

METHODS OF IDENTIFYING BUSINESS INFORMATION NEEDS

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BACKGROUND

- The risk of information overload has increased due to
 - the assumption that a large amount of information brings competitive advantage.
 - the use of ICT in information gathering.
 - A great mass of information
 - can handicap essential functions such as decision making.
 - takes time, money and work to manage and process.
- The information *essential and relative* to company and its decision makers should be defined.
- *Identifying of information needs.*
- Information needs have been studied for decades (see e.g. Wilcox, 1922 and Wyer, 1930 in Harmon & Ballesteros, 1997), but *only recently from the business intelligence function's point of view* (see e.g. Herring, 1999).
 - Methods of defining business information needs should also to be examined more closely.



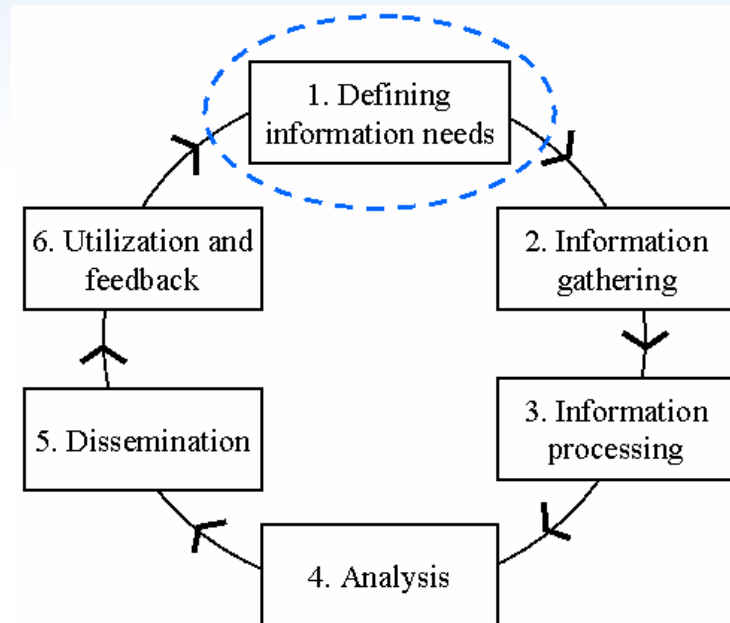
OBJECTIVES AND METHOD OF THE PAPER

- The paper discusses
 - *What is business intelligence?*
 - *What are information needs?*
 - *What the main methods of defining business information needs presented in the literature, and*
 - *How they are used?*
 - *What are their pros and cons?*
- The research is approached through *an overview of the literature.*



BUSINESS INTELLIGENCE

- Business intelligence is *an organized and systematic process* by which an organization systematically *gathers, manages, analyzes and disseminates* information essential for its functions.
 - *Aims to satisfy the managers' information needs* by providing accurate and timely information.
- Enhances decision making and can create competitive advantage.



BUSINESS INFORMATION

- *Business information* = information regarding the company's own operations, markets, customers, competitors, and other actors and variables in the company's business environment.
 - Managers' fundamental resource. (Hannula & Pirrtimäki, 2005)
- Managers tend to ignore information they consider to be irrelevant.
 - No sense to spend resources to acquire information that is not to be used in decision-making
- Organization can reduce the gathering of excess information by identifying the managers' information needs:
 - *what information they really need,*
 - *when they need it,*
 - *and in which format to make optimal decisions.*



INFORMATION NEEDS AND WANTS

- *Need* = something that one “must” have.
- *Information need* = a gap between the existing information and the information called for.
 - Recognition of the existing knowledge being not enough in order to reach the target. (Case, 2002)
 - The information a person should have in order to perform his tasks or solve a problem in a satisfactory way. (Nicholas, 2000)
- *Information want* = what an individual would like to have. (Nicholas)
- Information needs can be questioned: Does the person really *need* the information he requests or does he merely *want* it.
 - Although difficult it is important to acknowledge the difference due to the costs of information gathering, processing, analysing and dissemination.
- Not all information needs can or even should be satisfied.
 - The *costs in comparison to the benefits* should be considered.
 - Some information can be *impossible to acquire*.



CHALLENGES AND DIFFICULTIES IN IDENTIFYING INFORMATION NEEDS

- Information needs can be *difficult to articulate*.
 - Managers may be *unable to identify* their own information needs. (Butcher, 1998)
 - Information needs can be *subconscious* → usually surface only in the decision making situation → hard to define.
 - If addressing only the conscious and explicit information needs the actual need is ignored or only partially satisfied. (Harmon & Ballesteros, 1997)
 - *Managers' personalities effect* the defining of their information needs:
 - a) The reticent manager, who is not good at asking information or expressing his needs in any way.
 - b) The manager who wants to know everything, because he is not able to describe his needs and believes he will know what he needs once he sees it.
 - c) The manager who asks the business intelligence unit what he needs to know. (Herring, 1999)
- It is more important to find *the right questions to ask* than to find the right answers.



