

Assessment of corporate foresight project results: case of a multinational company in Turkey

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Abstract

Purpose – *The overall aim of the research is to provide an assessment of the level of the reported success of foresight project results of a multinational company in Turkey.*

Design/methodology/approach – *The model of assessment is based on an integrated framework characterized by approaching foresight as a project and associating it by the redefined pitfalls in, and success factors of, corporate foresight projects in order to facilitate better conversion of their results into actual changes in corporations. A multinational company in Turkey (Siemens Turkey) is chosen for the exploratory case study. The exploratory assessment model was designed via the use of a survey questionnaire, a case study, and interviews of managers (who were involved in the corporate foresight project).*

Findings – *Results of the individual assessment of corporate foresight project at the company were labeled as “successful”. There needs to be given an overall attention to the process-oriented elements of the foresight project. Pitfalls in the foundation phase accumulated the highest problem area, suggesting that the total project would eventually suffer.*

Research limitations/implications – *One of the limitations of the study is the use of a single case with an attempt to assess the pitfalls of the foresight projects. The exploratory study may include premature conclusions about the assessment of corporate foresight project results, yet a single case can imply generalizable insights. The authors believe this research suggests some potentially significant insights for foresight studies and their applications.*

Practical implications – *The study may help to support the reliability of the foresight studies as they have been implemented and might bring a new methodological challenge on the quality and success of the corporate foresight project results.*

Social implications – *The approach described the factors affecting the success of corporate foresight activities with respect to understanding the pitfalls of foresight projects. Taking reference to such a framework, foresight results may be better delivered and disseminated in corporations with concrete results and actual changes in organizations. The model of assessment may be used to analyze the level of the reported success of foresight project results in companies implementing foresight activities.*

Originality/value – *Although foresight studies within businesses has become more important and widespread with its systematic and continuous/participatory approach, based on a variety of methods, it is still a partially explored area in terms of research with mainly descriptive studies.*

Keywords *Corporate strategy, Forward planning, Assessment, Project evaluation, Turkey*

Paper type *Research paper*

1. Introduction

Encouraging decision makers to imagine and anticipate possible futures, the use of foresight as a decision-making tool has increased during 1990s – especially in Western Europe and East Asia – in order to proliferate the competitiveness and innovation of nations, regions, as well as corporations. Although foresight studies within businesses have become more important and widespread with its systematic and continuous/participatory approach, based on a variety of methods, it is still a partially explored area in terms of research.

Foresight is a systematic approach, drawing on a set of tools, for anticipating the future. It permits preparation for diverse challenges with adequate lead-time. Foresight does not predict or forecast the future, nor is it a strategic plan. Rather, the nature of foresight is to anticipate and create multiple, plausible futures that are possible and believable. These futures may be positive or negative, but in their diversity they bring into view issues and perspectives that may not have been initially considered. Foresight carries the expectation that through the collective experience, imaginative abilities, and interactive knowledge of a wide range of expertise, a coherent view of a ten- to 25-year future horizon can be constructed. Foresight encourages participants to imagine possible futures without it being an extension of present thinking. Thus, it provides a means of liberating thinking.

The strength of foresight as a process is that it can accommodate uncertainty and diversity, and it highlights longer-term opportunities and vulnerabilities. The process identifies and accommodates the significant factors that are driving change and allows anticipation of and preparation for such change. Awareness of what futures might look like allows preparation for such futures, as opposed to surprise if they do come to pass. Specifically, foresight engages multiple stakeholders across many disciplines and encourages the building of networks. By creating mental images, the meaning and understanding of possible changes become clearer. The foresight process offers a rehearsal for potential critical challenges and also serves as a tool to educate leaders, communicators and the public.

Future studies, foresight and especially corporate foresight are increasingly used for providing valuable input in the area of strategic planning, research, technology development and innovation but also corporate communications and corporate identity/branding.

Corporate foresight creates a vision to look beyond the close environment of organizations. One of the main challenges of the organizations is to formulate clear perspectives and attach them into their daily decisions and actions. Radical political and economical changes, the increased global competition, the triumphant improvements in transformation and communication, as well as, scientific breakthroughs of everything within the field of the social sciences form the basis for the need of a differentiated organizational formation.

Corporate foresight is built on the rationale that it is the end result of companies' operations that demand long-term orientation, or it is taken as an anticipatory action to better cope with the complexities and the uncertainties of the business environment in general. There is a vast use in strategy development, as well as in innovation development, marketing and in research and development (R&D).

Corporate foresight tends to look beyond the close environments of the corporations. Corporations work with foresight[1] studies in order to:

- reduce uncertainty by identifying new and relevant trends;
- prepare strategic decisions;
- support innovation processes;
- develop new and future business fields/markets;
- create orientation on future developments; and
- build a knowledge base (Neef and Daheim, 2005).

