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Although Environmental scanning and monitoring is not generally classified among foresight methods, it is often carried out either as a prelude to, or in combination with, a literature search before embarking on a full-scale Foresight exercise. It consists of a process of gathering, analyzing, and dispensing information for tactical or strategic purposes about the environments in which an organization is operating. Some organisations regularly carry out the processes of environmental scanning and monitoring to provide them with early warning about important future changes in an effort to 'keep ahead of the pack'.

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The FOR-LEARN Guide to Environmental scanning and monitoring

This is a summary of the article on the methods of Environmental scanning and monitoring from the FOR-LEARN guide. To read the full article go [here](#).

The FOR-LEARN guide explains that Environmental scanning and monitoring is not a Foresight method as such. It is carried out as part of the background activity or as a prelude to engaging in a fully fledged Foresight exercise. Its purpose is to detect 'weak signals' in order to provide early warning about important future changes. In those organisations where a formal scanning system does not exist an ad-hoc team could be formed or a consultancy hired to carry out the process of environmental scanning with a specific focus related to the proposed objectives of a foresight exercise. It can alert an organisation to weak signals and emerging trends that should be taken into consideration when scoping the foresight exercise. The scanning techniques vary from searching databases and the Web through literature reviews to setting up an expert panel or interviewing key people who are known to have a wide overview of the field and a track record of identifying trends. Some organisations and government departments have set up a formal scanning system. This implies a commitment to a continuing process of monitoring change, with an orientation toward longer-term issues.

It is important from the outset to be clear why the scanning system needs to be set up, the level of involvement required and how the results are to be used. This method allows early signs of possible important future developments to be detected so as to gain as much time as possible to react to them.

Using the method

The first step in establishing environmental scanning is to decide which level of scanning commitment is best for your institution at this time: irregular, periodic, or continuous. Most colleges and universities operate an irregular or periodic system, focusing on the task environment. These levels require less resource commitment from the institution, but they only address the immediate needs for information about the external environment. You may satisfy the requirements of these levels through several means. A quick way of getting started is to interview major decision makers regarding their view of the most critical trends and developments that could affect the institution. Use the interviews and conversations with your colleagues (including those at other institutions) to identify critical trends and potential developments. Also examine past program reviews, the last institutional self-study, and the most current master plan.

Establishing a continuous scanning system requires more effort and resources. First, secure a resource commitment from the senior official responsible for planning. At a minimum, a continuous scanning system requires a professional and a support person to devote half of their time to the enterprise. Further, a continuous scanning program requires a number of scanners who agree to rigorously and systematically review specific information resources. Assuming that you secure the resources, your next step is to recruit and train volunteers to perform active scanning.

Environmental scanning is usually used at the start of a futures project. It aims at broad exploration of all major trends, issues, advancements, events and ideas across a wide range of activities. Information is collected from many different sources, such as newspapers, magazines, Internet, television, conferences, reports, and also science-fiction books. Various tools and methodologies are used by large corporations to systematically scope their external environment. An example is the widely used FUTURE structure developed by Futurist Patrick Dixon described in his book *Futurewise - Fast, Urban, Tribal, Universal, Radical, Ethical*. Attention needs to be given to potential Wild Cards - low probability but potentially high impact events.

Scanning is used to build up a comprehensive picture of factors that could impact strategy

Four types of indicators can be examined in the process of environmental scanning:

- Lone signals (individual factors that might indicate change)
- Landmark events (in various areas of life)
- Forecasts of experts
- Statistical descriptions (to portray development of elements of the study)

Once you have your vision and mission statements in place, you have a picture of where you want to go. The next step is to understand where you are now. This is the process of taking stock and involves thorough examining of both the internal status of your district or school and the external context in which it is situated. Conduct an Environmental Scan

An environmental scan is conducted to collect data to answer questions about the present and future of the school district.

- Your environmental scan develops a common perception.
- Your environmental scan identifies strengths, weaknesses, trends and conditions.
- Your environmental scan draws on internal and external information.
- Your environmental scan is a key on-going process for internal and external honesty and openness to changing conditions.

