Combining Software Engineering Elicitation Technique with the Knowledge Management Lifecycle

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ABSTRACT

Knowledge elicitation process allows acquiring and transferring the knowledge. This process presents difficulties to select the appropriate elicitation technique. This paper presents a classification of the elicitation techniques used in software engineering and the relationship between the elicitation techniques and some elements of knowledge management as assets knowledge, epistemological dimension of knowledge and the knowledge creation phases. This classification provides a guideline to select a technique or a set of techniques for knowledge elicitation based on phases of Nonaka’s model.

Keywords: Knowledge Acquisition, Knowledge Assets, Knowledge Elicitation, Knowledge Elicitation Techniques, Knowledge Management

1. INTRODUCTION

For several years it has stressed on the importance of knowledge for organizations seeking to survive in today’s competitive market, and it has demonstrated a clear relationship between knowledge and organizational success (Baruch & Juergen, 2004; Nonaka & Takeuchi, 1995; Webster & Jensen, 2006; OECD, 2010).

Knowledge management is presented as a discipline which focuses on the development of knowledge. The phases of knowledge management are identification, capture, organization, distribution, preservation, use and measurement (Rus, Lindvall, & Sinha, 2001; Kuhn & Abecker, 1997).

Within knowledge management process, many authors have argued that one of the major bottlenecks in the process of building a knowledge-based system is the process of acquiring knowledge that corresponds with the phases of
identifying and capturing the knowledge life cycle (Greenwell, 1988; Debenham, 1989; Brulé & Bount, 1989; Meyer & Booker, 1991; Kuhn & Abecker, 1997; Mason & Pauleen, 2003).

Knowledge acquisition refers to the process of extracting and makes accessible the knowledge of an organization. However, this activity is currently in experimental period due to the difficulty that represents to elicit the knowledge of the people, represent it adequately this knowledge and make it accessible to all members of an organization (Figure 1).

Knowledge elicitation involves acquiring and transferring the knowledge of human beings (as such it exists in the minds of experts in a specific domain) to an abstract and effective representation, to organize it, to model it and finally to express this knowledge in an understandable and reusable format through a formal representation.

Knowledge elicitation process presents difficulties as in the elicitation techniques used, because of they are not complete enough to capture all the relevant knowledge for a specific domain, as in the same process of elicitation because a lot of the information that people knows is less than information verbalized. “We can always know more than we can tell, and we will always tell more than we can write down”. Within Software Engineering field, one of the first phases in software product development is the requirement elicitation that allows characterizing the product type to be developed as well as the needs and features of the environment for which is being developed the software product.

This means that software engineers have enough experience in requirement elicitation area. This is extrapolated and equivalent to knowledge elicitation.

On the other hand in knowledge management field there is no a cataloging of knowledge elicitation techniques, so this work is going to approach on identifying of the requirement elicitation techniques coming from the software engineering field and that can be applied on knowledge management field as well as their cataloging based on the applicability and the knowledge creation model phase where these are applied. Furthermore, it is proposed for the selected knowledge elicitation techniques categories, the type of knowledge asset that is can be generate.

So, it will be analyze the different techniques of software engineering applied to knowledge elicitation. The knowledge asset types that exist and the knowledge life cycle phases to conclude with a proposal that combines the three elements previously mentioned, that may be used as discernment element by the time to choose the knowledge elicitation technique type that better adjust in each moment according to a particular situation and the knowledge asset type that is going to elicit.

The article is structured on 4 sections detailed next. Section 2 is dedicated to related works about the knowledge management models and the knowledge assets and elicitation techniques, Section 3 describes the proposal of the authors and finally on Section 4 the obtained conclusions of this work are presented.
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