula above:
- \( n \): Sample Size
- \( N \): Statistic Population
- \( Z \): Normal variable value of standard unit
- \( P \): The proportion of the population with a certain characteristic
- \( q \): (1 - \( P \)) The proportion of the population without a certain characteristic
- \( d \): Confidence Degree or Optimal Probability

As a result, the sample size was calculated 270 people by the above formula and according to the calculations.

Data Collection Method

Data collection methods are divided into two groups of library and field methods.

Data Collection Tools

Goldman’s Strategic Thinking Questionnaire (2005), Moghimi and Ramezan’s Employee Performance Questionnaire (2011), and Ghassemi’s Job Satisfaction Questionnaire (2001) have been used in order to collect data.

Validity and Reliability of Questionnaires

The validity of the measurement tool is the correctness of the research tool to measure the desired feature. Since all three questionnaires were standard, they had high content validity. In addition to being standardized, the questionnaires were examined by opinion of the supervisors and opinion of 3 experts in the statistical population.

Data Analysis Tools and Methods

Descriptive statistics (frequency, percentage and graph) and inferential statistics (Kolmogorov-Smirnov test) were used to analyze the data. Structural equations and Pearson correlation coefficient have been used to test the hypotheses and also One-Sample T-Test has been used to answer the sub-hypotheses of the research. Structural equation modeling was used to study the general fit of the research model. Measurement model test in LISREL software includes confirmatory analysis.

Data Analysis and Hypothesis Test

Data Analysis by Descriptive Statistics

Table 1 - Frequency Distribution OF Respondents Based on Gender, Education and Organizational Post

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>209</td>
<td>8.79</td>
</tr>
<tr>
<td>Female</td>
<td>34</td>
<td>13</td>
</tr>
<tr>
<td>Unanswered</td>
<td>19</td>
<td>7.3</td>
</tr>
<tr>
<td>Total</td>
<td>262</td>
<td>100</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>7</td>
<td>2.7</td>
</tr>
<tr>
<td>Associate</td>
<td>20</td>
<td>7.6</td>
</tr>
<tr>
<td>Bachelor</td>
<td>111</td>
<td>42.4</td>
</tr>
<tr>
<td>Master</td>
<td>109</td>
<td>41.6</td>
</tr>
<tr>
<td>Ph. D.</td>
<td>5</td>
<td>1.9</td>
</tr>
<tr>
<td>Unanswered</td>
<td>10</td>
<td>3.8</td>
</tr>
<tr>
<td>Total</td>
<td>262</td>
<td>100</td>
</tr>
<tr>
<td><strong>Organizational Post</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee</td>
<td>65</td>
<td>24.8</td>
</tr>
<tr>
<td>Office Boss</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Manager</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Unanswered</td>
<td>193</td>
<td>73.7</td>
</tr>
<tr>
<td>Total</td>
<td>262</td>
<td>100</td>
</tr>
</tbody>
</table>

Respondents’ Age
Table 2 - Frequency Distribution Of Respondents Based on Age

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average</th>
<th>Standard deviation</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>39.78</td>
<td>8.94</td>
<td>25</td>
<td>60</td>
</tr>
</tbody>
</table>

According to Table (2), the average of respondents’ age was about 40 by standard deviation of 9 years.

Respondents’ Experience

Table 3 - Frequency Distribution OF Respondents Based Experience

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average</th>
<th>Standard deviation</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
<td>15.84</td>
<td>10.28</td>
<td>1</td>
<td>42</td>
</tr>
</tbody>
</table>

According to Table (3), the average of respondents’ experience was 15.84 by standard deviation of 10.28 years.

Inferential Findings

Normality of Data Distribution

Table 4- The Results of Kolmogorov-Smirnov Test for Job Satisfaction Variables

<table>
<thead>
<tr>
<th>Statistical Indicators</th>
<th>Variables</th>
<th>Z Kolmogorov-Smirnov Statistics</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Factors</td>
<td>1.01</td>
<td>0.24</td>
<td></td>
</tr>
<tr>
<td>External Factors</td>
<td>1.278</td>
<td>0.076</td>
<td></td>
</tr>
</tbody>
</table>

Table 5- The Results of Kolmogorov-Smirnov Test for Employee Performance Variables

