

# Evaluating single features in usability tests for business process modeling tools

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**Abstract:** Companies today use business process management (BPM) to define, design, document and improve business processes. For the subtask of business process modeling, companies can choose from a large variety of existing modeling tools. The development of the tools challenges software vendors due to the growing number of requested features (resulting in so-called feature creep). Moreover, groups of heterogeneous clients are using the tools. Hence, participation of software users in the development process is necessary for designing 'usable' applications.

In our paper, we discuss the challenges in the development of business process modeling tools in terms of usability measurement with additional features. We present an integrated approach which allows to evaluate usability in two ways: (a) testing overall tool usability and also (b) usability of single features. The integrated approach consists of the four steps 1) heuristic evaluation, 2) usability testing, 3) questionnaires as well as 4) evaluation and recommendation. Through the combination of expert-centered and user-based usability evaluation methods and the modular design, it is possible to implement our approach in different stages in an iterative development process.

As a proof of concept we applied the combination of usability and single tool features in the development process of a process modeling tool in academic environment, called BPMN-Designer. Thereby, we focus on the different requirements of different user groups towards the tool. In this first attempt, we chose the user support for automatic layout in modeling tools as single feature that is to be analyzed. The results can be interpreted as an indication that usability aspects are, at least until today, not in the focus of software developers and/or vendors in the field of business process modeling tools. This could be caused by the fact that business process modeling tools are still considered to be applications for experts and not for other stakeholders in the business process area, for instance process owners or chief process officers (CPOs). However, our evaluation represents only one possible application. It can be adapted in several ways. For example, it can be utilized for different tasks in BPM like modeling a completely new process or understand an existing process. It is also applicable for users in different positions e.g. CPOs or modelers which have different responsibilities and therefore different requirements. Furthermore it can be adapted for different user groups with different requirements, e.g. novices or experts.

In the future, we hope to see more combinations of tests where usability is combined with specific tool features. In order to test the application of this goal, we plan to exploit the benefits of the approach in the future development process of BPMN-Designer. We plan to circumvent the limitation that we were not able to produce valid results for the wide range in experience among process modelers. Thus, we want to expand the study to a set of subjects with very high experience in business process modeling because these modeling experts may have different requirements and/or expectations towards usability.