Companies such as Aventis, BASF, and British Telecom were defined as using foresight information as a basic input for both the decision-making process in different business areas and for the corporate strategy development (Becker, 2002). Those companies used analyses to monitor not only special fields of technology, but also more general trends in the social, economical, political and regional area since they operate in sectors that are strongly globalized.

Companies such as Philips, DaimlerChrysler, Decathlon, Ericsson and EdF were engaged in rather holistic foresight activities where foresight is used to serve as means to develop more comprehensive visions of the future and analyses are undertaken to better understand the structural changes in science and society.

Thus, the necessity for foresighted managerial policies helped the transfer of future research tools and methodologies into corporate application. The search for comprehensive – and creative – solutions and innovation provided the need for corporate foresight.

Our paper aiming to “provide an assessment of the level of the reported success of foresight project results of a multinational company in Turkey” is organized as follows: Important aspects of corporate foresight are discussed in section 1, while an initial introduction is given in section 2. Section 3 gives the methodology, including the questionnaire developed for the measurement of the research. Collected data and the results of the study given in section 3 are discussed in section 4. Section 5 is the conclusion where the possible application fields, limitations of the study as well as future research recommendations are discussed.

2. Corporate foresight projects

Corporate foresight methods and activities are becoming crucial for innovation processes and apt to look beyond close environments, but a number of problems of their use and integration need to be proliferated. Although corporate foresight activities have become more important and widespread by many companies, there are factors impacting the successful conversion of foresight project results into actual change in corporations, which needs to be improved by defining the pitfalls and challenges of corporate foresight.

In order to obtain a first overview of the uses, practices and impacts of corporate foresight in private sector in Europe, Becker (2002) interviewed 19 companies. Out of 19 companies only Procter and Gamble and Lufthansa used foresight activities to provide only input for an individual project or a specific decision. DB, Volvo, Eni, Siemens and IBM focused their foresight efforts on the meso-level where they provide input for the strategic decision making process in entire subject areas of research. Those activities were said to be specialized and centered on specific issues in R&D such as the long-term planning of research programs in certain technological areas or business units.

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Having analyzed the organizational characteristics of the foresight process in European companies, problems of current foresight practices were listed by Becker (2002) as being methodological, organizational and managerial and integration:

1. *Methodological problems.* These are where foresight needs a better/stronger methodological grounding, especially with regard to quantitative analyses and economic modelling, in order to achieve a greater accurateness of its results. Although qualitative methods were gaining ground, the acceptance of qualitative foresight knowledge was reported to be problematic in upper management (Neef and Daheim, 2005).

2. *Organizational and managerial problems:*

- foresight results to be better delivered and better disseminated to the relevant target groups and to create a higher commitment for a successful end-results;
- foresight needs to generate relevant information and result in concrete results and real products;

- foresight studies need more feedback from the users of foresight data in order to trigger off leaning effects and to make foresight predictions more accurate and more “user-friendly/customer”-oriented;
 - a need for the development of ways to better measure the benefits of foresight activities on the business success; and
 - too much “uncertified” knowledge in the field prevent from separating good experts from the bad ones.
3. *Overall integration of foresight activities in the company.* Corporate foresight is coping with “low level of diffusion” (extent of practical use in businesses in general) versus sophisticated state-of-the-art “lead user” development, as well as the gap between “report culture” and “need for action”:
- corporate foresight often is too fragmented (no centralized offices/departments) and too segmented (too specialized and too uncoordinated);
 - foresight activities need to be re-positioned in the company such as the use for corporate development and strategic planning rather than only R&D decision making issues;
 - foresight activities need to be more integrated with the corporate culture;
 - much emphasis needs to be put on long-term thinking rather than the current “shareholder value”.
 - No effort to integrate micro-, meso- and macro-level aspects in foresight exercises.
 - lack of networks –both internal and external—of foresight professionals, which: withholds the companies to benefit from the use of more know-how and creates double work and not-enough efficient re-use of previous work.

Typical problems and pitfalls of corporate foresight are also defined under three main topics as (Neef and Daheim, 2005):

1. *Playground pitfall.* No building of knowledge pool – a lack of continuity of activities, lack of commitment to corporate foresight.
2. *Monologue pitfall:* Results remain more or less unknown internally - low level of diffusion of results into the corporation.
3. *Lone rider pitfall.* Acceptance and implementation problems for outcomes - lack of integration of colleagues/employees into the process.

A study by Müller (2006) on 152 large European companies also drew the attention to the challenges of corporate foresight where the key problems were listed as being organizational and political barriers, insufficient legitimation and perceived high costs. The reasons for the persisting problems of corporate foresight were assumed to be due to the lack of clarity about the objectives and performance.

