# Analysis of Impact of Strategic Foresight Capabilities on Organizational Performance

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**Abstract:** Modern organizations should be prepared to deal with environmental changes using strategic capabilities in order to survive in competitive markets. Organizations should strengthen their strategic capabilities and foresight in order to properly manage the environment which integrate different levels of the organization, increase long-term performance of the organization and justify the funds needed for competitive activities. According to literature, one main hypothesis and five sub-hypotheses were developed and examined. A questionnaire was used to collect the required data. The questionnaire was filled out by 159 managers of Water and Wastewater Organization in Isfahan in Iran. The filled out questionnaires were collected. The collected data was analyzed using SPSS Version 18 and Amos Version 20. The results indicated that strategic foresight capabilities had a significant and positive impact on organizational performance.

**Key words:** Strategic management, strategic planning, foresight, strategic foresight capabilities, organizational performance

## INTRODUCTION

Future studies and foresight are systematic attempts to attain a long-term future in areas of science, technology, economy, culture and arts, environment and society (Jaques, 2010). Broad spectrum of foresight and future studies is due to wide areas of knowledge and human studies. The one certain issue in modern business world lies in the fact that managers should be prepared to deal with uncertainty which is an inseparable component of modern activities.

Environmental changes are sometimes unpleasant events which gradually destroy the organizations. In these cases, narcissism and self-satisfaction cannot help the managers to make effective decisions but will only upset them. Managers who fail to detect environmental changes and do not have any plans for these changes will be entangled with serious concerns. According to the above-mentioned materials, foresight and future study methods are the best techniques in optimized management of the future where various circumstances are constantly changing. Therefore, foresight and future studies should

not be neglected. On the other hands, certain plans should be made to properly use foresight and future studies (Beqiri, 2014).

Effective and proper management of organizational performance requires a systematic approach based on management awareness and sensitivity as well as an intelligent understanding of the importance of careful planning and organizational readiness. For this purpose, organizations should strengthen their strategic capabilities and foresight which integrate different levels of the organization, increase long-term organizational performance and justify the fund needed for competitive activities. On the other hand, foresight not only covers understanding of possible future but also readiness to make decisions for the future. Accordingly, foresight not only significantly and profoundly involves understanding of possible future but also readiness for future decision-making. Foresight begins with identification of future options. Foresight highlights likelihood and desirability of these options by analyzing them. In the next phase, the best options are selected based on feasibility and desirability measures (Swanson *et al.*,

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2010). In fact, foresight process helps policy makers and politicians by coordinating societal organizations and institutions, so that the policy makers and politicians can design appropriate programs.

Companies should acquire strategic foresight capabilities, so that they can survive in case of sudden changes and predict changes in the market and react accordingly. Therefore, the impact of strategic foresight capabilities on organizational performance was evaluated in this study. The researcher planned to analyze and review the impact of strategic foresight capabilities on performance of Water and Wastewater Organization in Isfahan since strategic foresight significantly improves long-term organizational performance. In the following, a review of literature relevant to research hypotheses and conceptual model is given. Research method and results of data analysis are also provided. Finally, discussion and conclusion are presented.

**Theoretical principles and literature**
**Organizational performance:** In recent decades, it is essential to pay attention to employees and their performance as the largest and most important asset of organization. Many current developments in decentralized management and directed system, reduced organizational layers, employee participation in decision-making processes have emerged since organizational attitude toward human resources has changed. Employees are no longer defined according to an obsolete and inadequate perspective after industrial revolution. Employees are defined as high-value resources (Raposo *et al.*, 2014).

Performance of an organization results from established relationships and interactions between various individuals, management and strategic capabilities provided and distributed among all people according to future science in order to increase efficiency (Sepahvand *et al.*, 2014). Performance is defined as expected overall value of an organization according to separated behavioral fragments represented by an individual over a specified period of time (Al-Kassar and Soileau, 214). In other words, performance refers to of accomplishment of objectives with predefined quality and quantity. This definition is not only associated with outputs and inputs but also undertaking different tasks and relevant results. Therefore, performance can be interpreted as "behavior" (Sepahvand *et al.*, 2014).

