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# Gauging the Importance of Strategic Foresight Factors Affecting Public Organisational Dynamic Capabilities

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**Abstract:** This paper presents a study on determine the importance of strategic foresight factors affecting dynamic capabilities of an organisation. Literature review found that 19 factors which are clustered in five domains of strategic foresight namely environmental scanning; scenario planning; knowledge creation; culture and formal organization. Data collection adopted a purposive random sampling technique of questionnaire survey amongst individuals who involved in decision-maker position of UAE organizations. A total of 209 respondents participated in the survey. The analysis of the collected data found that 11 of the factors are having high degree of importance and for the domains, four out of five domains are having high degree of importance. It also found that domain culture is having the highest rank amongst the five domains then follows by domain scenario planning, formal organisation, knowledge creation and the last rank is the environmental scanning domain. This research can conclude that the utilisation of strategic foresight has a potential role in improving public organisations as well as the country's national economic expansion. Therefore, policy makers and decision makers need to be innovative and focus on combining strategic foresight and dynamic capabilities through utilizing the significant/important factors that enhance the current status of organizations with future nature and requirements of work.

**Keyword:** Strategic foresight, dynamic capability

## 1. Introduction

In today's dynamic environment, organizations, whether public or private, must have the capacity to adjust with the rapid changes around them through strategic foresight about the future (Haarhaus and Liening, 2020). Public sector organizations are now expected to possess the ability to adjust their capabilities by envisioning the future in order to justify the existence of such organizations (Schwarz et al., 2020). Stakeholders in developed countries are demanding that their public institutions develop the dynamic capabilities required to face challenges that are associated with complexities and uncertainties created in a world where change is happening at an exponential rate (Murphy, 2021). Dynamic capabilities have been defined as the ability of an organization to sense opportunities and challenges, and then seize upon them, leading to transformation within the organization necessary to carry out such changes (Teece, 2018).

Scholars argue that dynamic capabilities are an organization's "…*ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments*", and such capabilities are key to managing uncertainty, thus shaping an organization's ability to shape its own future (Teece, 2016; Burt and Nair, 2020). The lack of dynamic capabilities of public organizations, even in developed countries has been exposed by the Covid-19 pandemic. Majority of the countries around the world were completely unprepared for an unforeseen event of this scale, thus exposing the weaknesses of such public organizations (Ruan et.al, 2020). Therefore, as part of its' national security,

forward thinking countries around the world, such as the United Arab Emirates (UAE) have decided to upgrade the capabilities of all their public organizations to respond to rapid changes in the environment.

In order to develop such dynamic capabilities, strategic foresight has been identified as a potential driver of such organizational capabilities (Haarhaus and Liening, 2020). Indeed, the existence of a culture that incorporates foresight in decision-making ensures that public institutions are able to cope up with the rapid changes brought about with time. The literature indicates that strategic foresight is understood in two ways. A cluster of researchers view it as a process, on the other hand, other see it as organizational ability (Rohrbeck and Gemunden, 2011, Murphy, 2021).

Among the early definition of foresight is that the "*the ability to create and maintain a high-quality, coherent and functional forward view and to use the insights arriving in organizationally useful ways*." This would mean that foresight requires organizations to explore trends in the future and shape policies and strategies accordingly. Therefore, strategic foresight would be a set of techniques and activities that enhance the ability of an organisation to scan the horizon and shape future looking strategies. The literature indicates that strategic foresight is a multi-dimensional construct with five factors: environmental scanning, scenario planning, knowledge creation, culture, and formal organization (Harrhaas and Liening, 2020; Schwarz et al., 2020).

