Business-IT Alignment: A Discussion on Enterprise Architecture and Blockchains. Editorial Introduction to Issue 35 of CSIMQ

Erika Nazaruka[*]

Department of Applied Computer Science, Institute of Applied Computer Systems,
Riga Technical University, 6A Kipsalas Street, Riga, LV-1048, Latvia

erika.nazaruka@rtu.lv

Nowadays, business operation is impossible without proper alignment between business and IT goals. The alignment foresees integration at different levels: strategic, managerial, technological, and others. In addition, aligning goals should take into account factors arising from interaction with business partners, competitors, customers, and supervisory authorities. The collection of articles included in this issue presents research on the impact of different factors on the achievement of business and IT goal alignment. The first two articles in the collection concern Enterprise Architecture (EA) while the last two articles consider blockchain applications.

EA, as a means for establishing effective management and exploitation of information in the organization [1], is critical for business success and, as any project, requires sequential iterative planning, implementation, control, and improvement activities. "Organizations" in this context are considered not only industrial companies of different sizes but also state institutions. The complexity and legacy of organization's processes and infrastructure may have negative consequences and can lead to insufficient management of external and internal risks [2]. Technologies used by organizations, whether legacy or new, are also a source of risks. This fact is noted, for instance, in the Deloitte information document about blockchain risk management [3]. Some of the risks related to Business-IT Alignment and promising solutions are described in the articles of this issue.

The first article, "Discovering and Assessing Enterprise Architecture Debts" is devoted to a relatively new concept in the Enterprise Architecture Management field called, by analogy with the technical debt, the EA Debt. The authors explain this phenomenon and indicate factors called the EA Smell (by analogy with "code smell"). The focus of the paper is on the development of a new approach that would help Enterprise Architects either to discover symptoms of the growing EA Debt and act preventively or to identify already existing EA Debts and proactively eliminate causes leading to them. The authors suggest using their developed six-phases method that combines an interview format and a method that allows a qualitative assessment of identified EA Debts. The developed approach and received results were assessed by domain experts. The authors' contribution makes the process of identification of EA Debts more organized and

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[*] Corresponding author

manageable as well as opens a way to the development of an assisting guide for EA professionals working on EA management in organizations.

The second article, "Towards an E-Government Enterprise Architecture Framework for Developing Economies" investigates another aspect of the Enterprise Architecture management, namely, establishing E-Government EA in developing countries. The authors consider this question by analyzing the existing gaps in methods for e-government planning and implementation leading to the interoperability challenge. Although there are different e-government EAs, they are country-specific. Therefore, the focus of the presented research is on finding a way to generalize them and develop an e-Government Enterprise Architecture Framework (EGEAF) that can be used by different developing countries as a guide. As a basis, the authors took the Architecture Development Method of The Open Group Architecture Framework (TOGAF ADM) [4] and extended it with solutions of the interoperability challenge. At this stage of the research, the authors evaluated two scenarios in the Ugandan context. The developed concept of a framework is found feasible and can be taken as a starting point for research on its adoption and extension by other developing economies.

The third article, "Trustworthiness Requirements in Information Systems Design: Lessons Learned from the Blockchain Community" investigates the perception of the concept of trust in the blockchain community by performing an exhaustive analysis of the literature. In comparison with the not so recent appearance of the concepts of Technical Debt and EA Debt, the concept of trust is quite old and well known in the business world. However, technical implementation of it mostly relates to trustworthy information and digital trust and does not cover the social aspect. The authors of the article extended this concept with three trustworthiness factors defined in social science: ability, benevolence, and integrity. As a result, they formulated the trustworthiness requirements associated with the factors. The authors' contribution is the identified key challenges and directions for future research on solutions for resolving trust issues that affect the social aspects of using blockchains.

The concluding article of the issue presents the research on the application of Distributed Ledger Technology (DLT) and blockchains in the financial sector. The article, "DLT Compliance Reporting" demonstrates how the adoption of DLT ledges can help local financial institutions in submitting compliance reporting data to the supervisory authorities. The current model, when organizations prepare and submit the report, can be up to 90 days. The change of this process can allow the supervisory authorities to access necessary data when needed. The main issue here is also related to technical and social aspects of the concept of trust discussed in the previous article, namely, how to allow the regulators access compliance data in near real-time and aggregate macroeconomic risk exposures for the eurozone without exposing confidential information of organizations using a public blockchain network. The authors applied the design science research method to identify the trustworthiness requirements to data, rights, and accountability, and to develop a DLT system of systems for compliance reporting and embedded data hierarchy for real-time reporting aggregation. The system and data hierarchy were validated and tested through an early implementation. As a result, the time required for reporting has drastically decreased. However, the implementation of the social aspects of trust requires further research.

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