Schwarz (2005) on the other hand examined why the concept of a “strategic early warning system” (SEWS) has not been widely introduced and failed to be implemented successfully in German corporations. The research was linked to the foresight process since it aimed at identifying the pitfalls on implementing SEWS. Schwarz (2005) stated that “the success is determined predominantly by participation and interaction within the system, incorporating as much organizational knowledge and insight possible.”

The above statements as challenges in implementing foresight projects are vital since they affect the outcomes of any type of foresight exercise; policy outcomes for national science and technology, or social programs or actual outcomes for companies in the form of products, processes, trends and R&D to facilitate their core competence in business.

2.1 Corporate foresight as a project

Although corporate foresight activities are becoming more crucial to look beyond close environments, there are number of problems of their use and integration that need to be

proliferated. Considering the pitfalls that are based on the work of Andersen *et al.* (1996), Öner and Göl (2007) proposed a new framework (Table I) by redefining and extending the pitfalls and challenges of corporate foresight projects in order to better instrument their results into actual changes in corporations.

Table I consists of the statements of a new approach in order to describe the factors affecting the success of corporate foresight activities with respect to understanding the pitfalls of foresight projects. Taking reference to such a framework, foresight results may be better delivered and disseminated in corporations with concrete results and actual changes

Table I Pitfalls in corporate foresight projects

A. Foundation	<ul style="list-style-type: none"> A.1 Insufficient support for the corporate foresight project <ul style="list-style-type: none"> A.1.1 The corporate foresight project plans are not aligned with the business plans A.1.2 The principles and policies of corporate foresight project work are not defined A.2 Poor corporate foresight project definition <ul style="list-style-type: none"> A.2.1 The goals for the corporate foresight project are imprecise A.2.2 The limits of the scope of the corporate foresight project are not set A.2.3 The levels of ambition for changes to people, systems and organization are not in balance with the new technology to be introduced
B. Planning	<ul style="list-style-type: none"> B.1 The planning level is uniform; the plan contains too much detail for some users, and too little for others B.2 The planning tools are unwieldy B.3 The planning range is psychologically unsound B.4 The planning method discourages creativity, and encourages bureaucracy B.5 The planning estimates of time and cost are over-optimistic B.6 The planning of resources overestimates their competence and capacity B.7 The corporate foresight project calendar omits lost time B.8 The plan omits activities
C. Organizing	<ul style="list-style-type: none"> C.1 Alternative organizations for the project are not considered C.2 The distribution of responsibility is not defined C.3 Key resources are not available when required C.4 Key resources are not motivated C.5 Line managers are not committed C.6 Communication is poor C.7 The corporate foresight project manager is a technocrat, rather than a manager, so he cannot delegate, coordinate, and control
D. Controlling	<ul style="list-style-type: none"> D.1 The corporate foresight project manager and his team do not understand the purpose of control, they do not understand the difference between monitoring and controlling D.2 The plan and progress reports are not integrated D.3 There is no well defined, formalized and communication between corporate foresight project manager and project members D.4 The corporate foresight project manager has responsibility, but no formal authority
E. Execution	<ul style="list-style-type: none"> E.1 The complexity of coordinating a variety of resources is underestimated <ul style="list-style-type: none"> E.1.1 The task of achieving cooperation between unacquainted people is not understood E.1.2 Different people work with different rules and procedures E.1.3 The technical methods are too complicated to be fully understood by the users E.2 Changes to the plan or specification are uncontrolled E.3 Activities are not completed and documented before others begin E.4 The targets of time, cost and quality are unbalanced
F. Feedback and continuity of the foresight project	<ul style="list-style-type: none"> F1. Corporate foresight project is not successful. F2. Corporate foresight project results are not communicated into the corporation. F3. After the execution of the corporate foresight project, the project managers are withdrawn from the support and responsibility of the project. F4. Foresight projects are not redesigned/tuned according to the needs and expectations of the stakeholders. F5. For future implementation, the corporate foresight results are not looped into the project definition and company knowledge base for readjustment. F6. Instead of creating new knowledge for the future, managers are mainly stuck with the old ones. F7. Corporate foresight project is not re-applied at predetermined time cycles.

in organizations. In our study, we propose that corporate foresight activities may be better managed if sufficient attention were given to each stage of the project.

The foundation is the “pre-foresight” (Irvine and Martin, 1984) phase where the corporate foresight project executers’ attitude and the preliminary work are provided. It is the phase where the purpose is defined, needs are identified (Stewart, 2001). Some researchers define it as the formulation phase where it aims to identify internal or external pressures to change and determine the best way to address them to add value for the stakeholders via sense-making, ideation and evaluation of alternatives (Thiry, 2004).

