Website Project Definition: "Multiple Perspectives"
Methods

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WEBSITE PROJECT DEFINITION:
“MULTIPLE PERSPECTIVES” METHODS

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Abstract

This paper is about website project definition. Our concern is to identify an effective method to ensure such projects are well defined from the outset. The inquiry method used is to search for useful methods in the information systems multiple perspectives literature, as this tends to have a more people-centred approach than other information systems methodologies. Our argument is that the multiple perspective literature does offer a viable method for project definition. This method is presented.

Introduction

Project definition is the first step in project management, usually considered part of the project analysis phase. It is a difficult enough task with “concrete” projects but with information systems (IS) projects it can be particularly “wicked”. For example, the brief can be very vague, (“we need something better”), specifications change during the project development, and project stakeholders can act to use the finished system very differently from how it was conceived.

With this in mind, during the 1980s there was considerable interest in the development and application of formal information systems inquiry methodologies which integrated the people management issues with the technical ones. In particular, the multiple perspectives and related soft systems methodologies (Avison and Fitzgerald 1995; Checkland and Scholes, 1999; Mitroff and Linstone 1993) focused in this area. However, in many ways these approaches have failed to be universally adopted, and one of the reasons for this is believed to be that they have not been pragmatic enough, an example of which is that they have failed to offer explicit methods for upfront project definition.

Given the shift to web based information systems, often characterised by a piece-meal analysis of information system requirements, further questions have been raised about the role of formal methodologies in this context. It can be argued that developing a website qualifies as a significant information system problem, and that website development can take advantage of the methodologies developed for earlier generation information systems (Howcroft and Bell, 2000). Moreover, in recognition of a website’s potential to assist an organisation in the delivery of its corporate strategy it can be viewed as a strategic information system (Remenyi, Sherwood-Smith and White, 1997). This is especially so where websites for large complex organisations not only provide information, but are interactive and collaborative communication devices that incorporate e-commerce functions.

This paper argues that the development of coordinated websites for large complex organisations, (as with any IS project), can benefit from using the underlying philosophy of the multiple perspectives related methodologies. Moreover, it is possible to identify tools from within these methodologies that can be used to assist explicitly with project definition. Space does not permit the presentation of a comprehensive case study and other experiences that confirmed the effectiveness of our attempts to develop such tools, but the relevance to website development and a description of the methods are presented.

Website Project Definition

It is becoming more and more apparent that corporate-wide website development is becoming more complex than the development of traditional information systems. To help ensure success, the identification of the major customer requirements to be serviced
via a website should be corporately coordinated. Yet as Pearson and Paynter (1998) indicate, the target audience for web applications extends far beyond the business audience of a traditional IS application. This essentially means that the organisation does not necessarily have the power to force users to use a system they do not like. Moreover, since the target audience is often outside of the organisation, and generally cannot be clearly identified, or be included in all stages of the project analysis process, the requirements analysis poses more complications (Russo and Graham, 1998). For example, unlike the design of traditional information systems applications, where the content is likely to be predominantly text oriented, in web application design, content is far richer and may include sound, video and animation. Appreciating which medium to use to satisfy the needs of each customer and stakeholder segment can be problematic. Additionally, as a website may represent the first point of contact a customer has with an organisation, a great deal of energy must be devoted to “user-friendliness” and promotional activities (Russo and Graham, 1998). Isakowitz, Stohr, and Balasubramanian (1995) also note that user tolerance to errors in website applications is extremely low. As a result, when compared to similar processes in traditional information systems design, website design commands a heightened need for what is often a decentralised workforce to be working on the same project definition.

Literature on web development methodologies is beginning to emerge and some research evidence indicates that traditional IS methodologies may need to be modified or indeed replaced to meet the needs of web development (Pearson and Paynter, 1998; Lin and Henderson–Sellers, 1998). Other research literature has a somewhat opposing view and concludes that website development is similar to other information systems applications so a formal approach should be followed (Isakowitz, et al, 1995; Bidgoli, 1999). Yet even though website applications are rapidly emerging as primary organisational communication and information mediums, the literature also suggests much development in this area does not even consider website project definition issues. For example, research conducted by Russo and Graham (1998, p. 27) that examined ‘the who and how of web application development’ identified that many web developers: do not work in an IS department; have little or no formal training in systems development; use no standards or guidelines for web development; and do not use a formal systems development methodology.