Luthans and Peterson (2002) found out that employees could be properly efficient and successful if foresight capabilities of their jobs were strengthened. This issue contributes to success and effectiveness of corporate managers and increases effectiveness of

managers. Efficient corporate management mainly aims to prevent organizational instability with proper management and such specific functionalities as strategic foresight capabilities and a suitable environment where capabilities of employees are properly used. Efficient corporate management also tend to prevent damages and reduce the costs caused by collapse of organizations.

**Strategic foresight:** Foresight and futures studies are systematic effort to attain a long-term future in areas of science, technology, economy, culture and the arts, environment and society. In fact, foresight and future studies are broad concepts with great capabilities in crisis management. Broad range of foresight and future studies is due to involvement with many areas of knowledge and human studies. Naturally, crisis management is not exempt from this rule. It is difficult to present a certain and precise definition for foresight due to different opinions of thinkers who regard foresight from their own expert perspective. Then, different descriptions are given for foresight. Moreover, short lifetime of experience and knowledge of this area has provided constantly evolving definition for foresight (Zhou *et al.*, 2011).

Although, common aspects can be found in all descriptions given for foresight representing foundation of this area, the difference among these descriptions might be due to evolution of different generations of foresight. The most appropriate definition of foresight is as follows: "foresight is a systematic effort to attain a long-term future in the field of science, technology, economy, environment and society which aim to identify emerging technologies and determine the sectors with high economic and social profitability for investment. In fact, foresight refers to readiness for the future as well as using available resources in line with values in the best possible way".

Based on the benchmark framework proposed by Rohrik and Gamonden used in this study, five areas have been proposed to assess corporate strategic foresight activities:

- In the field of information, techniques and methods of searching for information related to the future are analyzed
- In the field of method advancement, methods to predict future developments and how those methods are selected by a company are investigated
- In the field of employees and networks, characteristics of futurists in the companies as well as methods of collecting and disseminating futuristic visions are addressed

- In organizing section, corporate methods to launch strategic foresight activities, the place where these activities were implemented and organizational units related to strategic foresight activities are discussed
- In cultural aspect, it is discussed whether organizational culture supports strategic foresight activities or not (Guerras-Martin *et al.*, 2014)

**Development of hypotheses and conceptual model:** Findings of previous studies suggested that corporate inputs consisting of strategic foresight capabilities can be strengthened and human resource can be managed so as to efficiently and effectively manage organizational performance (Beqiri, 2014). Based on literature, following hypotheses have been proposed. In the following, research conceptual model is given.

**Hypotheses**

**The main hypothesis:** Strategic foresight capabilities affect organizational performance.

**Sub-hypotheses:**
- $H_1$: application of information affects performance of Water and Wastewater Organization in Isfahan
- $H_2$: method advancement affects performance of Water and Wastewater Organization in Isfahan
- $H_3$: employees and networks affect performance of Water and Wastewater Organization in Isfahan
- $H_4$: organizing affects performance of Water and Wastewater Organization in Isfahan
- $H_5$: culture affects performance of Water and Wastewater Organization in Isfahan

## MATERIALS AND METHODS

This was an applied, descriptive and correlational study. The statistical population consisted of managers of Water and Wastewater Organization in Isfahan. The sample size was estimated as 159 individuals. The

questionnaire used in this study was composed of two parts. The first section encompassed demographic variables such as gender, age and work experience. The second part covered measurement of research variables. Grading scale of each question ranged from score 1 as never and score 5 as always. Content validity of the questionnaire was approved by experts. Cronbac's alpha was calculated to determine reliability of the test. For this purpose, a pilot study was conducted in which 30 questionnaires were distributed among the participants. Cronbach's alpha was calculated. Cronbach's alpha for all questionnaire items in Research Analytical Model was 0.78% which represented acceptable reliability of the questionnaire.