<table>
<thead>
<tr>
<th>Statistical Indicators</th>
<th>Variables</th>
<th>Z Kolmogorov-Smirnov Statistics</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>1.319</td>
<td>0.062</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>0.98</td>
<td>0.36</td>
<td></td>
</tr>
<tr>
<td>Work Quality</td>
<td>1.41</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Initiative</td>
<td>1.15</td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>Judgment</td>
<td>1.52</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Cooperation</td>
<td>1.14</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>Work Quantity</td>
<td>1.34</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>1.47</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>Prevention and Development</td>
<td>1.25</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>Individual</td>
<td>0.95</td>
<td>0.33</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>0.084</td>
<td>0.191</td>
<td></td>
</tr>
</tbody>
</table>

Table 6- The Results of Kolmogorov-Smirnov Test for Strategic Thinking Components

<table>
<thead>
<tr>
<th>Statistical Indicators</th>
<th>Variables</th>
<th>Z Kolmogorov-Smirnov Statistics</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual Thinking</td>
<td>1.33</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>Systematic Thinking</td>
<td>1.01</td>
<td>0.22</td>
<td></td>
</tr>
<tr>
<td>Intelligent Opportunism</td>
<td>1.239</td>
<td>0.093</td>
<td></td>
</tr>
<tr>
<td>Foresight</td>
<td>1.350</td>
<td>0.052</td>
<td></td>
</tr>
</tbody>
</table>

Confirmatory Factor Analysis

A) Confirmatory Factor Analysis of Employee Performance Variables

Regarding the critical values (t value) reported for factor loads (λ coefficient) is greater than 1.96 and as seen in Figure 4, Factor Load Coefficients are confirmed and the hidden variables are explained by the observed variables (questionnaire items) among the employees. And these variables can ensure the concept of their own hidden variable. The Fit Indicator of RMSEA=0.068, Freedom Degree of 647 and the Chi-Square of 1409.98 with significance level of 0.000 indicates that the fit
indicators are optimal. But, due to the values reported in the table above, this model is confirmed.
B) Confirmatory Factor Analysis of Strategic Thinking Components

Regarding the critical values (t value) reported for factor loads (λ coefficient) is greater than 1.96 and as seen in Figure 6, Factor Load Coefficients are confirmed and the hidden variables are explained by the observed variables (questionnaire items) among the employees. And these variables can ensure the concept of their own hidden variable. The Fit Indicator of RMSEA=0.088, Freedom Degree of 734 and the Chi-Square of 2189.56 with significance level of 0.000 indicates that the fit indicators are optimal. But, due to the values reported in the table above, this model is confirmed.

Figure 5- Strategic Thinking Model in Standard Number Mode
Research Model Fit

We first fit the following model in order to answer the main hypotheses of the research.

Chi-Square=392.33, df=117, P-value=0.00000, RMSEA=0.095

Figure 6- Strategic Thinking Model in Significance Number Model

Figure 7- Main Model in the Standard Mode
Figure 8- Main Model in the Significance Mode

In Figure 8, the main model is shown in the significance mode. In the main model, the effect of strategic thinking on employee performance and job satisfaction is calculated. According to Figure 8, the significance number of each Effect Coefficients is more than 1.96 which indicates the significance of strategic thinking effect on employee performance and job satisfaction. The effect values of these components are presented in Figure7.

1- Strategic Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

\[ H_0 : \beta \leq 0 \]
\[ H_1 : \beta > 0 \]

H0 : Strategic Thinking Does NOT Affect the Employee Performance.

H1 : Strategic Thinking Affects the Employee Performance.

1. Strategic Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

Table 7- The Effect of Strategic Thinking Variable on the Employee Performance Variable

<table>
<thead>
<tr>
<th>Direct Path</th>
<th>Effect Coefficient (β)</th>
<th>Significance No. (t-value)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Thinking  Employee Performance</td>
<td>0.46</td>
<td>6.55</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

Given the Effect Coefficient \( \beta = 0.46 \) and Critical Value \( t=6.55 (t > 1.96) \) reported in Table 7 which is more than 1.96, Strategic Thinking Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

2- Strategic Thinking Affects the Job Satisfaction in Engineering and Construction Management of Tehran Water and Wastewater Company.

\[ H_0 : \beta = 0 \]
\[ H_1 : \beta \neq 0 \]

H0 : Strategic Thinking Does NOT Affect the Job Satisfaction.

H1 : Strategic Thinking Affects the Job Satisfaction.