Accordingly, the need for website project definition methods has not been discounted, and seems to be supported in the literature. Failure to use appropriate methods for project definition is said to contribute to system failure, poor user acceptance, high development costs, and poor quality systems (Russo and Graham, 1998, p. 25). Consequently, many projects do not deliver to the customers’ and/or stakeholders’ expectations. Increasingly, this type of information systems development failure is being attributed to the heightened emphasis on technological considerations and the lack of emphasis in the area of ‘human activity’. Moreover, Frame (1994, p. 19) more specifically indicates, that the principal sources of project failure are: organisational factors; poorly defined customer needs; inadequately specified project requirements; and poor planning and control. As suggested by Frame (1994) the hardest to deal with relates to addressing customers’ needs and stakeholders’ project requirements. Therefore, it is our belief that a project definition method needs to be firmly rooted in a human or interpretive perspective on knowledge and problem solving.

The Multiple Perspectives (Whole) Approach

Like the traditional project management methodologies, traditional information systems development methodologies are often “hard” approaches, having strong roots in engineering and technical based disciplines. Typically, they are philosophically based on the hard or rational science assumptions of object knowledge, people as molecules, the irrelevance of context and a search for a truth independent of the observer. Such approaches are typified by the “knowledge is power” slogan. They make very little allowance for different stakeholders’ perceptions, their concerns, or the political realities of knowledge typified by the alternative form of “power defines knowledge”. Bennets, Wood-Harper and Mills (1998) argue that any project definition tools based on the “hard” approaches are going to be of limited use in projects that involve people. Essentially, “hard” methodologies are designed to deal with clearly defined physical problems and offer prescriptive procedures to deal with these.

In contrast, the multiple perspectives approaches are based in the philosophical perspective of the social construction of knowledge, and acknowledge that while some knowledge can be treated as universal and independent of the stakeholders (eg such as a phone number), there is also knowledge that can only be understood relative to the stakeholders’ concerns (Ulrich, 1980). The application of Churchman’s (1971) social construction theory of knowledge to the IS domain has been extended by his supporters into inquiry methodologies. The British line has been developed by Checkland (1999) with soft systems methodology and in the US, Mitroff and Linstone’s (1993) “Unbounded Mind” on multiple perspective methodology includes dialectic argumentation.
Avison, Wood-Harper, Vidgen, and Wood (1998, p. 131) argue for the multiple (or world views) approach by stating:

Organisational analysis involves gaining an appreciation of the purposeful activity that the information system is to support. Approaches such as soft systems methodology (Checkland, 1981; Checkland and Holwell, 1998; Checkland and Scholes, 1990) and stakeholder analysis (Mason and Mitroff, 1981) are used to cater for complexity and pluralism of interests respectively. A radical view of organisational requirements in support of business process redesign is also incorporated (Wood et al., 1995). The conceptualization of the purposeful human activity is contrasted by “real-world” requirements “capture” (for example, Jackson, 1995) using the medium of workshops, questionnaires, and interviews. We also seek to keep technology present by including non-human allies (Vidgen and McMaster, 1996) and by carrying out technology foresight and future analysis (Avison et al., 1994, 1995).

Essentially, these Churchman-based approaches are explicitly focused on ill-structured people related problems, that often involve multiple powerful stakeholders, typical of complex website development. It is believed that in the quest for an effective website development method, the incorporation of the multiple perspectives approach is likely to explicitly reveal stakeholders perspectives. However, such an approach should also include the dialectic argument as a means of exploring those perspectives. Gregory and Moores (1998, p. 1) summarise by stating:

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\text{negotiation and debate are essential ingredients when discussing the feasibility of developing an information system and for the capture of information system requirements. The need for debate, and the expected conflict between stakeholder views, relies on the fact that the participants are willing to enter into such open discussion, putting forward their personal views}...
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Mason’s (1969) work on the dialectic argument for strategic planning is also relevant and in particular bringing out deep-rooted underlying assumptions is well known, and comfortably fits with the multiple perspectives approach. This is because the argument process is intended to “unfold” the different perspectives and “fold” them back as socially constructed knowledge (Ulrich, 1980). Hegel’s (1956) work on reflective loops also provides a way of assimilating multiple perspectives into IS project definition. Linstone’s (1984) work has operationalised the multiple perspectives approach by focusing on the technical, organisational, and personal perspectives, mainly for dealing with technological forecasting problems. However, his work also highlights the need to take a multiple perspectives approach for project definition.

**The Multiple Perspectives Project Definition Method**

In this section, one possible method for assisting project definition using the multiple perspectives approach is explained. It has been developed, in parts, extensively over the last ten years. The method is intended to be a simple, fairly generic method that can be used in a wide range of projects for the purpose of project definition. However, our concern here is about website project definition and examples have been aligned accordingly.

What is important about this method is the way that three parts: the project definition diagram, the argument, and rich pictures, have been put together as a package focused on project definition.