The recognized need for a corporate foresight will gain power in this phase if there are cracks in the foundation, the total corporate foresight project will suffer from its results. Insufficient support for the project and poor corporate foresight project definition are of the two main possible flaws in the foundations.

The planning is the second phase of the corporate foresight projects, where specifications are outlined for the guidelines in solving the identified problems defined in the initial phase. The structure (organization) for the corporate foresight project usually includes steering committee, project manager and a project team securing an expert support.

Control of corporate foresight projects needs to be seen as a part of providing collaborative leadership from within the foresight team. Therefore, control is the reporting progress of the corporate foresight projects in relations to the plan; analyzing variance between progress and the plan and finally, taking action to eliminate those defined variances.

Having defined the pitfalls and problems of foundation, planning, organizing and controlling of corporate foresight projects, it is most important to understand the flaws of the execution of the project itself. Recent research shows that the project practices seem to be at their weakest at the operational levels (Andersen and Jessen, 2003).

After initiating a Delphi study among corporate managers, futurists in think-tanks and consultancies and scientists in the field of management Schwarz (2008) stated that “the biggest challenge in developing futures studies lies in the improvement to implement its methods in corporations”.

Finally, our study proposed to enlarge the pitfalls listed above by including a sixth stage of which we define as the “feedback and continuity of the foresight projects”. This stage is very crucial for a better evaluation of the corporate foresight projects, as well as their dissemination within and outside the organization. Continuity has been mentioned, but not elaborated in the literature (e.g. by Cuhls and Grupp, 2003) by bringing the distinction between a pre- or post-foresight-phase to an end and vitalizing the importance of the continuity of the whole foresight process. Lack of continuity was also discussed (UNIDO, 2005a, b) as a part of the conceptual problems and challenges in implementing regional foresight, thus due to the lack of continuity; foresight process was likely to collapse after the project or funding.

3. A corporate foresight project in Turkey

Foresight activities have become visible in Turkey in activities ranging from “Vision 2023”[2] and “Forum 2023”[3]. Although limited observations from the private sector are monitored, “large scale companies are also becoming more and more interested in corporate foresight in Turkey” (Alsan, 2008).

In a multinational company operating in Turkey, the corporate foresight project was initiated as an action research (Alsan, 2008) by the Strategy Board which consisted of CEO, CFO, group managers, and managers of important staff departments in order to foresee the future of the company in 2015. The corporate foresight project consisted of two phases: In Phase 1, “*Pictures of the Future*”[4] (Appendix 1) were customized according to the needs of the Strategy Board. In Phase 2, the corporate foresight project practitioners formed sector-based teams in order to undertake the future issues further and to develop action plans to shape the future in those sectors.

Corporate Foresight Project was initiated in 2005, with preferred scenarios for 2015. The company at the normative level was involved with the development of goals for ten years re-evaluated every three years; at the strategic level, for five years and re-evaluated each year and at the operational level, for one to two years re-assessed each year respectively.

4 Methodology

In this part, we will describe and explain the research method used in our study.

A case study refers to the collection and presentation of detailed information about a particular participant or small group (Yin, 2003). It is defined as a “strategy” (Table II) for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence (Robson, 2002; cited in Saunders *et al.*, 2003) that is used in many situations to contribute to our knowledge of individual, groups, organizational, social, political and related phenomena (Yin, 2003).

Case studies can be used to accomplish various aims: To provide description (Kidder, 1982; cited in Chetty, 1996), test theory (Anderson, 1983; cited in Chetty, 1996) or generate theory (e.g. Eisenhardt, 1989; cited in Chetty, 1996). Our study aims the latter, conceptual modeling from case study evidence.

As Stake (1995) described it:

[...] the real business of case study is particularization, not generalization. We take a particular case and come to know it well, not primarily as to how it is different from others but what it is, what it does. There is emphasis on uniqueness, and that implies knowledge of others that the case is different from, but the first emphasis is on understanding the case itself.

The company is chosen based on our research questions where we aim to assess the factors affecting the success of corporate foresight projects. Our exploratory case study – aiming to identify questions and select measurement constructs – proposed developing measures for the assessment of foresight projects by means of serving to safeguard investment in larger studies.

4.1 Scope and the structure of the survey questionnaire

Case studies combine data collection methods such as archives, interviews, questionnaires and observations. The evidence we gathered is of qualitative and quantitative nature. Our developed survey instrument sought feedback from the top managers of the company in order to provide information upon the assessment of the success of their corporate foresight project results.