Table 8- The Effect of Strategic Thinking Variable on the Job Satisfaction Variable

<table>
<thead>
<tr>
<th>Direct Path</th>
<th>Effect Coefficient (β)</th>
<th>Significance No. (t-value)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Thinking  Job Satisfaction</td>
<td>0.27</td>
<td>4.81</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

Given the Effect Coefficient \( \beta = 0.27 \) and Critical Value \( t=4.81 (t > 1.96) \) reported in Table 8 which is more than 1.96, Strategic Thinking Variable can affect and explain Job Satisfaction Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

Now, we fit 1 to 4 first secondary models to answer the secondary hypotheses 1 to 4.
In Figure 10, the 1st secondary model has been presented. In the 1st secondary model, the effect of each component (Foresight, Systematic Thinking, Conceptual Thinking and Intelligent Opportunism) on employee performance is calculated. According to Figure 10, the significance number of each Effect Coefficients is more than 1.96 which indicates the significance level of Foresight, Systematic Thinking, Conceptual Thinking and Intelligent Opportunism effect on employee performance. The effect value of these components is presented in Figure 10. The greatest effect is related to Systematic Thinking component.
1- Foresight Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

\[ H_0 : \beta_i = 0 \]
\[ H_1 : \beta_i \neq 0 \]

Table 9- The Effect of Foresight Variable on Employee Performance Variable

<table>
<thead>
<tr>
<th>Direct Path</th>
<th>Effect Coefficient (β)</th>
<th>Significance No. (t-value)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foresight (\rightarrow) Employee Performance</td>
<td>0.28</td>
<td>5.38</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

Given the Effect Coefficient \(\beta = 0.28\) and Critical Value \(t=5.38\) (-1.96 > t > 1.96) reported in Table 9 which is more than 1.96, Foresight Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

2- Systematic Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

\[ H_0 : \beta_i = 0 \]
\[ H_1 : \beta_i \neq 0 \]

Table 10- The Effect of Systematic Thinking Variable on Employee Performance Variable

<table>
<thead>
<tr>
<th>Direct Path</th>
<th>Effect Coefficient (β)</th>
<th>Significance No. (t-value)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic Thinking (\rightarrow) Employee Performance</td>
<td>0.43</td>
<td>8.62</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

Given the Effect Coefficient \(\beta = 0.43\) and Critical Value \(t=8.62\) (-1.96 > t > 1.96) reported in Table 10 which is more than 1.96, Systematic Thinking Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

3- Intelligent Opportunism Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

\[ H_0 : \beta_i = 0 \]
\[ H_1 : \beta_i \neq 0 \]

Table 11- The Effect of Intelligent Opportunism Variable on Employee Performance Variable

<table>
<thead>
<tr>
<th>Direct Path</th>
<th>Effect Coefficient (β)</th>
<th>Significance No. (t-value)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligent Opportunism (\rightarrow) Employee Performance</td>
<td>0.25</td>
<td>5.09</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

Given the Effect Coefficient \(\beta = 0.25\) and Critical Value \(t=5.09\) (-1.96 > t > 1.96) reported in Table 11 which is more than 1.96, Intelligent Opportunism Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

4- Conceptual Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

\[ H_0 : \beta_i = 0 \]
\[ H_1 : \beta_i \neq 0 \]

Table 12- The Effect Conceptual Thinking Variable on Employee Performance Variable

<table>
<thead>
<tr>
<th>Direct Path</th>
<th>Effect Coefficient (β)</th>
<th>Significance No. (t-value)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual Thinking (\rightarrow) Employee Performance</td>
<td>0.33</td>
<td>6.61</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

Given the Effect Coefficient \(\beta = 0.33\) and Critical Value \(t=6.61\) (-1.96 > t > 1.96) reported in Table 12 which is more than 1.96, Conceptual Thinking Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

And finally, we fit the 2\(^{nd}\) secondary model to answer hypotheses 5 to 8.
In Figure 12, the 2nd secondary model has been presented. In the 2nd secondary model, the effect of each component (Foresight, Systematic Thinking, Conceptual Thinking and Intelligent Opportunism) on job satisfaction is calculated. According to Figure 12, the significance number of each Effect Coefficients is more than 1.96 which indicates the significance level of Foresight, Systematic Thinking, Conceptual Thinking and Intelligent Opportunism effect on job satisfaction. The effect value of these components is presented in Figure 12. The greatest effect is related to Conceptual Thinking component.

