The Business Transformation Framework on Knowledge and Intelligence–Driven Development (KIDD)

3

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INTRODUCTION

Authors of this chapter based their research on an authentic and proprietary mixed multidisciplinary research method that is supported by intelligent neural networks combined with a heuristics module, named the Applied Mathematical Model (AMM) (Trad & Kalpić, 2017a; Trad & Kalpić, 2017b; Trad & Kalpić, 2017c; Gunasekare, 2015). The proposed AMM is similar to the human empiric decision-making process. The AMM is supported by a real-life case of a business transformation architecture in the domain of Knowledge and Intelligence Driven Development (KIDD) that is supported by the alignment of a various standards and technologies. The KIDD is based on a real-life case for detecting and processing an enterprise heuristic algorithm for business transformation, business engineering and enterprise architecture problems. This application-driven development model offers a set of possible solutions in the form of architecture, managerial and technical recommendations, coupled with a usable framework. The proposed executive recommendations are to be applied by the business environment's architects, analysts and engineers to enable solutions to knowledge-based environments.

BACKGROUND

This work's background combines knowledge management, enterprise architecture, mathematical models, heuristics, technology management, business transformation and business engineering fields. Building a KIDD based on a Decision Making System (DMS) is today the major strategic goal for business companies, as shown in Figure 1 (Cearley, Walker, Burke, 2016; Thomas, 2015). The proposed KIDD is a generic and cross-business reasoning engine that contains basically qualitative research methods that manage sets of factors, and can be used by a Business Transformation Project (BTP). The authors based their research method on intelligent neural networks and driven development, where both methods resemble to the human brain processing. The KIDD concept is business driven and is agnostic to a specific environment, as shown in Figure 1, it is founded on a research framework that in turn is based on the industry standard, Architecture Development Method (ADM) (The Open Group, 2011a). Enterprise architecture is a methodology used to develop BTPs, requirements, architecture, knowledge modules and its technology components. The Business Transformation Manager (BTM) or an enterprise architect can integrate a KIDD in the architecture of a BTP to support its DMS system (Trad & Kalpić, 2017b; Trad & Kalpić, 2017c; Thomas, 2015; Tidd, 2006). This KIDD proposal's aim is to deliver

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recommendations for managing aligned DMSs. The applied research methodology is based on literature review, a qualitative methodology and on a proof of concept for the related hypotheses. In a holistic knowledge management architecture, the BTM's role is important and his or her (for simplicity, in further text – his) decisions are aided by using factors within the AMM. A large set of factors can influence such an AMM, like: a) the role of the knowledge control mechanisms; b) enterprise critical success factors; c) enterprise resources; d) DMS skills; e) audit and technological conditions; f) financial predispositions; and g) security, financial and legal control mechanisms. A systems approach is the optimal choice to model such a KIDD (Daellenbach & McNickle, 2005; Trad & Kalpić, 2016a). As shown in Figure 2, the decision model interacts with the external world via an implemented framework to manage the DMS's factors and that is this chapter's focus.

Figure 1. The research framework's concept (Trad & Kalpić, 2016a)

Adapting just the underlined islands of technologies is not enough and the main problem can arise due to the lack of company's holistic agility approach, but it can be built on Knowledge and Intelligence Design Patterns (KIDP) (Thomas, 2015; Cearley, Walker, Burke, 2016).

FOCUS OF THE ARTICLE

The Research Processes

This research's main topic is related to BTPs and the ultimate research question is: "Which business transformation manager characteristics and which type of support should be assured in the implementation phase of a business transformation project?" Decision making concepts based on critical success areas are their main research component.

Critical Success Areas, Factors and Decision Making

Critical Success Area (CSA) is a category of Critical Success Factors (CSF) where in turn a CSF is a set of Key Performance Indicators (KPI), where a KPI corresponds to a single requirement and/or knowledge feature.