



Global Intelligence Alliance

INTELLIGENCE NEEDS ANALYSIS

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1. Reasons for Analyzing Business Information Needs

1.1. ACKNOWLEDGING THE NEED FOR BUSINESS INFORMATION

Pirttilä (1997, 45) categorizes information needs to conscious needs and unconscious needs. Information needs are therefore difficult to operationalize, and organizational participants are not necessarily able to articulate their true information needs, even if sophisticated methods were employed. In general, work-related information needs may arise when an individual recognizes that his or her current knowledge is insufficient for the task at hand.

Belkin's (1980 ref. Goodman 1993) "anomalous states of knowledge" theory postulates that information seekers are often not able to specify their real information needs. They may recognize that a problem exists and that information might be needed to resolve it, but do not know what information they need. When they do not describe their situation and ask a person familiar with the information holdings to help determine the best data and sources, they often ask for one record when in fact they need another to make a decision or solve a problem most effectively. They may then receive information which is not what they really wanted or needed and judge the information received to be irrelevant.

This general theory by Belkin is applicable to top management as well. According to Rosén (1996, 48), in most strategic models it is automatically assumed that the management of a company knows what kind of information they need, which is, however, not the reality. One of the misconceptions that regularly surface is that senior management understands the

organization's chief information needs. In reality however, senior management only recognizes a small part of the organization's information needs.

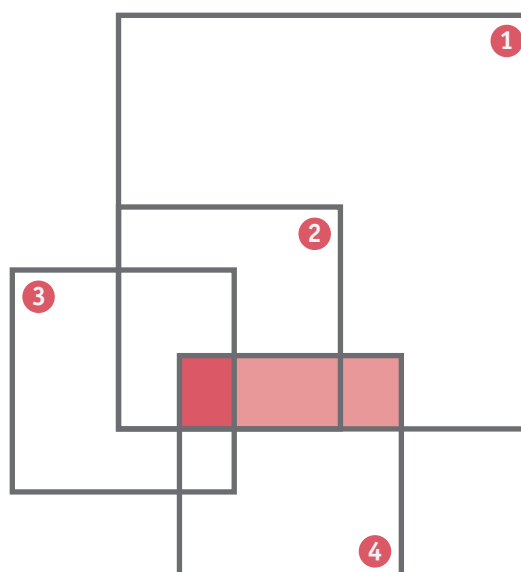
According to Simpson and Prusak (1995), research and other types of information gathering activity are frequently hampered by a poor understanding of what the end user actually wants or expects. All information gatherers, in certain situations, will search for information in an apparently random manner with only a vaguely formulated idea of a problem or need.

As a result, knowledge of information needs is often poor and does not depend on whether the user of the information will be the information seeker himself, some other person or the organization. The information seeker and the user may have some perception of the need, which, however, may be far from the actual that can be uncovered through a thorough information need analysis (Rosén 1996, 51-52).

According to Rosén (1996, 51-52), the picture of a company's actual information needs that emerge from a needs analysis, usually deviates significantly from the information needs perceived by the participants prior to the analysis. This view has also been presented by Ghoshal and Kim (1986) who state that there are substantial overlaps between information wants and information needs that are not being met.

Figure 1. Only a Small Fraction of the Information We Have Access to Corresponds to Our Needs

- 1 information available a present
- 2 available info actively asked for
- 3 info need experienced
- 4 actual information need



Source: Carl-Gustav Rosén 1996

In general, Rosén (1996, 51-52) classifies information into four different categories: 1) information already existing within the company, 2) that part of existing information which has been actively acquired, 3) perceived or experienced information needs, and 4) actual information needs. A very small share of the information that is important is actually perceived as being important, and is also

available to the organization. This is illustrated in Exhibit 1, where only the small shadowed rectangle in purple colour corresponds to the information that is important, perceived to be important and also available to the organization. Moreover, required information that would be available to the users but its importance is not understood (shaded area in rectangle 4), is in most cases considerably large.