**Conclusion**

**The Results of Hypotheses Test**

Strategic Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

Given the Effect Coefficient $\beta = 0.46$ and Critical Value $t=6.55 (-1.96 > t > 1.96)$ reported in Table 7 which is more than 1.96, Strategic Thinking Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

In explaining the main hypothesis, it can be stated that today, due to the intensification of the competitive environment, countries are not limited to internal organization resources in their decision making and adoption of their competitive strategy, and in fact, having accurate, effective and up-to-date...
information about the environment is one of the power tools at the national level. Therefore, organizations are trying to find the best information sources about their business environment and use them effectively in their strategic planning. Strategic thinking is one of the most important assets of the organization and is increasingly managed to maintain the competitive advantage of the organization. Since the strategic thinking components (Foresight, Systematic Thinking, Conceptual Thinking and Intelligent Opportunism) have a great effect on the organizational development, it is obvious that, if the organization increases the components of the strategic thinking process, it can have a higher degree of development and progress. In fact, this is achieved through social interactions and organizational cooperation. This increases the chances of identifying opportunities for flexibility through organizational interactions. As a result, having a strategic look at the changes and opportunities resulting from the changes, and on the other hand, improving the organization’s capabilities can be an appropriate mechanism for increasing the organization’s competitive ability to advance the organization towards predetermined goals; the organization’s ability to change processes and improve operations; responding to organizational changes quickly, improving the structure of organizational processes, and achieving an organization’s competitive advantage to stay competitive, as well as improving the quality of employee performance which is one of the most important elements for generating productivity in organizations.

Foresight Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

Given the Effect Coefficient $\beta = 0.28$ and Critical Value $t=5.38 (-1.96 > t > 1.96)$ reported in Table 9 which is more than 1.96, Foresight Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

In explaining the 1st secondary hypothesis, it can be stated that the basic principle in strategic thinking is to think about the future; this means that the future must be given special significance. It should start from here, what might happen in the future, and it is well thought out and then planned to react to it. The essence of planning is also thinking about the future. Foresight is like a bridge from the traditional management to strategic and prospective management. The present era is the transition from traditional management to a scientific and strategic management along with foresight. Strategic thinking is a new way of thinking about the organization and sharing the intellectual and creative resources of the organization. Undoubtedly, innovations have a very strong tendency toward specialty and commitment of employees as key inputs in this process, while employees will be more successful by being more flexible and innovative in responding to environmental changes as well as expanding new capabilities that help them to achieve higher performance. By facilitating planning for the integrity of development and knowledge, attention to innovation and strategic thinking improves employee performance and helps them to fulfill their duties and responsiveness, competence and flexibility to the needs of the stakeholders. In other words, foresight can be considered as an important means of realizing the concepts of strategic thinking in the public sector. Fore sight is needed in areas such as acquiring awareness of unknown events that will occur, analyzing environmental information in different areas, making predictions about environmental changes and its effects on the organization, strengthening the horizons of programming identification for the future, future prospects and, consequently, future development for the organization, developing employee knowledge and increasing the level of trust and performance of employees towards the organization.

Systematic Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

Given the Effect Coefficient $\beta = 0.43$ and Critical Value $t=8.62 (-1.96 > t > 1.96)$ reported in Table 10 which is more than 1.96, Systematic Thinking Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

In explaining the 2nd secondary hypothesis, it can be stated that the competitive world of today’s business has shown that strategic thinking as an important source of competitive advantage and creating value for all organizations is vital and its leadership is an undeniable skill. System thinking is the process of recognition based on analysis and composition to achieve a complete and comprehensive understanding of a subject in its environment. This type of thinking seeks to understand the whole (system) and its components, the relationships between the components and the whole, and the relationships between the whole with its environment (meta-system). Since behavior is rooted in the intellectual system, one who has systemic thinking also deals with the issues systematically, and in his behaviors seeks to identify the constituent elements of the subject and the relationships between these elements. Thus, in the organization, someone who thinks systematically, system thinking helps him to look at issues and challenges in a comprehensive and systematic way. On the other hand, the importance and effect of manpower on the productivity and efficiency of organizations requires attention to this factor that good performance means productivity, quality and profitability. For this reason, successful organizations are trying hard to identify and manage the factors affecting employee performance and behavior and, by providing these factors, increase employee performance and, ultimately, their organization performance. Therefore, according to the competitive environment, organizations try to improve the employee performance.

Intelligent Opportunism Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

Given the Effect Coefficient $\beta = 0.25$ and Critical Value $t=5.09 (-1.96 > t > 1.96)$ reported in Table 11 which is more than 1.96, Intelligent Opportunism Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

In explaining the 3rd secondary hypothesis, it can be stated that strategic thinking is the use of experience-based judgment to determine the future direction of an organization, and at the
organizational level, it is the coordination of creative ideas in a common perspective that enables the organization to develop and formulate a future approach that will satisfy all stakeholders. A strategic thinker is always looking for value-creating opportunities for the customer, and creates a mechanism for necessary interactions to discover these opportunities. In fact, everywhere should be looking for better strategic options; this requires intellectual openness. New ideas should be welcomed and give them the opportunity to be experienced and developments should be pursued by a positive attitude and the goal of discovering emerging opportunities. On the other hand, increasing the efficiency and productivity of any organization requires the optimal use of all factors affecting the production or the provision of services and since the manpower is a major factor in any organization, therefore, the organizational productivity and efficiency are also dependent on the employee performance. Therefore, strategic thinking can be applied by presenting the results of past strategies and future employee predictions as part of the evaluations that lead to planning for organizational improvement. It should also be acknowledged that the organization's golden opportunity to climb to the top of the business line is not far away; it should only be cleverly seen and recognized and used to achieve the goals of the organization.