The first three questionnaires were divided among three parts based on the following interdependent topics, including the participants’ demographic and professional profile along with the differences in participants time and place perspective (refer to Göl and Öner, 2009).

The last part of the questionnaire included the proposed (Öner and Göl, 2008) corporate foresight projects assessment survey consisted of statements to assess the success of corporate foresight projects. The adopted and extended work of Andersen *et al.* (1996) was used to suggest a new approach in the assessment of corporate foresight project results and applied among the managers.

Table II Relevant situations for different research strategies

Strategy	Form of research question	Requires control of behavioral events?	Focuses on contemporary events?
Experiment	How, why?	Yes	Yes
Survey	Who, what, where, how many, how much?	No	Yes
Archival analysis	Who, what, where, how many, how much?	No	Yes/no
History	How, why?	No	No
Case study	How, why?	No	Yes

Source: Yin (2003)

The questionnaire conducted at the company has reached to the population of nine managers who were involved in the corporate foresight project. The participant managers were asked to complete the survey questionnaire under the researcher's presence. The researcher handed them a copy of the survey with a cover letter and provided assurances that no one would have access to either the completed surveys or to any individual's responses. Participant managers were not required to identify themselves on their survey copy. Survey administration took place over a two-month period in July and August 2007.

5. Results and discussion

Our case study aimed to assess the corporate foresight projects with our proposed model at a multinational company in a developing country for the period of 2005 and 2007, in order to anticipate the following corporate foresight exercise that will take place within two years.

The following present the data collected from the questionnaire and documents chosen on the case study:

5.1 Profile of the respondents

The participant managers consisted of top managers from different departments of the multinational company headquartered in Istanbul. In total, nine managers completed the questionnaire. The final population of y represented 99 percent response rate. The analysis of the respondents is given in Table III.

A total of 88.9 percent ($n = 8$) of the population is male, 11.1 percent ($n = 1$) is female. The respondents at the age of 30-39 (44.4 percent, $n = 4$) and 50-59 (33.3 percent, $n = 3$) accounted for the highest numbers of responses, respectively. Of the nine respondents, the majority had no children under their guardianship (44.4 percent; $n = 4$).

Of the nine respondents the majority of the population was represented with top managers (77.8 percent; $n = 7$) and had ten to 14 years of professional experience at the company (33.3 percent; $n = 3$).

Table III Descriptive statistics of the participant managers

<i>Characteristics</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Gender</i>		
Female	1	11.1
Male	8	88.9
<i>Age</i>		
30-39	4	44.4
40-49	1	11.1
50-59	3	33.3
60 and more	1	11.1
<i>Children under guardianship</i>		
None	4	44.4
1	3	33.3
2	2	22.2
<i>Position at the company</i>		
Top management	7	77.8
Middle management	2	22.2
<i>Years of experience at the company</i>		
2-5	1	11.1
6-9	1	11.1
10-14	3	33.3
15-19	2	22.2
20 and more	2	22.2
Total	9	100

5.2 Pitfalls assessments of participant managers

According to the general and individual results of the corporate foresight project assessment (Figures 1 and 2), the following are brought into discussion.

Among the steps of the corporate foresight project, the pitfalls in the foundation phase accumulated the highest problem area, followed by organizing, execution, feedback and