The public sector in the UAE among other fast developing nations, are becoming inclined to having control of and shaping their futures. There is a growing interest amongst key decision makers in the public sector to incorporate the concept of strategic foresight in their decision-making in such organizations, in order to effectively cope up with the uncertainties and complexities of the future. However, the quest has not been easy for public institutions as they struggle to implement such radical shifts in their processes, which are much easier done in the private sector. The UAE has been at the forefront in integrating measures to develop dynamic capabilities of their public institutions. In the quest for such a goal, strategic foresight has been identified as one of the potential drivers of dynamic capabilities (Haarhaus and Liening, 2020). Nevertheless, in the absence of sufficient empirical evidence on how strategic foresight interacts with dynamic capabilities of organizations, the UAE government has been cautious in its' approach (Lehner et al., 2016).

Building dynamic capabilities of public institutions is key to the growth and sustainability of a country such as UAE, which has been heavily dependent on oil revenues in the past. With the emergence of new innovations in alternative energy, and in the wake of the drop in oil revenues driven by the economic shock created by COVID-19 pandemic, UAE has decided to strengthen the capacity of public institutions to chart out and deal with challenges of the future. For this to happen, such organizations much build dynamic capabilities needed to sense opportunities and threats and seize upon them and transform them into actions. One possible way to do this would be through integrating strategic foresight into each public organization. However, such decisions must be based on evidence from substantial in-depth research. Therefore, this research work aims to investigate the impact of the five dimensions of strategic foresight on dynamic capabilities of public sector organizations in UAE.

## 1. Data Collection and Analysis

Data collected from this study was conducted through structured questionnaire survey among respondents from public organizations in UAE. The respondents were individual in the rank of director, general manager, manager or who are having a decision-maker position of the organization. The sampling technique adopted in this study is purposive random sampling technique. The survey instrument with cover letter is sent by e-mail to all the intended respondents.

The survey instrument comprised of respondent background information and list of 19 factors linked to strategic foresight dimensions that relate to organisational learning dynamic capability. To each of the factors, the respondents were given 5-points Likert scale which indicate the degree of importance of the factors toward the organisational dynamic capability. Respondents were requested to rate based on their experiences and perception. Likert scale from 1 to 5 for the choices from scale1that is "very low", "low", "moderate", "high", and sacle 5 that is "very high". A total of 209 completed sets of questionnaires were returned which represents 83.6% response rate of the survey and this is considered higher degree of sampling. The followings are the respondent demographic, reliability test and normality test of the collected data.

### 1.1 Respondents' Background Information

The respondent demographic information provides a description of the characteristics of the study sample. As indicated in Table 1 the current study's respondents background information includes age, years of experience, and educational level.

**Table 1 - Respondents background information**

| Items | Description | Frequency | Percentage % |
|-------|-------------|-----------|--------------|
| | 21- 30 | 47 | 22.5 |
| | 31-40 | 72 | 34.4 |
| **Age** | 41-50 | 63 | 30.1 |
| | Over 50 years | 57 | 22.9 |
| | Total | 209 | 100 |

| | | | |
|---|---|---|---|
| **Educational Level** | Bachelor's | 89 | 42.5 |
| | Master's | 87 | 41.6 |
| | Ph.D. | 33 | 15.8 |
| | Total | 209 | 100 |
| **Work experience** | Less than 1 year | 2 | 1 |
| | 1-3 years | 17 | 8.1 |
| | 3-5 years | 36 | 17.2 |
| | 5-10 years | 70 | 33.5 |
| | More than 10 years | 84 | 40.2 |
| | Total | 209 | 100 |

For the age breakdown, this research revealed in Table 4.1, the ages of respondents less than 30 were 47 (22.5 %), between 31 and 40 years old were 72 (34.4%), between 41 and 50 years old were 63 (30.1%), over 50 years old were 57 (22.9%).

In terms of the educational level of the participants, the analysis showed that a number of 89 (42.5%) have bachelor's degree, 87 (41.6%) have master's degree, and 33 (15.8%) have PhD degree.

In terms of the work experience, the table above shows that 2 (1%) have experience less than one year, 17 (8.1%) have experience between 1 to 3 years, 36 (17.2%) have experience between 3 and 5 years, and 70 (33.5%) have experience between 5 and 10 years, and finally 84 (40.2%) have work experience over 10 years.