1.2. BENEFITS OF KNOWING WHAT INFORMATION IS NEEDED

The number of useful information sources in the world grows by leaps and bounds. It is important that we keep learning how to use them efficiently, but it is also necessary to keep in mind that the individuals who ultimately make use of all this information often have limited capacity to handle this information. Flooding managers with more information than they need is generally counterproductive, as managers soon begin to ignore the relevant information along with the irrelevant noise. What managers need is not more information but better and more accurate information. (Rosén 1996, 54) Otherwise, the result will be an information overload which paralyzes managerial work and may even end up in an "information fatigue syndrome" presented by Oppenheim (1997).

A clear advantage of information needs analysis is that it will give a more realistic view of the company's or individual's information needs compared to mere perceptions. Also, knowledge about what kinds of information will be required could provide clues as to why the existing information may not be utilized effectively. A thorough information needs analysis could also enable improvements to information

systems. According to Goodman (1993), information managers and archivists can use this knowledge to help ensure that the needed information contributes to management functions through:

- Identifying and evaluating internal and external information resources.
- Identifying needed information that is not being maintained.
- Enabling access to information through streamlined retrieval systems for active and inactive records.
- Providing information analysis services.
- Ensuring that information is presented in a manner which will help ensure its effective use.

The better the user of any information is able to determine his information needs, the more likely it is that gathering the information will be successful. If the needs are not defined accurately, collecting information is not likely to respond to the original questions, let alone in a structured format.. Consequently, the needs determination phase saves lot of time and money when conducted carefully. (Markkinatiето-opas 1994, 18-19)

1.3. NEEDS ANALYSIS IN CONJUNCTION WITH BUILDING BUSINESS INFORMATION MANAGEMENT SYSTEMS

Despite its acknowledged importance, defining information requirements is perhaps the most neglected phase in the information management process. One explanation is that the high costs of implementing information technology generally focuses management's attention on the technology (hardware and software) and pre-empts discussion of issues concerned with the information content itself. (Berkley & Gupta 1995)

Nevertheless, information needs analysis is of utmost importance when an organization is developing an information system such as a market intelligence system an entire enterprise information portal (EIP). Gilad and Gilad (1985) have written that the first step in designing a business intelligence system requires defining goals, targets, and priorities. This first step identifies which information will be relevant to the company's goals and strategies, and directs the choice of information sources. According to Sawka (1996), defining intelligence needs is an absolute prerequisite not only for the daily operations of an intelligence system, but for the basic design parameters of that system. Needs definition ensures

that the intelligence system is organized specifically to collect and analyze information on which management has a predisposition to act, because of some strategic objective or business need, and it ensures that the management is fully engaged in the intelligence process.

Rosén (1996, 54), states that it is not wise to install a sophisticated information processing system or to increase the flow of information from external sources before one has assessed the organization's actual information needs. This statement is supported by Kamppinen (1996, 101-104) whose main finding is that a very significant reason for the failure of introducing a competitive intelligence system in a company is the failure to accurately define the purpose of the system and the related needs. This leads to insufficient commitment by the future users to the system, and therefore a low usage activity. The more involved the users are in defining the information requirements and in the approving the user interface, the more likely they are to accept the system and utilize it their everyday benefit.

2. Choosing the Needs Analysts

Calof (1997) has put together a list of criteria for choosing the analyst or analyst team for conducting a business information needs analysis:

- The analyst has to understand how to identify and elicit the information needs of decision-makers exactly.
- The analyst has to develop effective communication, interviewing and presentation skills.
- The analyst has to understand the basic psychology types in order to appreciate the different orientations of decision-makers.
- The analyst has to know the organizational structure, culture and environment as well as the key informants.
- The analyst has to remain objective.

Regarding the responsibility of tracking management's information needs, Sawka (1996) argues that it ought to be given to an individual or a team. The team can either consist of own personnel, outside consultants, or be a combination of both. Regardless, clear responsibility needs to be assumed.