Figure 1 Company foresight project assessments – general

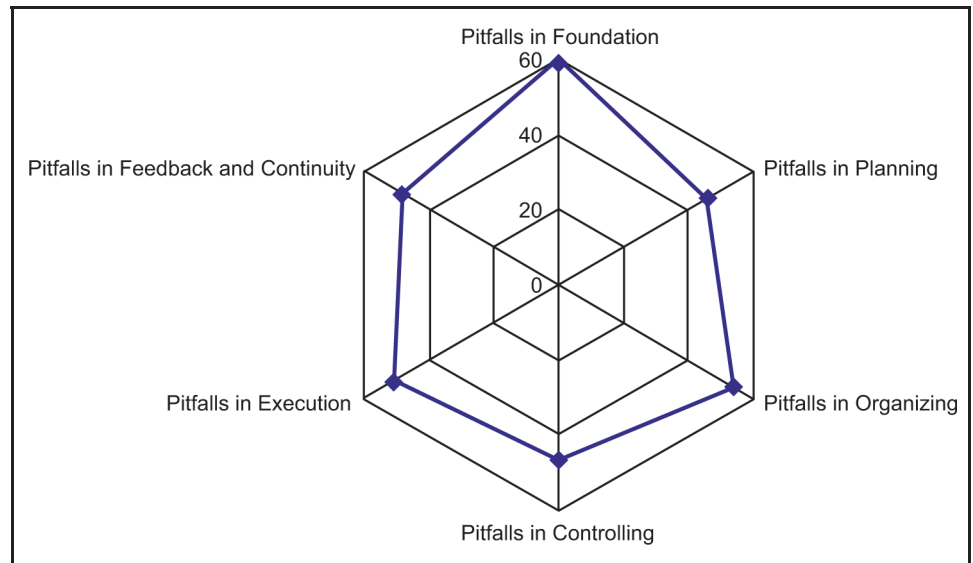
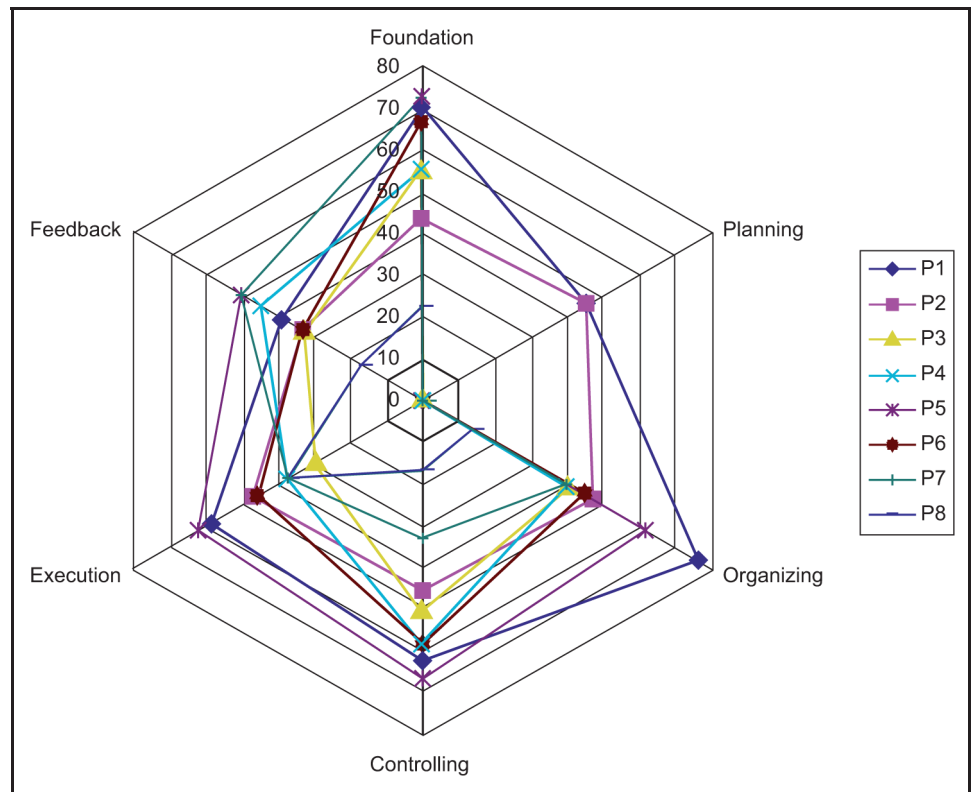


Figure 2 Company foresight project assessments – individual



continuity, controlling and planning, respectively. The corporate project practice was observed to be weakest at the foundation phase. Thus indicating that organizations “need more knowledge and better understanding of the starting point of the project.” (Andersen and Jessen, 2003).

Each corporate foresight project has its own strengths and weaknesses, eventually aiming to achieve an anticipated future in complex and constantly changing business environments and the emergence of a new culture in their organization. Corporate foresight is an innovative tool to help achieve sustainable competencies in organizations.

Although the results of the individual assessment of corporate foresight project at the company that the foresight activity was undertaken can be labeled as “successful” (statement no. 33), there needs to be overall attention given to the process-oriented elements of the foresight project. Since it is a process that changes the participant managers’ business environment as well as their understanding of the company they are a part of, the corporate foresight project is a different, difficult and a highly responsive experience.

According to the results of the project assessment, we suggest a need for attention in considering the pitfalls of the project as a whole. Taking the assumption that the index is higher than “20”, indicating some kind of an obstacle in the foresight project, it is important to estimate its success by avoiding those defined pitfalls.

The results of the foresight project assessment indicated several conditions for the potential failure of the project. Pitfalls in the foundation phase accumulated the highest problem area, suggesting that the total project would eventually suffer.

The planning phase was observed to be well-defined and managed compared with the other phases of the project, which may be due to the expertise of the foresight coordinator. He acted as both a member of the project team carrying out the foresight activity, as well as the coordinator of the corporate foresight and strategic planning process designated by the corporate management.

The assessment of pitfalls at controlling suggests that there is a need for collaborative leadership from within the foresight team. Although the informal and creative communication aids the control phase, there needs to be given more formal authority to the project managers to control the project which eventually will be reflected in the project’s organization.