## 1.2 Reliability Test

Internal consistency is required for multiple item structures to be reliable. When repeated measurements on the variable of interest are conducted, reliability refers to how free of random error research measurements are and how well a scale used delivers consistent results. The most widely used dependability statistic is Cronbach's alpha. Cronbach's alpha is a metric for determining the consistency of a measurement scale. Internal consistency can only be achieved if Cronbach's alpha is greater than 0.7. (Hair et al., 2011; Almansoori et.al 2021). Table 2 shows the Cronbach's Alpha reliability evaluation values for the five domains of the strategic foresight factors.

**Table 2 - Cronbach's Alpha reliability test**

| No. | Constructs | Cronbach's Alpha |
|---|---|---|
| 1 | Environmental Scanning | 0.734 |
| 2 | Scenario Planning | 0.783 |
| 3 | Knowledge Creation | 0.744 |
| 4 | Culture | 0.730 |
| 5 | Formal Organization | 0.883 |

The internal consistency of the overall perception scale was good, with alpha values ranging from 0.730 to 0.883, indicating that the survey's data internal consistency is good.

## 1.3 Normality Test

The skewness and kurtosis value scores for measuring items should be between -1 and +1, according to Mardia, Kanti V (1974). The results for all items are in table 3.

| Group | Code | Description | Skewness | Kurtosis |
|---|---|---|---|---|
| **Environmental Scanning** | ES-1 | Our organization performs environmental scanning in different areas (technology, economy, politics, and social issues). | -0.001 | -0.496 |
| | ES-2 | Our organization uses a large variety of information sources when scanning the environment. | 0.803 | -1.043 |
| | ES-3 | Our organization analyses the environment with a very long-term perspective (minimum 10 years horizon). | -0.312 | -0.007 |
| | ES-4 | Our organization systematically monitors developments whose relevance for our organization is yet to eb evaluated. | -0.031 | -0.131 |
| **Scenario Planning** | SP-1 | Our organization creates scenarios to describe potential futures. | 0.018 | -0.223 |

| | | | | |
|---|---|---|---|---|
| | SP-2 | Our organization analyses potential future environmental conditions. | 0.045 | -0.716 |
| | SP-3 | Our organization forecasts potential future developments in the organization's environment. | -0.039 | -0.611 |
| | SP-4 | Our organization uses modelling for analysing future environmental conditions (economic modelling, simulations, stress-tests, etc.) | -0.088 | -0.394 |
| **Knowledge Creation** | KC-1 | Our organization is able to apply methods of their area of expertise to problems relevant to the organization. | 0.018 | -0.223 |
| | KC-2 | Our organization has extensive knowledge in its' area of expertise. | 0.045 | -0.716 |
| | KC-3 | Our organization understands the relationship of its' area of expertise with other fields (technology, economy, politics, social issues). | -0.039 | -0.611 |
| | KC-4 | Our organization is very creative. | -0.088 | -0.394 |
| **Culture** | CU-1 | In our organization, every employee is encouraged to communicate information and signals about the external environment to the management. | -0.753 | -0.634 |
| | CU-2 | In our organization, every employee is encouraged to detect negative signals about the external organizational environment. | -0.646 | -0.677 |
| | CU-3 | Our organizational culture encourages employees to challenge basic assumptions about the external environment. | -0.545 | -0.103 |
| **Formal Organization** | FO-1 | In our organization, foresight activities are formally implemented. | -0.622 | -0.546 |
| | FO-2 | In our organization, the top management strongly supports foresight activities. | -0.756 | -0.486 |
| | FO-3 | Our organization has formal systems and processes in place to conduct foresight activities. | -0.414 | -0.456 |
| | FO-4 | In our organization, future-related information is rapidly diffused through formal communication channels. | -0.229 | -0.481 |

Table 3 indicates that skewness and kurtosis values of the complete items are within the stipulated range. This means that the collected data follows the normal distribution pattern and can be used for further analysis.