## RESULTS

In the first step, measurement models were fitted. Indices of fitness of models are given in Table 1. Measurement models were appropriately fitted to data. In other words, indices confirm that the data properly fits measurement models.

It is noteworthy that three items measure culture. These measurement models are saturated. Chi-square is not a proper criterion for judgement in these models. In other words, fitness indices are not used in saturated models. Load factors of the variable are the most important indicators of fitness most commonly used for interpretation of results.

In the first phase, measurement models were reviewed and confirmed. In the second phase, structural equation model was fitted and analyzed for testing the hypotheses. The model indices are presented in Table 2. Structural equation model was fitted and analyzed for testing the hypotheses. The model indices are presented in Table 2.

Output results of the model indicated that path analysis is an appropriate model. Normal Chi-square was 1.27 and 1.90 which were between 1 and 3. RMSEA values of the model were equal to 0.005 and 0.03. GFI,

Table 1: Indices of fitness of measurement models

| Component index | Application of information | Method advancement | Employees and networks | Organizing | Culture | Foresight capabilities | Organizational performance |
|---|---|---|---|---|---|---|---|
| CMIN/df | 2.110 | 2.33 | 1.820 | 2.010 | - | 1.60 | 1.55 |
| AGFI | 0.910 | 0.90 | 0.980 | 0.940 | - | 0.97 | 0.90 |
| GFI | 0.970 | 0.92 | 0.990 | 0.980 | 1.000 | 0.99 | 0.91 |
| RMR | 0.018 | 0.04 | 0.008 | 0.016 | 0.000 | 0.01 | 0.03 |
| CFI | 0.980 | 0.94 | 1.000 | 0.990 | 1.000 | 0.99 | 0.95 |
| RMSEA | 0.070 | 0.07 | 0.000 | 0.020 | 0.000 | 0.04 | 0.05 |

Table 2: Model fitness indices

| Indices | CMIN/df | RMSEA | GFI | AGFI | NFI | CFI | IFI | PMR |
|---|---|---|---|---|---|---|---|---|
| The main model | 1.27 | 0.04 | 0.99 | 0.96 | 0.99 | 0.99 | 0.99 | 0.005 |
| The sub-model | 1.90 | 0.06 | 0.92 | 0.90 | 0.95 | 0.97 | 0.97 | 0.03 |
| Acceptance interval | >1<3 | <0.08 | >0.90 | >0.90 | >0.90 | >0.90 | >0.90 | Close to zero |

Table 3: Results of hypothesis testing

| Hypotheses | Sample size | Significance level | Correlation coefficient | Test result |
|---|---|---|---|---|
| Application of information→organizational performance | 159 | 0.000 | 0.33 | Confirmed |
| Method advancement→organizational performance | 159 | 0.000 | 0.21 | Confirmed |
| Employees and networks→organizational performance | 159 | 0.000 | 0.33 | Confirmed |
| Organizing→organizational performance | 159 | 0.000 | 0.73 | Confirmed |
| Culture→organizational performance | 159 | 0.000 | 0.41 | Confirmed |
| Strategic foresight capabilities→organizational performance | 159 | 0.000 | 0.43 | Confirmed |