Given that the information needs evolve and have to be regularly tracked, it can be argued that internal implementation will bring about more organizational learning (Sawka 1996). Moreover, conducting the business information needs analysis demands good knowledge on the company's organization, operations, and future strategies. It will take a long

time from an external specialist to obtain the necessary knowledge about a company to be able to perform an in-depth information needs analysis. (Finne 1996, 73)

On the other hand, using an external specialist should reduce the problem of neutrality. Also, according to Drucker (1995), even big companies, in large part, will have to hire outsiders to help them, as typically there are very few people in the companies who have high competence in the field of business information. To think through what kinds of information the business needs will typically require someone who knows and understands the highly specialized field of information. Any external consultant, however, has to be extremely reliable and have back-up from the company's management.

According to Finne (1996, 73), information needs analysis should be done by combining in-house expertise, external expertise and a workable framework. An external business information expert has to be well familiarized with the company's organization, culture, and future strategies, while on the other hand he has to remain neutral and disseminate his knowledge of business information to the other members of the team in every possible way. Ideally as a result, group synergy can be created and there is a high probability of succeeding well in analyzing the real business information needs within the organization.

3. General Methods of Analyzing Information Needs

Various methods exist for analyzing information needs in an international company, the most of which can be used individually or by combining a number of methods into a cohesive whole. One proven fact is, however, that the analysis has to be conducted in a proactive way, as information users generally do not come and tell about their information needs. As Fuld (1991) puts it, "it is a well-known fact that management poorly communicates its information needs to the field".

Selecting the analysis method depends on a variety of factors. First, the objective of the data sought must be determined. Standardized techniques are more useful in the collection of objective data than of subjective data. Also the degree of structure sought in the data collection needs to be determined. Unstructured data will require more open-ended questions and more time than structured data. (Czinkota et al. 1992, 339)

Watson and Frolick (1993) apply four strategies to determining information requirements from an executive information system (EIS): (1) asking; (2) deriving from an existing EIS system; (3) synthesis of characteristics in utilizing the system; and (4) discovering from experimentation with an evolving information system.

Specialized Business Intelligence consultants, on the other hand, generally use three basic methods for determining information needs when building a business intelligence system: personal interviews, focus workshop with group discussions and information gap analysis by surveys. Wetherbe (1991) supports the use of group discussions for joint application design, whereas Allison's (1996) study regarding UK companies, on the other hand, revealed that organizations in practice have adopted individual interviews as the primary means of discussion. These discussions were either driven from written requirements as drawn up by an executive or an initial screen prototype created by the information service team. Two companies combined the use of one-to-one sessions and group workshops.

Rosén (1996, 49) suggests that there are four alternative methods for determining which information is important: (1) common sense, (2) checklists, (3) experience, and (4) a formal procedure. This categorization is, however, somewhat artificial as it is self-evident that common sense is not enough for determining the information needs of a complex organization, and it is quite difficult to differentiate

with common sense and experience. Also, a checklist can already be perceived as a formal procedure.

Fuld (1991), on the other hand suggests that executives must conduct a series of in-depth surveys of key departments to determine how staff uses information and what information they need. In practice, to develop a realistic picture for assessing an intelligence program, three steps should be taken. First, the analyst should have preliminary meetings with the senior management to determine their perceptions of information needs. Second, he should conduct assessment interviews with senior managers and midlevel managers to understand their information needs. Finally, the analyst should analyze the results to identify the broadest common base of information needs.

Ylihärsilä (1991, 62) found out in her study that accurate knowledge on the information needs could be obtained by using different information requirement determination methods simultaneously as well as by focusing the questions on the direct value of different kinds of information to decision-making and planning. In practice, she carried out the interviews with open questions, and states that brainstorming might also have been a good method.