The results of the feedback and continuity phase of the corporate foresight project are crucial for a better evaluation and dissemination of the project within and outside the organization. Lack of continuity means the collapse of the foresight project and its positive effect on the organizational learning and knowledge base.

The overall assessment of the performance of the corporate foresight project is highlighted to be “successful” by the participant managers. The individual assessment result of the project managers indicated that the corporate foresight results were communicated into the company in order to create diffusion and higher commitment for successful project results. However, after the execution of the corporate foresight project, the project managers are withdrawn from the support and responsibility of the project. One reason for frustration as mentioned by one of the managers (Manager B, Appendix 2) could be the imbalance of power and ambition, as the foresight project was carried out without deep involvement of the headquarters.

The participant managers suggested and supported to re-apply the corporate foresight project at predetermined time cycles, i.e. three to four years in order to build company knowledge and commitment to foresight activities.

The results of the assessment at the execution phase indicates that “no professional competence is not enough to ensure success if these managerial details are wrong. Likewise, no amount of administrative aids can ensure success if professional competence is lacking” (Andersen *et al.*, 1996). In order to avoid pitfalls at the execution phase, more

focus will be given on the complexity of coordinating a variety of resources with balanced targets of time, cost and quality in the corporate project.

Assessment of the organizing phase indicates problem areas at the “distribution of responsibility”, “availability and motivation of the key resources”, “commitment of line managers”, as well as “project communication”.

According to the number of pitfalls assessed by the participant managers at company foresight project, one may assume the odds of the project to fail, unless the defined 12 success factors are taken into account in order to achieve more effective corporate foresight project results.

Our assessment results should help the corporate foresight project team and administration to make use of its own project experience and persistently build on it.

6 Conclusions

This study proposed an assessment of corporate foresight project results in a multinational company operating in a developing country via approaching corporate foresight as a project in order to help its conversion into actual change within the organization.

Literature suggesting different individuals having different perspectives on time and space, depending on culture, past experience and the nature of the problems are instrumentalized in our study by relating it to the foresight tools and methodologies. Such varying perspectives may explain managers' time and space horizon in which they think and act/execute. Such actions taken are not extended into days but years into the future. Based on the analysis of space/time preference of participant individuals, managers will benefit from incorporating the diversity of time and space dimensions into their strategic thought.

The study may either help to support the reliability of the foresight studies as they have been implemented or might bring a new methodological challenge.

This part of the study focuses on the possible application fields and limitations of the study incurred while conducting the research.

6.1 Possible application fields

We suggest corporate foresight projects to take place within the scope of foundation, planning, organizing, monitoring, execution, feedback and continuity.

On the other hand, our proposed framework (Öner and Göl, 2008) redefined and extended the pitfalls and challenges of corporate foresight projects in order to better instrument their results into actual changes in corporations. Our approach described the factors affecting the success of corporate foresight activities with respect to understanding the pitfalls of foresight projects. Taking reference to such a framework, foresight results may be better delivered and disseminated in corporations with concrete results and actual changes in organizations. Our model of assessment may be used to analyze the level of the reported success of foresight project results in companies implementing foresight activities.

6.2 Limitations

One of the limitations of the study is use of the single case with an attempt to assess the pitfalls of the foresight projects. The exploratory study may be of having premature conclusions about the assessment of corporate foresight project results, yet a single case can imply generalizable insights. We believe this research suggests some potentially significant insights for foresight studies and its applications.

6.3. Future research recommendations

Our research initiates an assessment of a corporate foresight project results. Further research needs to be conducted on managers as a longitudinal study in order to observe their varying modes of thought and action – within their life-cycle of managerial experience – within the foresight activities taking place in their organization. Besides, the discussion on

the relations found between the assessment of the corporate foresight project results and demographics needs to be elaborated with further research (i.e. differences among decision-makers versus policy implementers).

Although our research studies have set the initiative of a new assessment model, as a future research we aim to analyze the level of the reported success of foresight project results of different companies either by initiating foresight activities from the beginning or as a part of the assessment process. The model of assessment will again be based on our proposed framework, which is characterized by approaching foresight as a project and associating it by the redefined success factors of corporate foresight projects.

Varying time/space preferences among managers may need a special attention within the duration of their professional experience. Based on the analysis of space/time preference of participant individuals, we suggest further research on discovering the organizational and/or cultural orientation toward the future in order to help managers in steering change in their organizations.

Our exploratory assessment model was designed via the use of a survey questionnaire, a case study, and interviews of managers and indicated associations among space/time perspectives of individuals in order to assess corporate foresight project results. However, further research needs to be done in order to develop[5] and excel at the initial proposed model and its applicability.