**Project Definition Diagram Tools**

The Project Definition Diagram (Figure 1), has been developed on Checkland’s (1999) work as part of his soft systems toolbag as “an organised use of rational thought”. This has been reworked a little here to allow for the authors’ own work on “concern solving”, and Davidson’s (1994) concerns about the validity of conceptual frameworks. The three parts of the diagram are the Object under

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Figure 1. The Project Definition Diagram (PDD)
consideration, the client’s Concerns, and the evidence collection method. The back arrows indicate that as the project is undertaken, the Object and Concerns may change.

The purpose of the diagram is to help clarify the purpose of the project, and hence, enable the process of project definition. Typically, and using a website as an example, the diagram can be used to say, “What exactly is the “Object” under consideration?” Let’s say the client’s answer is, “The corporate website’s content.” Next, the question is, “What is it that “Concerns” you about this (website’s content)?” Let’s say the client’s answer is, “Consistency across the organisation’s departments.” The “Method” is then introduced, and its aim is to ascertain how evidence will be collected to address the client’s concerns. This essentially represents an “inquiry” method and it reflects the definition nature of most IS projects. In this example, a typical method question would be, “What evidence should be collected to convince?” The answer to this question may be a combination of experienced managers’ opinions, comparative examples from other organisations, and feedback from external customers.

Another relevant example, that has made good use of the project definition diagram (PDD) tools, involves a project to develop a website for a “Community Portal”. The project was funded by a mortgage company, which aimed to achieve an improved sense of community in a particular suburban area. This was both to encourage a better sense of pride within the suburb, and hence towards the associated mortgaged homes, but was also instigated due to the company’s genuine desire to provide improved information services for its customers. At the second meeting between the IS analysis team and the client (5 players in all), and after the usual wide ranging discussion about the mortgage company wanting to provide an informative website for its customers, the PDD tools were applied.

In reference to the “Community Portal”, the client was asked, “What exactly is the thing, the “Object” you want a report on?” The client eventually said, “A website tailored to those who live in the same suburb.” The next question to the client was, “What is it about this website that “Concerns” you?” The clients answer was, “That our customers will use the website to improve their lifestyle.” The next stage involved identifying what information collection “Methods” needed to be used to collect the necessary information (evidence), to provide adequate support to convince others, and eventually form a conclusion. Importantly, this evidence needed to be focused on the client’s concerns, and in this case, the client wanted a representative sample of the company’s customers interviewed, and also required the analysis team to provide examples of well used “similar” websites.

The use of this simple approach to aid question formulation, and hence, project definition, has proven to be effective both in consultancies and research. The language of the questions is aligned with the interpretive approach as it acknowledges the presence of an objective physical world, and that the client has subjective concerns, or a perspective that they want explored. The evidence collection method for the project analysis can be anything from the analysis of statistics, interviews, or through a comparative website analysis. However, under the multiple perspective approach the intent is to utilise a method that seeks out diverse views. So, for instance, in the case of the first example above, if one experienced manager is interviewed and he or she responds by saying “consistency is essential”, then the respondent should be asked to name someone else who would have a totally different opinion (List, 2001). This search for diverse views is intended to inform the project definition, yet paradoxically it can be difficult to know what evidence should be collected until it is known what conclusion (argument) is sought.

The Project Argument

Having considered the PDD tools, the next stage is to use these to state the project’s argument. Importantly, by argument we mean reasoned debate not quarrelling. The aim is to attempt to set an “a priori” conclusion (argument) at the outset of a project. This aids with the project definition by helping to identify the outcome sought. This approach also acknowledges that ultimately any project definition will need to be presented in a way that persuades others that it is the correct way forward. Essentially, this is what the conclusion and recommendations of a project report attempt to achieve. As mentioned previously, (and like the iterations involved in formulating a project report’s conclusion and recommendations), the back arrows in the PDD indicate that while a project may start with an intended conclusion, the act of collecting evidence is expected to alter the choice of the final conclusion.

The argument setting process normally begins by simply asking the client, “What is your argument?” Put in more familiar consulting terms, “what conclusion do you anticipate in your report?” Using the first example, the client may have already formed the opinion that a report will conclude, “The corporate website’s pages should be more consistent.” The advantage of having an explicit up front argument is to focus the study in a way that one becomes clearer about what evidence is required, and what actions would be irrelevant. So in this case, the analysts will focus on consistency, not say, customers’ needs. If the client is not clear about the “direction” of the conclusion, then the “a-priori” argument can be written in a neutral form. In this case, this would be, “That the corporate website’s pages should (or should not) be made more consistent.”
Likewise, in consideration of the “Community Portal” project example, a similar process was adopted. The argument setting process began by simply asking the client, “What will be the argument format?” The client was in a position to answer that the report should have a conclusion along the lines of, “The website should contain X and be administered by Y.” So in this case, the analysts knew to split the task into two broad parts: one on the appropriate website content for a “Community Portal”, and the other on the process and technical issues involved in keeping content updated for its customers.