## 2. Determine the Importance of Strategic Foresight Factors

The purpose of the study is to investigate the impact of strategic foresight of dynamic capabilities on public organizations in the UAE. Literature review from previous research works found 19 factors linked to strategic foresight dimensions that relate to organisational learning dynamic capability where the factors were used in the questionnaire development. To each factor the respondents were given 5-points Likert scale which indicate the degree of importance of the factors toward the organisational dynamic capability and the respondents were requested to rate based on their experiences and perception. Likert scale from 1 to 5 for the choices "very low", "low", "moderate", "high", and "very high".

The data collected from this questionnaire survey was analysed using SPSS software to determine the mean score of each factor. Based on the mean score of each factor, the degree of importance is determined using the work of Awang (2012) which established the following interval decisions as illustrates in table 4.

**Table 4 - Response evaluation criteria**

| Likert Scale Score | Descriptors Meaning | Decision Mean Interval |
|---|---|---|
| 1 | Very low | 1.00-1.80 |
| 2 | Low | 1.81-2.60 |
| 3 | Moderate | 2.61-3.40 |
| 4 | High | 3.41-4.20 |
| 5 | Very high | 4.21-5.00 |

The generated mean score to each factor of the five strategic foresight domains and the decision on the degree/level of importance toward the UAE public organisational dynamic capability is as in table 5.

**Table 5 - Strategic foresight domains**

| Group | Code | Means | Degree of importance |
|---|---|---|---|
| **Environmental Scanning** | ES-1 | 3.416 | High |
| | ES-2 | 3.952 | High |
| | ES-3 | 2.928 | Moderate |
| | ES-4 | 2.947 | Moderate |
| **Scenario Planning** | SP-1 | 3.230 | Moderate |
| | SP-2 | 4.005 | High |
| | SP-3 | 3.770 | High |
| | SP-4 | 3.636 | High |
| **Knowledge Creation** | KC-1 | 3.359 | Moderate |
| | KC-2 | 3.383 | Moderate |
| | KC-3 | 3.230 | Moderate |
| | KC-4 | 3.560 | High |
| **Culture** | CU-1 | 4.033 | High |
| | CU-2 | 3.962 | High |
| | CU-3 | 3.120 | Moderate |
| **Formal Organization** | FO-1 | 3.603 | High |
| | FO-2 | 3.598 | High |
| | FO-3 | 3.474 | High |
| | FO-4 | 3.325 | Moderate |

Table 4 shows that 11 factors are having high degree of importance while 8 factors are having moderate degree of importance in the five domains of the strategic foresight toward the dynamic capability of UAE organisations. The uppermost important factor is in the domain of culture which is CU-1 factor [*in the organization, every employee is encouraged to communicate information and signals about the external environment to the management*] having mean score of 4.033. while, the least most important factor is in the domain of Environmental Scanning which is ES-3 factor [*the organization analyses the environment with a very long-term perspective (minimum 10 years horizon)*] having mean score of 2.928.

## 3. Ranking of Strategic Foresight Domains

This section presents the factors domains of the strategic foresight in term of degree of importance toward the UAE organisational dynamic capabilities based on the respondents' perception as in table 6.

**Table 6 - Degree of importance of factor domains**

| Factor Code | Factor Means Score | Factor Domain | Group Mean Score | Degree of Importance |
|---|---|---|---|---|
| ES-1 | 3.416 | | | |
| ES-2 | 3.952 | Environmental Scanning | 3.311 | Moderate |
| ES-3 | 2.928 | | | |
| ES-4 | 2.947 | | | |
| SP-1 | 3.23 | | | |
| SP-2 | 4.005 | Scenario Planning | 3.660 | High |
| SP-3 | 3.77 | | | |
| SP-4 | 3.636 | | | |
| KC-1 | 3.359 | | | |
| KC-2 | 3.383 | Knowledge Creation | 3.383 | Moderate |
| KC-3 | 3.23 | | | |
| KC-4 | 3.56 | | | |

| | | | | |
|---|---|---|---|---|
| CU-1 | 4.033 | | | |
| CU-2 | 3.962 | Culture | 3.705 | **High** |
| CU-3 | 3.12 | | | |
| FO-1 | 3.603 | | | |
| FO-2 | 3.598 | Formal Organization | 3.500 | **High** |
| FO-3 | 3.474 | | | |
| FO-4 | 3.325 | | | |