CHOOSING A METHOD FOR IDENTIFYING BUSINESS INFORMATION NEEDS

- Methods should be *carefully evaluated* to ensure the best results:
 - What kind of situations the method can be used in?
 - What are its pros and cons?
 - What skills does it demand?
 - What are the costs and other resources the method demands?
- When choosing a method one should also consider:
 - In what situation it will be used?
 - What is the objective i.e. what will be done with the results?
- *Using different methods together may be more successful than using just one method.* (see e.g. Butcher, 1998; Kunz et al. 1976; Grönfors, 2001; Slater, 1990)
- The methods presented in this paper are *not comprehensive or exclusive.*



QUESTIONNAIRE

- A questionnaire is filled in independently by a respondent.
 - Consumes less of the researcher's time.
 - The researcher's persona does not effect the answers.
- *Not considered to be a very suitable method for defining information needs.*
 - The best way to make good use of a questionnaire in assessing information needs is to use it in conjunction with some other method. (Kunz et al, 1976; Nicholas, 2000)
- Best suited for *defining information needs of a large group of people related to an information system development.*

ADVANTAGES	<ul style="list-style-type: none"> + Economy. + Answers can be analyzed quantitatively. + Does not take a lot of the researcher's time. + Gives time to think out the answers. + Large number of people can be reached. + Getting answers from timid persons.
DISADVANTAGES	<ul style="list-style-type: none"> - New or subconscious information needs cannot be assessed. - Risk of un-answered questions. - Risk of misunderstanding the questions. - Risk of low response rate. - Risk of wrong person filling in the questionnaire. - Difficulty of producing a good questionnaire.



INTERVIEW

- *Discovering things which cannot be observed from the outside.* (Patton, 1983)
- Different techniques, e.g. structured interview, semi-structured interview, thematic interview, form interview, group interview, telephone interview etc.
- A suitable method when researching a little known or *uncharted area* or when it is known in beforehand that *answers are likely to be elaborate and dissimilar.*

ADVANTAGES	<ul style="list-style-type: none"> + Discovering things that cannot be observed from the outside. + Discussion raises understanding and awareness. + Possibility of adapting questions to suit the situation. + Possibility of asking additional questions. + May elicit subconscious needs.
DISADVANTAGES	<ul style="list-style-type: none"> - Expensive. - Time-consuming. - The researcher's persona and poor social skills may affect the answers.



OBSERVATION

- Observing the individual and reviewing the documents he uses. (Fahey, 1999; Comai, 2005)
- *Information needs are deduced from the manager's information use.*
- Often used in situations in which there is not a lot of knowledge about the target of the examination. (Grönfors, 2001)
- *Identifies the prevailing state* → future information needs cannot be predicted.
- Suitable to assess what information managers actually use and what are their prevailing information needs.

ADVANTAGES	<ul style="list-style-type: none"> + Accurate answers. + Does not require a lot of preliminary information about the subject. + Defines the persons information needs through his information use.
DISADVANTAGES	<ul style="list-style-type: none"> - Expensive. - Not appropriate for studying a large group of people. - Laborious. - Time-consuming. - Validity of the results. - Requires thorough proficiency and competence from the researcher. - Describes only the prevailing information needs, not the forthcoming ones.



CRITICAL SUCCESS FACTORS (CSFs)

- CSFs = *“The few key areas of activity in which favourable results are absolutely necessary for a particular manager to reach his goals.”* (Bullen & Rockart, 1981)
- A structured technique which in the form of *an interview* aims to help managers to define their CSFs and as a result their essential information needs.
- Aims to investigate which key management activities require attention of the management by *looking at the managerial goals and priorities*. (Bullen & Rockart, 1981)
- Best suited for defining the information needs of *managers at the top level* dealing with strategic decisions.

ADVANTAGES	<ul style="list-style-type: none"> + Can elicit subconscious information needs. + Focuses on the most critical information needs. + Raises the managers’ awareness of their most important information needs.
DISADVANTAGES	<ul style="list-style-type: none"> - Cannot be used at all managerial levels. - The researcher’s persona and poor social skills may affect the answers.



KEY INTELLIGENCE TOPICS (KITs)

- Aims to *train managers to ask for information*, and thus to promote the interaction between business intelligence unit and the managers.
- Specified for defining and prioritizing in particular *strategic managers' information needs*.
- Assessed *by interviewing* managers and asking them open-ended, non-directive questions. (Herring, 1999)
- Quite similar to CSF method → adaptable in same kinds of situations.
- Suitable to be used to aid the business intelligence unit *to get the managers in future to better define and communicate their own information needs*.

ADVANTAGES	<ul style="list-style-type: none"> + Trains managers to express their information needs. + Promotes interaction between the managers and business intelligence unit.
DISADVANTAGES	<ul style="list-style-type: none"> - Elicits usually far too many information needs. - The researcher's persona and poor social skills may affect the answers.



CONCLUSIONS AND FURTHER RESEARCH

- The paper introduces some of the most common methods of defining business information needs:
 - *Questionnaires, interviews and observation:*
 - Common research methods used universally in different context of information science.
 - *CSFs and KITs:*
 - For defining business information needs by design.
- Some of the methods are in some way *overlapping*.
 - For example, CSFs and KITs utilize interviews.
- Some of the methods are *used simultaneously*.
 - For example questionnaires can be utilized for preparing an interview.
- The methods are *not equally applicable in all situations* → the choice of method should always be carefully considered in order to get the best results possible.
- Further research topics:
 - *Test these methods in practice* and compare their functionality in different situations.
 - Study *how organizational culture influences* the success of using a particular method.



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