Enterprise Modelling and Information Systems Architectures

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Editors' in Chief Editorial Preface

In 2004 the members of Special Interest Group on Modelling Business Information (MobIS) within the German Informatics Society decided to found an international journal. It should serve as a forum for publishing research results on modelling languages, tools, methods and related applications. The project was well received in the respective scientific community and soon we could form an international editorial board of distinguished academics. A graphic artist created the new journal's design; Koellen-Verlag, an experienced publisher took care of printing and shipping. The first issue of 'Enterprise Modelling and Information Systems Architectures' appeared in 2005. In the following years the journal has evolved to an internationally established outlet. In 2011 we decided to intensify the collaboration with the Special Interest Group on Methods for Developing Information Systems and Applications (EMISA). As a result, Manfred Reichert joined the board of editors in chief.

During the last years, we had various discussions on the principal publication model. Most of us agreed that an open access model would be preferable in the long run. It would promote dissemination of the journal and, hence, contribute to its reputation. However, at the same time, some were reluctant to give up the paper-based version. They argued that paper is still perceived by many as a quality property. During a meeting in fall of 2011 we finally came to the conclusion that the time is ready for a digital version that is distributed through an open access policy. Starting with 2012, 'Enterprise Modelling and Information Systems Architectures' turns into a digital journal that can be obtained free of charge on the journal's web pages. We belief that the advantages of this conception are absolutely convincing. Authors get the opportunity to publish richer representations of their work. On the one hand, they are free to publish additional material since the space limitations of traditional paper-based journals can be softened. On the other hand, they may also integrate video demonstrations, links to tools and systems. As a consequence, readers are note only provided with a more stimulating reading experience, they also benefit from retrieval capabilities and omnipresent availability. In addition to that we can expect a clearly higher dissemination of the journal and an increasing impact. Note that moving to the new publication model will not be disruptive. The current issue still makes use of the existing format. Subsequent issues will gradually adopt more and more features that are enabled by digital publication.

We hope that you appreciate the journal's transition to a purely digital format and that you benefit from additional features that will be presented with future issues.

Ulrich Frank
Manfred Reichert

Guest Editors' Editorial Preface

Services are increasingly becoming the central catalyst of innovative business models. The characteristics of services, such as the potential, process, and outcome dimensions need to be ex ante specified, described and evaluated. Concepts to service modelling are therefore gaining in importance. This development is spanning various classes of business, whether at the interface of industrial production in form of so called product-service systems, in the public sector in form of so-called product and process models, or in service-oriented business plans in the context of digital business models and entrepreneurships. As a consequence service models become the pivotal point for business investment decisions, engineering sciences-oriented product innovations and information technology implementations. New technologies, such as social networks or the Semantic Web, enable on the one hand an increase of the productivity of services, but on the other hand they require efficient methods and tools for handling and usage in practice. Only potential in the after-sales areas of engineering seems inexhaustible and enables new value-added concepts and partnerships at the market and customer interface.

We address this circumstance with the present EMISA Special Issue for the field of product-service systems and productivity. This issue gives an overview of what is state-of-the-art at the moment and presents current research problems, as well as possible solutions and future trends. The articles focus on the one hand, on models for the development and provision of product-service systems, and on the other hand on models of information systems, which support the development and/or provision of product-service systems. Thereby a special focus is given to productivity. The special issue has an interdisciplinary orientation and combines business economics (e.g., production, service management, marketing), engineering (e.g., construction/design, product development, service engineering), information systems (e.g., modelling, information

services) and informatics (e.g., data structures, software engineering).

All articles in this EMISA special issue were handed in by the authors in the course of the workshop 'Service Modelling 2012' (DLM 2012, in German: Dienstleistungsmodellierung), examined by the program committee and finally chosen for conference presentation, as well as for publication.[1] The workshop itself took place on March 14-15, 2012 at the Otto-Friedrich-Universität of Bamberg, Germany, in the course of the conference 'Modelling 2012'.[2]

Due to the high number of interesting and high qual-ity submissions we applied a two-step acceptance process for the articles. First: Acceptance as a scien-tific article: Complete scientific articles were pub-lished in the German workshop proceedings 'Thomas, O.; Nüttgens, M. (eds.), Dienstleistungsmodellierung 2012 – Product-Service Systems und Produktivität, Wiesbaden, Springer Gabler'. Second: Acceptance as a scientific article with an additional recommendation for journal publication. As a result, the four best articles of 'Service Modelling 2012' – with an acceptance rate of less than 20 % – were selected to be published in an extended form in this special issue of the EMISA journal on product-service systems and productivity. The following is a brief synopsis of the contributions to this special issue:

The paper 'Strategic Productivity Management in Small and Medium-Sized Service Enterprises Using the Service Navigator' by Margret Borchert, Stefanie Klinkhammer and Eva Koch presents the conception and development of a holistic service productivity instrument, which is called Service Navigator. This instrument is intended to enable Small and Medium-Sized Enterprises to measure, assess and control the cause-and-effect relationships among inputs, sub-processes and outputs that are relevant for productivity.

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[1]For more information about the workshop DLM 2012, see `http://www.imwi.uni-osnabrueck.de/dlm2012.htm.`

[2]See `http://www.modellierung2012.org/`.

The paper 'Construction of Productivity Models – A Tool Supported Approach in the Area of Facility Management' by Jörg Becker, Torben Bernhold, Daniel Beverungen, Nina Kaling, Ralf Knackstedt, Vanessa Lellek and Hans Peter Rauer presents a unifying modelling language that lists and interrelates the essential constructs pertinent to productivity models and which was transferred to practice by employing a software tool. The application was conducted in the area of facility management.

The paper 'Formal Modelling of Components and Dependencies for Configuring Product-Service Systems' by Stephan Klingner and Michael Becker proposes a holistic notation by formally specifying dependency rules for being able to describe interdependencies within product-service systems.

The paper 'An Actor-Oriented Model of a Service Provision' by Sven Tackenberg, Sönke Duckwitz and Christopher M. Schlick provides a formal description of an actor-oriented model of a service provision that can be used for person-centered simulation. This helps defining the decision variables and constraints to be determined by a person or a software tool during service management. Additionally insight into the use of a formal model in case of a simulation study is provided.

We wish our readers many exciting moments in discovering the various facets of product-service systems and productivity and gaining new insights.

Oliver Thomas
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