Amos output
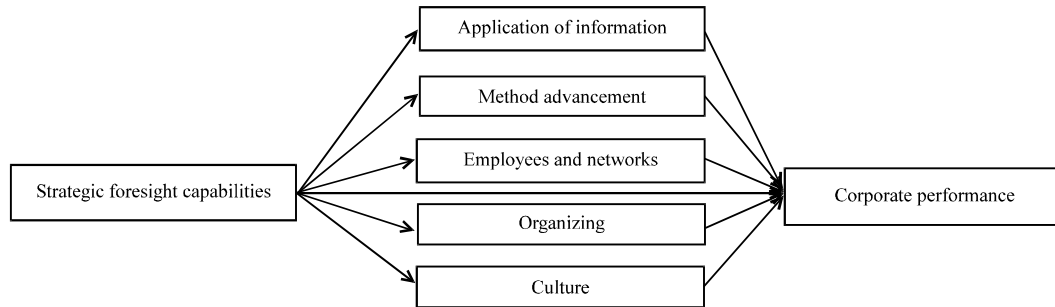


Fig. 1: Conceptual model
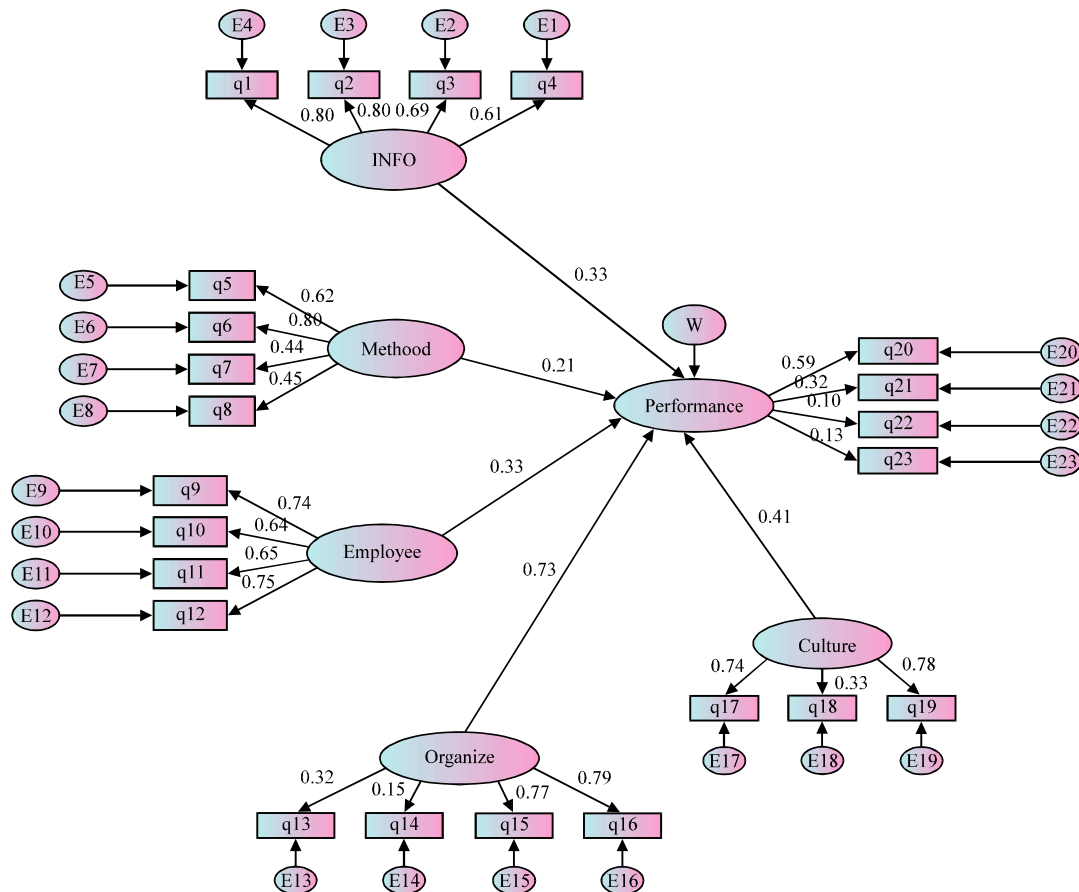


Fig. 2: Structural equation model

AGFI, NFI, CFI and IFI values were close to and above 90%. Finally, RMR value was close to zero. Fitness indices for the model were all within acceptance interval which indicate that collected data is fitted to the model. Hypothesis along with regression coefficient values and indices are given in Table 3 and Fig. 1-3.
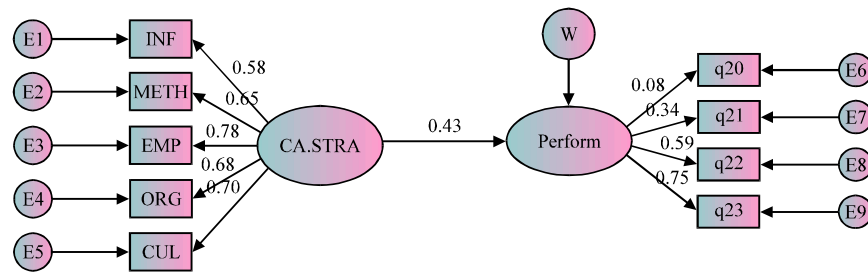
Fig. 3: Structural equation model 2

## DISCUSSION

Testing the hypothesis revealed the following results:

- Strategic foresight capabilities affect performance of Water and Wastewater Organization in Isfahan. The results of path analysis showed that strategic foresight capabilities affect performance of Water and Wastewater Organization in Isfahan with an impact factor equal to 0.43
  - Application of information affects performance of Water and Wastewater Organization in Isfahan. The results of path analysis showed that application of information affects performance of Water and Wastewater Organization in Isfahan with an impact factor equal to 0.33
  - Method advancement affects performance of Water and Wastewater Organization in Isfahan. The results of path analysis showed that method advancement affects performance of Water and Wastewater Organization in Isfahan with an impact factor equal to 0.21
  - Employees and networks affect performance of Water and Wastewater Organization in Isfahan The results of path analysis showed that employees and network affect performance of Water and Wastewater Organization in Isfahan with an impact factor equal to 0.33
  - Organizing affects performance of Water and Wastewater Organization in Isfahan. The results of path analysis showed that organizing affects performance of Water and Wastewater Organization in Isfahan with an impact factor equal to 0.73
  - Culture affects performance of Water and Wastewater Organization in Isfahan. The results of path analysis showed that culture affects performance of Water and Wastewater Organization in Isfahan with an impact factor equal to 0.41

