What Stakeholders Will or Will Not Say: A Theoretical and Empirical Study of Topic Importance in Requirements Engineering Elicitation Interviews

Bibliographic data

This paper was published in 2014 under the Information Systems journal and it was written by Corentin Burnay, Ivan J. Jureta and Stéphane Faulkner. It goes by the name "What Stakeholders Will or Will Not Say: A Theoretical and Empirical Study of Topic Importance in Requirements Engineering Elicitation Interviews".

Theme of the paper

The paper approaches the theme of **Elicitation**, under **Requirements Engineering**, as it strives to discuss the importance of distinguishing between the information stakeholders share explicitly during interviews and the information they keep implicit. In this line of thought, the authors aimed to create a list of relevant topics mapped by order of importance, known as the Elicitation Topic Map, to aid in the questions requirements engineers need to ask as to avoid missing important information in elicitation interviews.

Synthesis of the paper

In the context of Requirements Engineering, **missing information or perceiving it wrongly during the elicitation of requirements can lead to the development of a system that does not satisfy its requirements or that is inconsistent with the conditions in its operating environment**.

The authors believed that, by trying to understand which domain-independent categories of **information stakeholders tended to talk about spontaneously** during elicitation interviews and which tended to remain **implicit**, it would be possible to create an Elicitation Topic Map (ETM) to discover the implicit information stakeholders may have, i.e., a list of topics to discuss in elicitation interviews combined with an indication of their relative importance.

In order to build this ETM, they combined a qualitative study to identify the Topics and a quantitative study to determine their respective importance (likelihood to be discussed explicitly). In addition, they also did further work on developing an ETM concerning Social Networks and tested it out to confirm and complete the conclusions obtained with the first ETM.

As a result of the performed studies, the following hypotheses were verified: Information that deals with Requirements is shared more spontaneously than information regarding Domain Assumptions, which means that **engineers should be more proactive during interviews intended to elicit Domain Assumptions** than during interviews intended to elicit Requirements; and Information that deals with the Scope of context is shared more spontaneously than information about the Depth of context, which, in turn, means that **engineers should also be more proactive in interviews intended to elicit Details about concepts** than in interviews intended to elicit the concepts themselves.

Both the **gender** of stakeholders and their **level of experience**, provided there was some experience at least, **did not appear to influence** the outcome of interviews. On the other hand, the **background of stakeholders had significative influence** on sharing during elicitation interviews, in spite of the fact that the statistical difference was too small to influence Requirements Engineering practices, which is why this should not be a cause of concern during interviews.

There was an effort to validate the performed studies and drawn conclusions both in terms of removing bias and understanding whether the conclusions could be generalized. However, the authors stated they **could not claim the obtained ETM was general**, but only a useful tool for preparing elicitation interviews. Nevertheless, they believed that understanding how different ETMs differed from each other according to the different types of systems could provide additional support for understanding how stakeholders decide about the importance of the information to be shared.

Also, it appeared obvious that engineers need to **emphasise at the beginning of interviews the type of information that is relevant or not** since stakeholders are more prone to share about what they want and less about the environment in which their expectations need to be realised.

Further work could involve the addition of new Topics to the list and larger-scale validations of the existing Topics so that **more relevant ETMs can be produced for specific system classes and application domains**. This should help the preparation of elicitation interviews as to uncover implicit information and, consequently, lead to a **better understanding of the intended product to ensure it satisfies its requirements**.

Questions and reflection

Q1: Do ETMs really fill a gap in the world of requirements elicitation? If the implicit information is truly needed, will it not arise at some point of the development even if not in the elicitation phase?

Q2: Are ETMs being used as of now? Why (not)?

Sometimes articles fall short because they are filled with lots of promises for results and innovation but, most of the time, people will not actually bother to go through all the pages of information and scientific language and excessive formalities to access and learn this new found information. This is why the ETM really is something brilliant. It is such a simple concept that anyone can use once it has been built. There was a lot of work behind this first ETM, but using this as an initial draft and adapting it to the different application domains really seems to make the work easier from that point on. It is a pragmatic tool to overcome what I consider one of the biggest difficulties in Requirements Engineering – human behaviour and bias in communication. It works as a means to make communication more methodical.

Considering my very favourable opinion of the idea proposed in the aforementioned paper, I went ahead and did some research to see if ETMs are being used right now and I could not find much information on this, which leads me to be believe they are not. I do not fully understand why. I think it might have something to do with my first question: maybe they really are not that necessary. The information will arise if needed. Or maybe it is simply about the work/profit ratio.

In all honesty, I do not know how hard it would be to make that adaption of the initial ETM to a specific domain or if it would be worth it considering most companies offer different products to different clients across different application domains altogether.

Overall, I think the idea behind this article is very interesting and something that truly can be put into practice in the real world, but might not be ideal if a company does not work with one single application domain.

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