Finally, a factor to be considered however, but not in our paper, would be the cognitive barriers in foresight process.

Notes

1. In our study we prefer to use the term foresight studies instead of futures or futures studies.
2. Technology foresight project of the Scientific and Technological Research Council of Turkey (TUBİTAK), determined in creation of an "affluent society (retrieved from www.tubitak.gov.tr/home.do?ot=5&rt=3&sid=0&cid=3332, last visited on December 2, 2007).
3. The "local Davos" of Turkey organized annually by a private institution devoted to planning the 100th anniversary of the Republic of Turkey (Alsan, 2008).
4. "Pictures of the Future" is an in-house magazine of the company focusing on infrastructure, automotive technology and traffic management, security technology or health and medical technology.
5. New factors such as power dimension (high/low) of individuals may be added to the initial model in order to help foresight decision making tools.

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Appendix 1. "Pictures of the Future" approach of Siemens AG

Extrapolation, the first perspective, may also be seen as "road-mapping" – in other words, projecting the technologies and products of today into the future. The aim here is to anticipate, as precisely as possible, the point in time at which certain things will become available or when a need for them will arise. The advantage of this approach – an objective starting position – is also its biggest weakness, since the method fails to predict discontinuities and great leaps forward in the development process. Figuratively speaking, while "road-mapping" will take you on a journey along a well-built road, you will not see much of what is going on beyond the roadside. And you can never be sure that the road is not about to end suddenly, in which case it would have been better to turn off many miles before. However, with the use of a complementary approach, known as the "scenario technique," such matters can be judged with more certainty.

Retropolation involves imaginatively placing yourself some ten, 20 or even 30 years or more into the future. The time-scale depends on the area of activity under investigation. For example, it is certainly much easier to make reliable predictions about the nature of power generation and distribution in 25 years time than it is to make equally reasonable statements concerning information and communications technology in 2030.

Once an appropriate time frame has been selected, a comprehensive scenario can be devised. This scenario should incorporate all relevant factors, including the future development of social and political structures, environmental considerations, globalization, technological trends and new customer needs. The trick now is to backtrack to the present from the "known" facts of the future scenario. In this way, it is possible to identify the kinds of challenges that need to be overcome to get there.

By combining extrapolation and retropolation – and bringing these two approaches into harmony with each another – experts can draw up "*Pictures of the Future*" revealing which changes will impact the company's different areas of activity. However, the purpose of these pictures is not merely to depict visions of the future; as part of a systematic, ongoing process at the company, they also greatly help quantify future markets, detect discontinuities, anticipate forthcoming customer requirements, and identify new technologies with large growth potential and mass appeal.

Appendix 2. Observation reports of the participant managers

In order to establish the validity of the survey questionnaire, observation results were reported during the interviewing process.

1. Participant A

Company corporate foresight project created a mindset in the organization. It is not possible to have everything precisely defined. The responsibility of the participants was well described. Motivation was relatively high. The communication could have been better managed. The technical methods used were no complicated at all, but rather entertaining. Corporate foresight projects need to be re-applied at three to four years of time cycles.

2. Participant B

This participant manager refused to answer the survey questionnaire in regard to the assessment of the corporate foresight project at the company, but he revealed his critical comments on the project:

Our company operating in Turkey is a part of an important multinational company and is vitally bounded to the headquarters. Having said that, how one can expect to have the results of such a project be in effect without the acceptance and concern of the HQs.

Also the planning range is unsound. Managers need to question the anticipated actions to be taken for ten years ahead. The project participants may not be at the company after ten years in order to support and keep the continuum of the responsibility of the corporate foresight. It is rather vital to consider the current structure of the company in an attempt to foresee the company's roadmaps within the years ahead.

3. Participant C

If the company wants to become the trendsetter in innovation, we would rather support the corporate foresight project and actively be involved in it. Not being satisfied, not being committed may bring unhappiness. The project is vital since it aims to answer the following:

Where will the company be in ten to 20 years?

What kind of initiatives/opportunities is waiting ahead, what has been planned?

What are the innovative ideas, new solutions?

How will they be managed, and realized?

What to change in order to achieve more efficiency?

What is the impact of corporate projects on corporate culture?

That's why this project is important!

4. Participant D – one of the project managers

Company corporate foresight was designed around two groups; RW (Real World) representing to play the role of extrapolators (Appendix 1) and SD (Spin Doctors) playing the role of retroplators (Appendix 1). The project methodologies were so creative, including science-fiction movies and authors in order to support the teams' future scenarios of 2015, both for the company and Turkey. After the completion of the project, we shared our experiences and reports to the regional subsidiaries and corporate headquarters in order to reinforce corporate learning.

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