Tools for Environmental Scanning

There are many approaches to environmental scanning, including:

- Surveys
- Questionnaires
- Focus Groups
- Open Forums

Steps

Environmental scanning begins with gathering information about the external environment. This information can be obtained from various sources, both internal and external to the organization. Internal sources include key administrators and faculty members; they could be interviewed to identify emerging issues they believe will affect the institution but are not currently receiving the attention they will eventually merit. Such interviews usually release a flood of emerging issues, indicating that the organization's key leaders are already aware of many important new developments but rarely have the opportunity to deal with them systematically because they are so overburdened with crisis management.

Administrators and selected faculty members could identify the sources they use for information about the external world-the newspapers, magazines, trade publications, association journals, and other sources they regularly use to keep in touch with developments in the external world. Typically, these surveys show that administrators read basically the same publications but only selected sections.

Scanning includes a broad range of personal and organizational activities. It is a process of screening a large body of information for some particular bit or bits of information that meet certain screening criteria (Renfro and Morrison 1983b). For example, some people scan headlines in a newspaper for particular kinds of articles, and when they find that information, they stop scanning and read the article. Then they resume scanning. This process has several distinct steps:

- Searching for information resources
- Selecting information resources to scan
- Identifying criteria by which to scan
- Scanning and
- Determining special actions to take on the scanning results.

How these steps are taken determines the kind of scanning-passive, active, or directed. Passive scanning. Everyone scans continually. Whatever a particular individual's interests, goals, personal values, or professional objectives, it is an element of human nature to respond to incoming information that might be important. Ongoing scanning at an almost unconscious level is passive scanning. No effort is made to select a particular information resource to scan. The criteria of passive scanning are obscure, unspecified, and often continuously changing. Only ad hoc decisions are made on the results of this type of scanning.

The basic purpose of the scanning committee is to identify important emerging issues that may constitute threats or opportunities.

Passive scanning has traditionally been a major source of information about the external world for most decision-makers and hence for their organizations. The external environment has historically been a subject of some interest to most people, requiring at least passive scanning at fluency in current or emerging issues. The

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pace of change some level for the maintenance of one's chosen level of in the external environment has moved this scanning from an element of good citizenship to a professional requirement-from a low-level personal interest satisfied by passive scanning to a high-level professional responsibility requiring active scanning-more like the special scanning used for subjects of particular importance, such as career development.

Active scanning. The components of active scanning are quite different from those of passive scanning. For example, the searching or screening process requires a much higher level of attention. The information resources scanned are specifically selected for their known or expected richness in the desired information. These resources may include some, but usually not all, of the regular incoming resources of passive scanning. Thus, a member of the scanning committee would not actively scan magazines about sailing for emerging issues of potential importance to the university. This is not to say that such issues will never appear in this literature but that passive scanning is sufficient to pick up any that do.

The criteria of screening for signals of emerging issues must be broad to ensure completeness, and they usually focus on certain questions: Is this item presently or potentially relevant to the institution's current or planned operations? Is the relationship between the likelihood and potential impact of the item sufficient to justify notifying the scanning committee? For example, a major renewal of central cities in the United States accompanied by high rates of inward migration might have tremendous impact on the educational system but just be too unlikely in the foreseeable future to warrant inclusion in the scanning process. It is not part of the institution's current "interesting future," which is a very small part of the whole future.

The interesting future is bounded by the human limitations of time, knowledge, and resources; it represents only that part of the future for which it is practical to plan or take actions now or in the foreseeable future. For almost all issues, this interesting future is bounded in time by the next three or four decades at the most, although most issues will fall in the period of the next 20 years. This time frame is defined as that period in which the major timely and practical policy options should, if planned or adopted now, begin to have significant impact.

The issues-policy-response time frame depends on the cycle time of the issue. For the issue of funding social security, the interesting future certainly runs from now for at least 75 to 85 years-the life expectancy of children born now. Actually, as their life expectancy will probably increase in the decades ahead, 90 to 100 years may be a more realistic minimum. For financial issues, the interesting future may be the next several budget cycles-just two or three years. For a new federal regulatory requirement that may be imposed next year, the interesting future runs from now until then.

