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Designing and Evaluating an Interactive Assessment Instrument to Improve the Process for Mobile Service Application Innovation

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Mobile service applications are essential in both business and avocation. Although valuable, the adoption of new mobile services has been much slower than expected, [1-3, 10]. This may be due to poor decision making in the process for mobile service innovation, as a result of a lack of structure and transparent activities [3-5]. An unstructured and ‘fuzzy’ process can result in poorly defined mobile concepts and consequently poorly designed mobile services. This research proposes an interactive assessment instrument to address these challenges. Specifically, the instrument is used to help define and evaluate mobile service concepts in the innovation process. Due to its prescriptive and practical suitability, we follow the DSRM proposed by [6] to design and evaluate the instrument. To find a solution to the aforementioned challenges an analysis of relevant literature resulted in the three step process model proposed by [7] being incorporated as the kernel theory to assist with the design and development of the assessment instrument and involved the following: Contextualization: structuring the elements of the decision situation into a “logical framework”. This was achieved using qualitative content analysis, focus groups and analytical hierarchy process, to select the factors for inclusion in the instrument [7,11-12]. Quantification: involves making the decision elements calculable. All factors selected for inclusion in the instrument (from the last phase) were then structured on scales, (ranging from 0-100%) in an excel sheet. These scales where then used to categorize and quantify the adoption information, [7, 11-12]. Calculation: involves applying calculative and statistics techniques to calculate rational decisions. The quantified adoption information is visualized in a 3D Graph [11]. A number of functions were applied to the instrument so that the graph will adjust depending on the defined and categorized concept. This information can be used to inform decision makers when evaluating their concept. Once developed the assessment instrument went through an iterative phase of refinement and evaluation. Firstly a number of workshops were held where the assessment instrument was demonstrated to industry experts and then refined based on their opinions. Once refined, the evaluation involved multiple comparative (qualitative) case studies where the assessment instrument was implemented in the innovation process of three real-world organizations, and its impact examined. These include two small private organizations and one large public organization. Multiple sources of evidence were gathered from these studies including: documentation, interviews,

observation, field notes and artefact print-out data. This data was then analyzed following a hybrid inductive-deductive thematic analysis approach [8]. Themes traced in the process succeeding artefact implementation include: Transparency: organized and inclusive approach to understanding and generating mobile concepts and evaluating creative alternatives. Information Exchange: Facilitates interpersonal communication. Cognitive Simplification: Facilitates understanding - simplification of the decision situation (e.g. concept definition and evaluation). Performativity: Rational choice theory mobilised in practice. A further cross-case analysis of case study data is currently being undertaken. The results of the evaluation to date provide valuable insight for the knowledgebase in terms of decision making in the process for mobile service application innovation. Along with this, a significant achievement is the incorporation of the instrument in practice, thus providing strong evidence of industry relevance of the research outcome [9].

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