


An Applied Mathematical Model for Business Transformation and Enterprise Architecture: The Holistic Organizational Intelligence and Knowledge Management Pattern's Integration (HOI&KMPI)

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ABSTRACT

To restructure or transform a business organization in the optimal manner, there is a need for a specific organizational intelligence and engineering pattern to support a business transformation and integration strategy. The applied strategy should be based on existing standards, mapping concepts, and various levels of interoperability. Today, many standards, patterns, and methodologies exist, and they are very advanced and are able to support the organizational transformation process of the older business environment to become part of a larger business eco-system. Transforming a traditional organization or a business environment into an innovative and efficient organization based atomic service-oriented environment is a great challenge, because transformation initiatives often fail, mainly because of the monolithic nature of the mammoth-like organisations. Many monolithic environments and their correspondent business information and communication systems fail to be transformed and are unable to adapt to the new business requirements and challenges. These presented facts make organizations unable to follow frequent changes and this fact might cost organizations fortunes without obtaining the return on investment. A well-designed organizational transformation process and a reorganized business environment should be based on a platform of flexible atomic business loose block (or microartefacts) that can support the future changes request of the business environment. In order to reach the optimal organizational transformation models, an organizational engineering pattern must be designed to improve the functions of the existing business services. This article's goal is to present an organizational engineering and risk pattern integration concept is presented to support frequent change initiatives.

KEYWORDS

Business Transformation Projects, Critical Success Factors/Areas, Enterprise Architecture, Mathematical Models and Risk Management, Organizational Intelligence, Performance Indicators, Requirements Engineering, Software (Re)Engineering and Strategic Vision, Strategic and Critical Business Systems

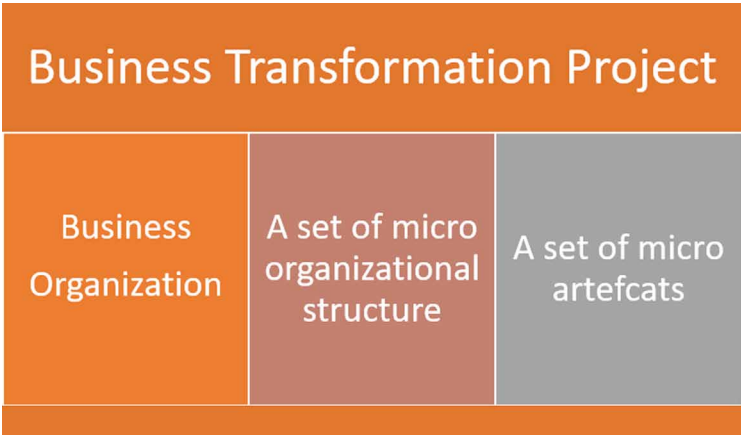
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INTRODUCTION

Enterprise or organization/business architecture serves as a methodology and framework to provide the link between the organizational requirements/objectives, intelligence/knowledge and its organizational characteristics/structures; using avantgarde technologies and the underlined business services, in order to attain the defined organizational intelligence/knowledge collective support, the author proposes the Business Engineering and Risk Management Pattern's Integration (HOI&KMPI) that is based on a previous version of a similar pattern (Chang, Abdel-Basset, & Ramachandran, 2019). Business Transformation Managers (or simply *Managers*) often underestimate to develop a robust organizational collective intelligence/knowledge patterns and a corresponding organizational transformation plan for their future organization/business system. This reflects in their incapacity to manage various transformation artefacts needed for the integration of the new organization/business systems. This article's aim is to influence the attitude of *Manager* regarding a coordinated organization/business organizational and Enterprise Architecture (EA) transitions. To achieve this article's goal, the author offers to *Managers* or organizational change officers' efficient managerial and technical recommendations and an HOI&KMPI concept that would cover the organization/business scope and objectives, without incurring high production, maintenance and implementation costs.

The HOI&KMPI; which describes the usage/instantiation of the HOI&KMPIB. Which makes these two articles bounded and should read together (Trad, 2019b). This article's purpose is to deliver HOI&KMPI recommendations and is a part of a long series of articles on Business Transformation Projects (*Project*) and Enterprise Architecture Projects (EAP) (or simply *Projects*) that deal with the organizational changes and transformations (Tidd, & Bessant, 2018). The Research Development Project (RDP) is based on literature review, a qualitative methodology and on a proof of concept used to prove the related hypotheses. The implementation of such HOI&KMPI requires the knowledge of a large set of technologies and standard methodologies. The author have based his RDP on the main fact that only around 12% of business organizations successfully terminate innovation-related business transformations projects (Tidd, 2006). The eventual successes of *Projects* depend on how organizations can adapt to *Projects* and dynamically change their organizational structures. Adapting just the underlined technologies is not enough and the main problem arises due to lack of business systems' agility. Such an agility approach, as shown in Figure 1, can be built on basic elements called microartefacts (IMD, 2015).

Figure 1. The organizational microartefact concept



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