The results of hypotheses testing showed that foresight not only covers understanding of possible future but also readiness to make decisions for the future. Foresight starts with identification of future options. Foresight determines possibility and desirability of these options by examining them. Then, the best options are selected based on feasibility-desirability criteria. Then, future options are selected and compared with the present situation and organizational performance can be improved through strategic planning. Therefore, future study methods can be the best technique in optimized management of the future that may change at any time. This issue cannot be neglected. Proper plans should be made to effectively use these methods. The study can be used as a source of specific information for the managers who are responsible for policy-making and planning in the future. Based on overall results, using strategic foresight capabilities in organizations created proper infrastructure for improving efficient processes in organizational performance as well as strengthening the organization for dealing with environmental changes.

## CONCLUSION

According to results of analysis of the model such factors as application of information, method advancement, employees and networks, organizing and culture as strategic foresight capabilities are effective in organizational performance. Practical information, high-performance methods in terms of decision-making, fast-acting employees who properly deal with customers, extensive communication networks as well as appropriate organization of systems and resources and development of a culture fitted with the organization are essential for achieving this goal. It can be stated that individual characteristics of the employees such as their age, education and work experience should be taken into account in order to implement various aspects of strategic foresight capabilities in the organization. Therefore, the organization should use strategic foresight capabilities commensurate with employees' abilities, experience and education.

## LIMITATIONS

It should be noted that the present study had following limitations:

- Techniques and methods in this study were only limited to future studies. Other techniques and methods in crisis management would affect the results
- Limitations in generalizing the results due to limited sample was another limitation of this study
- Questionn aire tool was only used for data collection in short period of the study. Other methods of data collection such as interviews were not used

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