ACTA IMEKO

Paper title: Some thoughts on Quality Models: Evolutions and Perspectives
Author: Buglione L.

**Reviewer A**

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| * The paper is an improved version of the paper presented in the conference
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| * The topic is interesting
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| * the paper style should be corrected in order to respect the ACTA IMEKO template
 | * Used the ACTA IMEKO template downloaded from the website
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| * the quality of Figure 3 and Figures 5-8 should be improved for a better readability
 | * Attached also the original pictures for testing if they could be ok for final printing – otherwise such pictures will be regenerated
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| * Section 2F is unclear, the content should be described better
 | * Inserted a new sentence for better introducing such content on section 2F
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| * There are also a few typos and minor English errors scattered throughout the paper
 | * Fixed
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**Reviewer B**

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| * The paper reads quite well. However the following must be adjusted. The paper content is entirely devoted to software quality. This should be reflected by the title, the abstract and the introduction. In fact the title of the proceeding paper version included the word 'software', now dropped. Now these entities refer generically to quality models. Revise this aspect
 | * As stated also in the abstract, this extended paper extends the ‘quality’ view from the ‘software product quality’ (original paper) to a wider view also impacting on services and projects (e.g. by Fig 9 and Fig. 11, where different Entities of Interests have been represented). Inserted the ‘service quality’ item in the abstract, a bullet point in Section 6 and in the final conclusions to stress more such different (wider) view.
* Section 4 started (2nd sentence) with the proposal to observe different EoI (Entities of Interest) than the software product, in order to extend such concept also to e.g. project, process, services, etc.
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| * While interesting the subject is treated in a taxonomical way. To widen the advancement in the state-of-the-art I suggest that the discussion about future steps is put as a separate section (taken out from the conclusion section) and enlarged based on the authors experience
 | * Sections 5 and 6 report future steps moving from the existing taxonomies introducing possible ingredients for such ‘recipe’ as the EAM taxonomy, BMP technique and the STAR taxonomy. Fig.11 shows the idea for realizing a more comprehensive and useful measurement plan.
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| * I would like to see more stressed the measurement aspects associated to the quality models listed in this paper, to more closely fit the scope of this journal.
 | * The EAM analysis on Section 4 introduces such issue (‘what are we measuring?’). Inserted a new paragraph, stressing the value from a proper measuring.
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**Reviewer C**

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| * The paper presents a survey about Quality Models (QM) for software products discussing about their evolution and making some thoughts about the future of QM.
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| * The English language is to be revised and improved. There are several long sentences with a complicated syntactic structure that make difficult the reading, as well as with typos that make not (well) understandable the sentences. Just as an example, at the beginning of the section 4: “Observing the above mentioned QM, they can have two (or three) level structure is about the content, but they are all about (software) products. “. I think that something is missing in the sentence before “is about ...” .
 | * Tried to simplify the language
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| * I suggest the author to insert, in the section 2, a table summarizing the various QM described and highlighting their evolution and the differences among them.
 | * As suggested, inserted a new table summarizing the different QMs discussed in Section 2
 |
| * The description and discussion given in sections 3, 4, and 5 is made in a way too concise and at a level of abstraction too high, especially for readers with little experience about software QM (as it is likely for most ACTA IMEKO readers). The author has to improve the discussion and description providing more insights. Moreover a simple (running) example would help in making more clear and better understandable the problem(s) addressed by the author.
 | * Inserted more text in Section 5 with criteria from best practices as ITIL with ‘rules of thumb’ for managing a proper number of measures within an organization and single projects. A larger discussion on that can be found on [22] and related papers on the BMP technique, here introduced to design and describe the approach for improving the organization/project ROM (Return on Measurement).
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| * The table 1 is not (explicitely) referred in the text. With reference to table 1, a simple real example, more exhaustive and broad, with references to a specific QM and more other attributes will make the description more clear.
 | * Explicitly mentioned current Table 2 in the text
* The comparison about what a FP or a LOC measure was exactly the starting point for Jones’ productivity paradox when FP were created to overcome problems in managing projects with a LOC-based system of measures (see [13]).
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| * Some text describing the figure 9 is needed, the same is in particular for the figure 10 for which it is very difficult to comprehend what it would actually represent. Of course, similar considerations still stand for the figure 11. As I said, I thing that a running example would be useful in discussing/describing all the issues addressed in the paper.
 | * Such list of 14 attributes is fully described in [21]. Thus, a project could/should take into account such series of characteristics in order to be successful. Inserted the reference also in the text, yet present in Fig.9 caption, for sake of brevity and balancing the length of all sections within the paper.
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| * Also the section 6 is too concise: the issues it addresses need a broader discussion. The addressed issues should be presented as an analysis from a lesson learnt about the (actual) usage of QM. I think that the issue about Measurement is the main one to address in the future.
 | * As presented with the EAM analysis, the ‘M’ side is the final step. As in the BMP technique, a good measurement plan needs to be balanced, moving from a good choice of the ‘E/A’ levels, that’s the ‘what’ to measure, before telling ‘how’ with the related sizing unit/technique.
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| * I do not fully agree when the author say:” quality represents the ‘how’ a product should be realized according to initial requirements”.
 | * FUR is the ‘what’ and NFR is the ‘how’, also according to ISO/IEC/IEEE standard glossary – as in [www.computer.org/sevocab](http://www.computer.org/sevocab)
 |
| * My opinion is that quality has to drive the way “‘how’ a product should be realized” (i.e., quality has to drive the product development), but it does not represent just "how" (i.e., its design, technologies to use, etc) it has to be realized. It represents 'what and how' its (future) users hope the product should be. Of course this is just an opinion of mine
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| * Finally, the author should highlight differences and novelty with similar surveys in the literature.
 | * Inserted in Section 2 similar studies as further referneces
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**Reviewer C – v2**

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| * The author has addressed most of my comments/suggestions to the previous submission.
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| * Just some ‘cosmetic’ interventions are needed.
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| * The (new) Table 1 contains some empty (blank) rows.
 | * Just a typo, removed
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| * Moreover, the third row is related to VAF-1979 that is not referred in the text, where just VAF 1984 is discussed. Please, refer VAF-1979 in the text, or remove the third row in the Table 1.
 | * Inserted the two new references as [29][30], also in the text
 |
| * Please, refer explicitly the Table 1 in the text, i.e., not just “The following table ...” but “The Table 1 ...”.
 | * Done
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| * In section 6, the author has added the new paragraph “Entity of Interest (EoI)”: all the rows in this paragraph are underlined. Is there any reason to have all the sentences underlined? or is it just a typo? If the former, please, provide the reason, if the latter remove the typo.
 | * Removed, it was a typo
 |
| * This paragraph is the last one of section 6, then the paragraph ‘Measurement’ in not the last one thus it does not start by “last but not the least ...”.
 | * Modified the sentence
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| * I still think that a simple running example would be useful in discussing/describing all the issues addressed in the paper.
 | * Inserted an example at the end of Section 6
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| * Finally, the English language, although improved over the previous version, it should be further improved.
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