Conceptual Thinking Affects the Employee Performance in Engineering and Construction Management of Tehran Water and Wastewater Company.

Given the Effect Coefficient $\beta = 0.33$ and Critical Value $t=6.61$ ($-1.96 > t > 1.96$) reported in Table 12 which is more than 1.96, Conceptual Thinking Variable can affect and explain Employee Performance Variable. As a result, this hypothesis is confirmed at 0.95 confidence level.

In explaining the 4th secondary hypothesis, it can be stated that strategic thinking is considered as a response to the ever-increasing changes in the environment around organizations. Different types of organizations need effective implementation of strategic thinking in order to survive and develop and adapt to changes in the competitive environment. So today, organizations cannot survive in a society unless they accept these changes and adapt themselves to internal and external changes. The use of conceptual thinking in the organization leads to move quickly and to move toward change. In fact, based on this thinking method, we can explain things. But if we are trying to understand things, we have to go the opposite, that is, from details to generalities and from objections to abstraction. Focusing on objections and what is obvious means that we are trapped in a trap that in the future, the same thing happens either or as it was in the past. Therefore, in order to be able to prepare ourselves and the organization for a bright future, we must strengthen conceptual thinking. By strengthening conceptual thinking and understanding and understanding the concepts in the organization, it can reduce the complexities and problems of the working environment, thus improving efficiency and effectiveness, as well as increasing the trust and commitment of the workforce.

Suggestions

It is suggested to managers of engineering and construction departments of Tehran Water and Wastewater Company to pay attention to the components of strategic thinking including system thinking, conceptual thinking, intelligent opportunism and foresight in order to improve the dimensions of employee performance. Increasing trust and cooperation between individuals and development of empowerment and service to the organization will become worthwhile for employees.

It is suggested to managers of engineering and construction departments of Tehran Water and Wastewater Company to pay attention to the components of strategic thinking including system thinking, conceptual thinking, intelligent opportunism and foresight in order to improve the dimensions of employee satisfaction, motivation and mobility and development. As a result, increase their satisfaction and lead the organization to progress.

It is suggested to managers of engineering and construction departments of Tehran Water and Wastewater Company to analyze and evaluate the activities of the organization according to the past and present situation. In this way, through the prediction of the future situation with proper planning and transparency, they will implement the career progression.

It is suggested to managers of engineering and construction departments of Tehran Water and Wastewater Company to prevent the employment of people who do not have experience within the unit in order to have a clear picture of the future of the organization for the personnel, and to provide welfare facilities such as institutional and recreational activities to improve the attitude of others in the organization.

It is suggested to managers of engineering and construction departments of Tehran Water and Wastewater Company to introduce stakeholders and customers as an integral part of the organization and by providing sufficient information and awareness of their point of view; try to meet the needs of the stakeholders and quality respondents at the right time.

It is suggested to managers of engineering and construction departments of Tehran Water and Wastewater Company that mistake in decision making is considered as a part of the work and by accepting the risk of failure, provide the background for creativity and initiative in the organization. But it is necessary that the wrong decisions should be documented and published in order not to repeat them.

It is suggested to managers of engineering and construction departments of Tehran Water and Wastewater Company to improve the organization employee by enriching their jobs.

It is suggested to managers of engineering and construction departments of Tehran Water and Wastewater Company to review and formulate their tasks with the participation of employees in order to inform the personnel with their role in the implementation of organizational tasks.

It is suggested that managers increase job satisfaction by clarifying the criteria for paying salaries and rewards, and observing the fairness.

It is suggested to managers of engineering and construction departments of Tehran Water and Wastewater Company to increase their trust in each other in terms of decision making that
requires the participation of others to improve the organizational environment.

It is suggested to the other researchers to do such research among all organizations at a wider level (provincial or national) and compare them in a comparative way.

It is suggested that in the next research, the effect of strategic thinking on the organizational environment of engineering and construction departments of Tehran Water and Wastewater Company should be investigated.

It is suggested that the challenges of employee performance and job satisfaction should be investigated in a research.

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