

Approaches to Valuing Information: Exploratory Research

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ABSTRACT

This paper introduces a piece of exploratory research carried out into issues around organizations 'valuing' their information resources. Academic and practitioner research over the past 15 years have identified issues around the use and appreciation of information as an asset by organizations. Drawing on this published information, an interview schedule was developed and used with ten individuals who used and/or were responsible for information. Initial analysis of the findings suggests that organizations still have difficulty with their approaches to information as an asset. The data also suggests that there are some serious cost and efficiency implications resulting from this difficulty. It is also apparent that being able to value information in some way may help to raise awareness of information as an asset and therefore improve the management of information. However an economic approach is not seen as necessarily the best way. Analysis of the interviews is continuing to explore non-economic methods of valuation.

APPROACHES TO VALUING INFORMATION: EXPLORATORY RESEARCH

This paper is an introduction to a piece of exploratory research being carried out as part of a doctoral research project on the attitudes and behaviors of project teams towards their information resources. It explores the background and context to the research and how we developed a semi-structured interview schedule. It then discusses some of the initial findings from this exploratory research and our next steps in the research project.

BACKGROUND AND CONTEXT TO THE EXPLORATORY RESEARCH

Academic and practitioner research over the last 15 years has highlighted some key issues with the way organizations 'value' their information as an asset in the twin sense of seeking to estimate the worth of their information assets and expressing that worth, and ensuring that information assets are treated as worthwhile. In the same timeframe, the regulation, direct and indirect, of information and information management has changed significantly.

One of the first signs of change in the way the business world values information was the Hawley Committee report which published the results of an investigation by a group of companies into information management in large UK businesses. The report made several recommendations concerning the management of an organization's information assets, including its Board of Directors taking a "systematic approach to ensure appropriate policies and practices are in place and to check the adequacy of their arrangements for information assets." (Hawley, 1995, p.7).

Research into the use of the UK's FRS 10 accounting approach to valuing goodwill and intangible assets provided interesting insights into more recent thinking and practice on information as a valuable company asset. The researchers found that "very few companies held a register of their information assets or had taken steps to identify or assess them on an organizational level." (Wilson, Stenson & Oppenheim, 2000, p.13) This suggests that little had changed since the publication of the Hawley Committee report. Concerns about how much organizations and their top management teams value and protect their information assets have not abated since.

Over the last decade a variety of internationally recognized standards and codes of practice have emerged focusing on improving information management practices. In parallel, government legislation in most OCDE countries has modified the regulatory frameworks in which many businesses operate. The emphasis of these frameworks and legislation has been on the secure and good management of information whilst the information is of use to the organization and beyond the information's original value to the organization.

Recent research into information security and information assurance has highlighted shortcomings with the attention organizations pay to their information resources (Ezingard, McFadzean & Birchall, 2005). The same research has suggested that aligning information assurance with organizational strategy can deliver a wide range of benefits including improved customer service, better governance, and better information usage.

THE VALUING OF INFORMATION

Tensions exist in an organization valuing its information assets. For example, information required for decision-making in a project is of use to the organization, and therefore of value, at the time the project is being undertaken. An information stakeholder, such as a regulator, may want access to the information at some future date, when the information is of value to the regulator but not the organization. Hence, despite this apparent lack of value, the organization still has to maintain the information securely and in good condition. However, the research discussed above, and anecdotal evidence would suggest that organizations do not value their information as well as they should. But how is information valued and how should its value be expressed?

Repo provided an extensive review of economic and management science research into the value of information (Repo, 1989). He concluded that the research was mainly theoretical and that two approaches could be taken to valuing information. Firstly that the "exchange value of information products (...) should be studied using 'classical' economic methods." Secondly, "value-in-use", should be studied using the "cognitive approach which takes the user, the use, and the effects of the use of the information into consideration." (Repo, 1989, p.81). An approach that could be described as cognitive is explored by the IS success model (DeLone and McLean, 2003), and the information orientation model (Marchand, Kettinger & Rollins, 2001). Both models reinforce that it is important for an organization, through the people that work for it, to exhibit the correct attitudes and behaviors towards their information assets.

THE EXPLORATORY RESEARCH

As previously mentioned, the Hawley Committee, Wilson et al, and Ezingard et al suggest that there is a problem with organizations valuing their information assets and that there are implications for not treating information as an asset. These findings underpin the first question we tried to answer:

1. Are there shortcomings in the way organizations manage their information resources, and more specifically value that information (in both sense of the word 'value')? If so, what is the impact on these organizations?

Repo's analysis of economic methods and the complex picture he portrayed of this approach to valuation suggested a second line of questioning:

2. What would be the benefits of organizations ascribing an economic value to their information resources?

Lastly, Repo's cognitive approach to information valuation and the attitudinal and behavioural aspects of DeLone and McLean, and Marchand et al suggested a further line of investigation focused on the following group of three questions:

3. What kind of non-economic valuation mechanisms might be useful and what benefits might there be?
4. What policies and procedures might an organization employ to show that it valued its information and how might these help the organization look after its information?
5. What attitudes and behaviors might be appropriate to show that an organization valued its information resources?