It is important to emphasise that the conclusion format is simply an opening (a priori) position, and the inquiry process is expected to alter this (posterior conclusion). Anything from minor editing, to a major redirection can be expected. However, it has still been found useful to act as if there is a clear conclusion at the start, provided it is understood it is not to be set in “concrete”. Furthermore, the argument method also includes an appreciation that the evidence collection is a process of informing a debate involving the client, and other stakeholders as well as the analyst (Holstein and Gubrium, 1993). Through discussion a socially constructed learning should take place. Ultimately, the problem definition is expected to benefit from an explicit acceptance that there is more than one interpretation, and a good constructive argumentative process can both reveal and incorporate this diverse knowledge (Mitroff and Linstone, 1993).

**Rich Pictures (Concerns)**

Checkland (1999), as part of his soft systems methodology, has suggested another evidence collection tool that fits under the multiple perspectives and people-centred approach. While not quite as Checkland intended, the Rich Picture tool described here was found to be useful in identifying stakeholders, their relationships, and concerns, and thus in directing the evidence collection exercise. The tool is used by bringing together a small group of one type of stakeholder (maybe the project owners’) around a white-board to collectively draw up a cartoon-type picture that shows all the people and entities that the group feel are involved in the argumentative process.

For example, in consideration of the “Community Portal” project, the Rich Picture was drawn to show the owners, the customers, the website analysis team, the design staff, IT support staff and the suburb. Next the relationships between these entities were drawn and questions were addressed as the picture was drawn. Finally, the concerns of the stakeholders represented either as individuals or as a group, were incorporated into the picture by ‘being drawn on as “thought bubbles”’. The idea was to obtain information about what the groups’ main concerns were about the argument, and what they guessed would be the main concerns of other stakeholders. Furthermore, when this exercise is completed with one group, it has been found to be useful to go to other stakeholder groups and go through the same exercise, asking them to identify the concerns of others. At the end, several pictures may have been drawn and it is worth showing the complete set to all stakeholders. In this way the people issues become explicit.

The drafting of this Rich Picture essentially serves as a stakeholder-influence analysis and the intention is to give participants a better understanding of the problem. Many readers will be familiar with the idea of collecting demographics about stakeholders at the start of a project, however, it can be useful to extend this to also focus on power and influence issues. The idea being, to identify what influence over the project’s progress the different stakeholders have, independently or in conjunction with each other. For example, while the demographics of customers may be included, so should what they can do if they are not satisfied. This analysis helps remind project owners’ of the political dimension of projects. This should not be treated as “silliness” but rather as a very real acceptance that different people have the right to have different perspectives.

**Conclusion**

This paper has argued that the development of coordinated websites for large complex organisations can benefit from using the underlying philosophy of the multiple perspectives related methodologies. This argument is in response to the prevalence of website development that is characterised by the usage of piece-meal approaches for the analysis of website requirements, and the associated high probability of project failure.

In support of this, a literature review of existing web development methodologies, and IS methodologies generally, has been presented and has indicated that even though website applications are rapidly emerging as primary organisational communication and information mediums, much development in this area occurs in a haphazard fashion. In particular, the literature indicates a great deal of this development often does not adequately consider project definition issues, and these findings are also consistent with the authors’ practical experiences in this problem domain.

Accordingly, this paper has argued that it is possible to identify tools based on the multiple perspectives approaches that will explicitly assist with project definition and thus help to ensure project success. The multiple perspectives approaches have been...
chosen because it is our belief that a project definition method needs to be firmly rooted in a human or interpretative perspective on knowledge and problem solving. Essentially, these Churchman-based approaches are explicitly focussed on enabling problem solving in environments that involve multiple powerful stakeholders, which is consistent with website development in large complex organisations. Furthermore, it is our belief that the application of the multiple perspectives approach is likely to explicitly reveal stakeholders’ perspectives, and that such an approach should also include dialectic argument as a means for exploring those perspectives.

One possible method for assisting project definition using the multiple perspective approach has been explained. The Multiple Perspectives Project Definition Method employs the Project Definition Diagram Tools, The Project Argument, and Rich Pictures. By using the three parts of this method, we have argued that this “package” can assist with website project definition by helping to address website project requirements from the outset. Ultimately, by using this method, website project definition is expected to benefit from an explicit acceptance that there is more than one interpretation, and a good constructive argumentative process can both reveal and incorporate this diverse knowledge.

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