

Abstract

User requirements interpretation and understanding is the primary objective in the requirements analysis stage of any IT implementation project, subsequent to (and often concurrently with) the requirements collection stage. Business process consultants, implementers and the client sit together and try to make sense of the user requirements listed as a result of the requirements collection stage. Gaps in assumptions, underlying objectives and desirable solutions are discussed.

This work studies real-life discussion sessions in ERP implementation projects in the requirements interpretation and analysis stage with a view to understand the domain, the nature of discussion carried on and the possible support system or aid which could improve the effectiveness of the discussion. The result of this study has led to proposal of a framework which when implemented (embedded as a model in a computerised support system) could be used for aiding the group discussion in the domain of requirements interpretation and analysis in a typical information technology (IT) implementation project. The nature of support envisaged being, provision of structured contextual information surrounding any issue during discussion time and prompting for useful avenues for consideration at each stage of the discussion. The framework comprises domain-specific primitives and recurrent patterns of conversation. The recurrent patterns are sequences of these primitives observed over a number of actual (real-life) discussion sessions and generalised across them, keeping the common salient points.

Small group communication lies at the heart of the above analysis and interpretation activity; the outcome being in terms of decisions and commitments made for the future course of action. This group communication is an informal and knowledge-intensive process. Effective knowledge exchange and understanding of others' viewpoints hold the key to usefulness of

the group activity. Such a group communication process when it proceeds unaided may prove to be ineffective. Members may fail to consider the substantial context surrounding the problem, important information may remain unexchanged due to limitations of human cognitive capabilities. Moreover, the group discussion would flow in an unstructured, meandering form, often members bouncing from one point to another without any sense of direction. The choice of topics within an overall agenda remaining highly opportunistic.

The aim of this research work is to study closely real-life group discussion sessions in a particular domain and to consider the feasibility of a computerised support system or model, which could support the group members in their discussion. The support would be mainly in the form of provision of a context for the discussion at each step of the discussion process, so that members proceed in a more informed manner. The discussion would be substantially more exhaustive and complete though possibly never complete.

In order to achieve this aim and in order to be more relevant to the domain of study, this work studies the group discussions in ERP implementation projects in the requirements interpretation and analysis stage. The work comprises two stages using the technique of conversation analysis, belonging to the group of interpretive research methods. The first stage involves interpretation of the conversation statements and their subsequent summarisation and abstraction into a few primitives or sub-categories. These primitives have been proposed to form the substantial (though never complete) context surrounding an issue or problem situation (user requirements). In other words, whatever statements the group members make could be shown to belong to one or more of these primitives. The primitives could be categorised under four general types of conversation namely orientation, possibility, action and clarification. Any conversation for that matter could be categorised under any of these four types. These four general categories formed the starting point for the study.

But in order to make the categorisation more relevant to the problem-solving situation and the above domain, they have been further shown to be effectively categorised under the general categories namely, past efforts, present situation, desired situation, alternatives and outcomes. While these categories form the context surrounding any discussion, the primitives and sub-categories grouped under them form the more domain-specific facets of the respective categories. It is the elaboration of these primitives and their categorisation under the above five general categories (some of them occurring in one or more of these main categories) which give them domain relevance.

The second stage involves discerning for a recurrent pattern of conversation in terms of the sequence of these of these primitives. Sufficiently generalised patterns could then be determined, taking the important common elements from a number of similar patterns repeating (recurring) themselves often. These generalised, recurrent patterns or streams of discussion have been proposed to embody the *natural* flow of discussion in the domain. Interruptions and incompleteness in the pattern could lead to extra cost and effort as delays at later stages of the life cycle. An understanding of what constitutes “completeness” in this sense could emerge from this study. Incorporation of the understanding of this completeness in future discussions could lead to its being less adhoc in nature.

A further aim of this research work is the proposition of a framework or model of discussion, for the particular domain of study, so that it could be embedded in a computerised form. A framework in terms of the above abstract primitives of discussion and the limited forms of structure discerned, has been discussed. The usefulness of such a computerised support system to aid discussion has been explained in terms of the possibility of a fuller and more effective discussion of a topic at hand and a better sense of structure and its awareness by the group members while the discussion proceeds. These also have implications for the improvement of the learning curve for new project members as well as better retrieval and

perusal of past discussion in terms of the perspective chosen to be relevant at the current moment, in the discussion.

Further field studies to validate the patterns and sub-categories need to be undertaken. Such efforts would lead to two fold development. The first of course would be an implementation of the framework proposed and its modification after real-life use. The second would be a systematic build-up of the domain-relevant knowledge base based on the framework. The knowledge-base build-up would require discerning for a variety of typical situations representing or exemplifying the primitives or sub-categories. These typical situations (some of which have been identified in this work) could serve as a useful mechanism for making general to specific suggestions at discussion time. These typical situations would make the primitives more concrete and domain-specific as they would be discerned over a number of discussions situations in the domain and would effectively capture the peculiarities of the domain. The primitives proposed above would serve as a useful starting point for a domain-specific knowledge-based conversation support system for this purpose.