These five questions formed a framework for a semi-structured long interview schedule. Ten interviews have been undertaken for this exploratory research. The interviews involved individuals who are responsible for information management in their organization and/or are significant users/processors of information. The interviewees were drawn from both public and private sector organizations. Eight individuals were interviewed face-to-face, one over the telephone and a tenth made a written submission using the interview schedule as a guide. Each interview lasted for approximately an hour. Eight of the interviews were recorded, with the permission of the interviewee. All recordings were transcribed. An initial analysis of the ten sets of data collected has been carried out using a manual thematic coding approach with seed codes developed from the literature and interview schedule. Subsequent analysis will be carried out using HyperResearch 2.7 (a qualitative software package) along with the seed codes and other codes generated from the interview data itself.

INITIAL FINDINGS

In this section we concentrate on two of the question themes identified above namely questions 1 and 2.

Is There A Problem, To What Extent, and What Is Its Impact?

The interview responses suggest that there is still a problem with organizations treating their information as an asset. Indeed evidence from the interviews suggests that little progress has been made since the publication of the Hawley Committee report. The evidence is threefold.

Firstly, the majority of respondents considered information to be "vital", "very important", "absolutely crucial – a differentiator" and "fundamental to the business". One interviewee argued that the importance of information to the business depends on the business context. It is clear though that information is a key component of most, if not all, organizations.

Secondly, most interviewees felt that organizations valued their information badly. Here value is used in the context of how well they look after their information, how well it is managed. In the words of one individual "people tend to worry about it a lot but [do] not do a lot about it". There were some arguments to suggest that data is managed better because it is more structured, and that the concepts and ideas behind the databases that usually manage this data are more embedded in the organizational psyche. One respondent felt that the lack of information value amongst senior management was down to the increasing invisibility of information caused by the move from information as physical paper to the more ethereal bits and bytes of databases and electronic document management systems.

The third strand of evidence focuses on how well organizations manage their information. Again the majority of interviewees felt that organizations managed their information poorly though there was an acknowledgement that there are examples of good practice. One respondent suggested that this poor capability was perhaps down to "an overemphasis on technology [and] underemphasis on business processes and values and behaviours." Examples of the impact of poor information management ranged from unnecessary information re-creation to unnecessarily long periods of time taken to find information appropriate to the task in hand. All respondents argued that having some kind of mechanism for valuing information was of use. One interviewee did apply a caveat - the application of

a valuation mechanism should depend on the category of information involved. Some information should be valued and some could be regarded as a commodity of little value (typically operational information or 'data'). This point raises issues around terminology – data versus information – and what drivers an organization might use to influence the valuation of its information.

The Economic Valuation Of Information

Most of the interviewees considered an economic valuation to be of use, especially as it would be a simple and easily understandable approach to convince organizations, particularly Western organizations, to invest in information and information management. It was also suggested that economic valuation is easier for some types of information and some types of organization. For example, an organization whose principal output is information, such as a consultancy, might benefit more from the exercise in so far as it would help it communicate with its staff, in particular around performance standards and desired outcomes. The exercise could also help in communications with investors.

However there is a recognition that due to the complex properties of information, an economic valuation would be subject to so many variables that the cost of developing a mechanism probably outweighs the benefits. For example, there is the notion of subjectivity: a piece of information that is valuable to a journalist is not necessarily of equal value to his/her readers. This is further complicated by the temporal nature of information – what is valuable today is not necessarily valuable next week.

Economic approaches suggested by interviewees tended to concentrate on the cost of production of information, the finding of information, and the subsequent maintenance of the information during its lifetime. A number of respondents described the real value of information in terms of its use or exploitation. In the words of one respondent "the value of information is really in the use you put it to and so having the information is not of value in itself". This, what can be called Latent value, was considered difficult to quantify in economic terms because of the variables, described earlier, which come into play.

NEXT STEPS

It is acknowledged that the work described here is exploratory research with no intention for the data presented to be generalizable. However it does give tantalizing glimpses into the state of information management in some organizations today. Based on the interview analysis carried out so far it is apparent that problems still exist with organizations' 'valuing' their information resources in terms of taking care of it, and in ascribing some kind of economic or other type of value to it. Through examples given by interviewees it also seems to be an issue worth pursuing to develop some practical answers and solutions.

Work is continuing to complete the detailed analysis of the collected exploratory data with the intention of answering questions 3 to 5 above. The next stage is to then use the insights gained from the exploratory data to create a more focused research strategy with the intention of gathering data from a wider range of sources. The outcomes from this wider data will then be used to help develop some practical solutions to aid organizational and individual management of information.

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