The interesting future is bounded by a measure of the uncertainty that a particular issue might actually materialize. Developments that are virtually certain either to happen or not happen are of little interest in scanning, because they involve little uncertainty. If the institution has little ability to affect these more or less certain happenings, they should be referred to the appropriate department for inclusion in its planning assumptions. The aging of the baby boom, for example, is certain to happen and should be factored into the current strategic planning process. Thus, the interesting future is comprised primarily of those developments that are (1) highly uncertain, (2) important if they do or do not happen, and (3) responsive to current policy options.

A second dimension of scanning concerns the time element of the information source being scanned. Information sources are either already existing resources, such as "the literature," or continuing resources, which continue to come in, such as a magazine subscription. Passive scanning uses all continuing resources-conversations at home, television and radio programs, conferences, meetings, memos, notes, and all other incoming information. Passive scanning rarely involves the use of existing resources. Active scanning involves the conscious selection of continuous resources and, from time to time, supplementing them with existing resources as needed. For example, an item resulting from scanning continuing resources may require the directed scanning of an existing resource to develop the necessary background, context, or history to support the determination of an appropriate response.

Directed scanning. The active scanning of a selected existing resource for specific items is directed scanning. Usually this scanning continues until the items are located, not necessarily until the resources are exhausted. For example, if a member of the scanning committee knows that a good analysis of an issue was in a particular journal some time last year, he could examine the table of contents of all volumes of the journal to locate the article. As the specific desired item is known and the resource can be specified, the scanning committee can delegate whatever directed scanning is necessary. The environmental scanning model begins with scanning the external environment for emerging issues that pose threats or opportunities to the organization. As part of this step, trends are specified that describe the issues and can be used to measure changes in their nature or significance. Each potential issue or trend is then analyzed (evaluation/ranking) as to the likelihood that it will emerge and the nature and degree of its impact on the organization if it should actually materialize. This stage produces a rank ordering of the issues and trends according to their importance to current or planned operations. The next stage, forecasting, focuses on developing an understanding of the expected future for the most important issues and trends. In this stage, any of the modern forecasting techniques may be used. Once the forecasts are made, each issue and trend is then monitored to track its continued relevance and to detect any major departures from the forecasts made in the preceding stage. Monitoring, in effect, identifies areas for additional and continued scanning. For example, subsequent monitoring may begin to suggest that an original forecast of the employee turnover rate is no longer credible, which would imply the need for more focused scanning, forecasting, and analysis to develop a more credible projection.

Pros and cons

Environmental scanning the interesting future is comprised primarily of those developments that are;

- Highly uncertain,
- Important if they do or do not happen
- Responsive to current policy options.

Cons;

- Scenario analysis can be wrong
- The use of the wrong estimation methods
- Incorrect interpretation of analysis
- May be unable respond immediately to changes

Submethods: other methods used within horizon/environmental scanning

Content to be added -- connect with Elina Hiltunen

Megatrend analysis

Weak signals / emerging issues analysis

Wild cards / black swans

Variations

Environmental scanning contains many of analysis. This analysis are economical analysis, political analysis, sociocultural analysis, international analysis and demographic analysis. Also environmental scanning used for a part of SWOT analysis. Swot analysis search of organizations? strength, weakness, opportunities and threats. So for understanding all environmental situations organizations need this scanning.

See also

[Structural Analysis](#)

[Agent Modelling](#)

[SWOT Analysis](#)

[Trend Intra & Extrapolation](#)

[Modelling & Simulation](#)

[Gaming](#)

[Creativity Methods](#)

[Expert Panels](#)

[Delphi survey](#)

[Backcasting](#)

[S&T Roadmapping](#)

[Critical & Key Technology Study](#)

[Scenario Building](#)

[Morphological Analysis & Relevance Trees](#)

[Cross-Impact Analysis](#)

[Multi-Criteria Analysis](#)