Table 6 indicates that four out of five domains are having high degree of importance and only the domain of knowledge creation is having moderate degree of importance. The ranking of the domains is as in figure 1
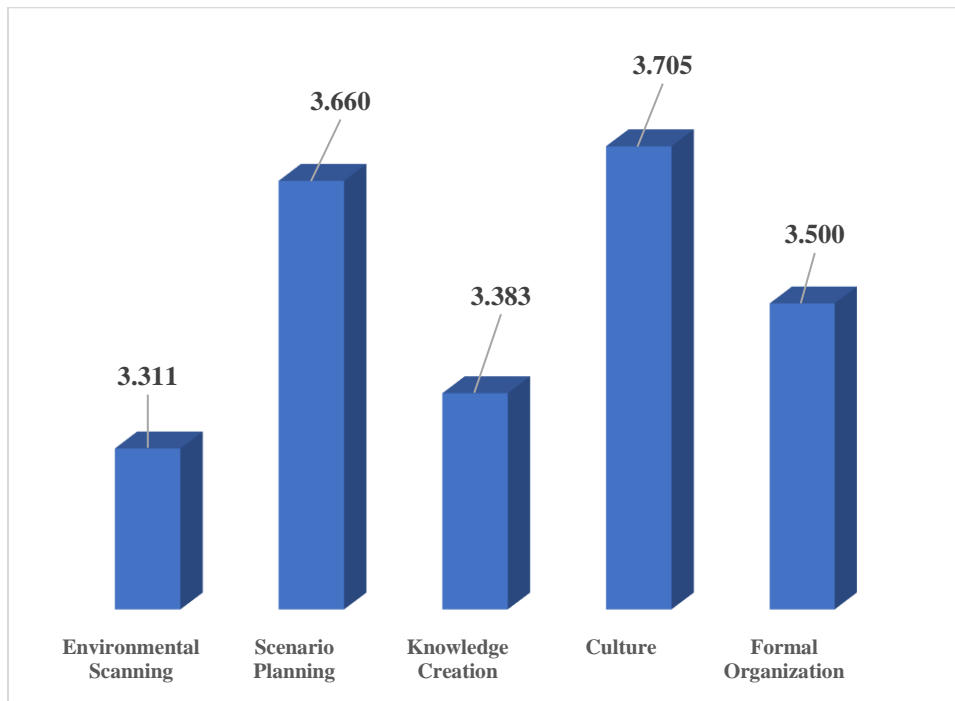


**Fig. 1 - Ranking of the domains**

Figure 1 shows that domain culture is having the highest rank amongst the five domains then follows by domain scenario planning, formal organisation, knowledge creation and the last rank is the environmental scanning domain.

## 4. Conclusion

This paper presented a study to determine the degree of importance for each factor in the strategic foresight domains that affect the UAE public organisation dynamic capabilities. There are 19 factors which are grouped into five domains. Respondents of the survey were requested to rate the factor based on 5-points Likert scale. The analysis of the collected data found that 11 of the factors are having high degree of importance and for the domains, four out of five domains are having high degree of importance. It also found that domain culture is having the highest rank amongst the five domains then follows by domain scenario planning, formal organisation, knowledge creation and the last rank is the environmental scanning domain. This research can conclude that the utilisation of strategic foresight has a potential role in improving public organisations as well as the country's national economic expansion. Therefore, policy makers and decision makers need to be innovative and focus on combining strategic foresight and dynamic capabilities through utilizing the significant/important factors that enhance the current status of organizations with future nature and requirements of work.

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