Based on the above discussion, we can conclude that the mostly used analysis methods are the following:

1. Focus Group Discussions & Brainstorming
2. Personal Interviews
3. Surveys
4. Checklists
5. Previous Experience, Existing Systems & Common Sense

A focus group consists of a small group of people with similar interests facilitated by an independent chairman. In focus group discussions, by putting people together the synergy of the group leads to a pooling of ideas and any conflicting objectives of different functional areas can be resolved. Focus groups are useful for getting at some of the less obvious issues that would never be picked up from more structured interviews or questionnaires (Wilson 1997, 212). Group sessions should be followed by a structured interview with each executive. The interview can take different forms, but should look to draw out the requirements by phrasing the questions for most effective response. (Wetherbe 1991)

There are two types of interviews, unstructured

and structured. Unstructured interviews require little or no preparation. Structured interviews will require that the analyst prepares the questions in advance and then allows little deviation. The advantages of interviewing include understanding, motivation, insight, honesty, and the ability to ask probing questions. The disadvantages include cost and the need for actually having experience in interviewing. Since interviewing easily becomes costly, the information needs should be prioritized. This will enable making compromises in order to cater to the most important needs of the largest part of the clients. (Saldarini 1990, 105; Liukko 1994, 26-27)

Survey by questionnaire allows the analyst to obtain data from a large group of people within a limited time. Questions can be open-ended, which allows the respondent to print any reply; closed-ended, which lists several choices for the respondent; or a combination of both formats. The advantages of questionnaires include volume, timeliness, easy tabulation, low cost, conciseness, and anonymity. The disadvantages include apathy, suspiciousness, inflexibility, presumptions, invalidity, extensive

design requirements, and short life. (Saldarini 1990, 105) Questionnaires seem to be falling out of favour for the reasons as described. More direct approaches are made to the people whose view is being sought. The value of questionnaires, however, increases if they are validated by the use of focus groups or other interactive methods. (Wilson 1997, 212)

Checklists are lists with questions that the user goes through. The questions are mostly Yes/No questions and not very informative. Checklists can be successfully used to get a rough overall impression of the information requirements. However, they will mostly not be informative enough. Another problem is the length of checklists; They are typically dozens of pages long. This means that very few in the company will have enough time to go through them properly.

Experience is one of the cornerstones especially when building a comprehensive information system for a company. If some kind of an information system exists, a lot can be learned from how well it is perceived to serve the users, what should be maintained, and what should rather be changed (Ylihärsilä 1991, 63).

4. Challenges in Analyzing Business Information Needs

As in other projects, key success factors in information needs analysis are the motivation of the respondents, and the respondents' understanding of the importance of the project (Liukko 1994, 10). Often this is reflected in the time that managers are willing and able to allocate for this kind of extra activity. The needs analysts will likely face senior managers and middle managers who are too busy to take seriously the exercise of preparing and updating long-range information requirements. This challenge can be eased by active internal marketing of the project, including bringing up the long-term benefits for the respondents. Another way of managing this problem is relying on less formal relationships. Management's information requirements must be updated on a regular basis, which could be done in occasional informal discussions.

Identifying the correct information needs can prove to be elusive. The creation of a set of universal requirements based on organizational goals is especially difficult. A major stumbling block is that even when executive time is given

to assist in the analysis process, it is difficult for them to identify their needs. The typical approach of many analysts to identifying requirements in any information system is to ask "what information do you need?" This leads to frustration on both sides. Of course an executive will try to identify items of importance, but the tendency is to focus on items which have been important in recent days or weeks. The process inevitably leaves out vital information. (Allison 1996)

According to Pirttilä (1997, 47), it should be emphasized that actual business information needs can only be assessed totally reliably with hindsight. What would have been beneficial to know with regards to a past decision making situation can only be evaluated afterwards. In advance, this assessment can in the worst case be limited to mere guesswork. In addition, regardless of the level of sophistication in the method of assessing information needs from the organizational point of view, it is difficult to fully eliminate the subjective bias inherent in human estimation.

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