Business Informatics for Enterprise Transformations

Extended Abstract

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In this presentation we will argue for a business informatics (BI) research agenda concerning the application of BI for *enterprise*[1] *transformation* (ET). Due to the IT reliance of most enterprises, the BI and ET research domains already overlap. For example, IT can act as a driver/enabler of new business opportunities, be used to increase the efficiency of business processes, etc. In this presentation, however, we will not focus on the role of IT to support the day-to-day operational processes, but rather on the way IT can support/enable the processes involved in the *transformation* of enterprises.

Modern day enterprises are confronted with many challenges, such as the shift towards service dominant logic, changes in the economic climate, etc. As a consequence, next to the day-to-day operational business processes, the (continual) transformation of an enterprise has become a critical business process in itself. Analogously to operational business process, ET involves information processes. However, as we will argue, the nature of ET, and in particular their management, involves specific information processing challenges.

The notion of enterprise transformation can be defined as any structural change to an enterprise. However, when is such a change a structural change? Is the change of stock *level* a structural change? Is the change of the stock *capacity* a structural change? We consider an enterprise to primarily be a social system with a purpose. Consequently, we take the view that its fundamental structure refers to the way in wich the activities/tasks in the enterprise are coordinated among the people/roles involved, and how this is implemented using resources. Based on this we identify four levels of transformations, with increasing impact: *optimizing* the use of resources to the support of the social system, *improving* the way in which the work is coordinated in the social system, *innovating* the services/products offered by the enterprise to the outside world, and *(re-)orienting* the purpose of the enterprise.

Being social systems, the continual transformation of the enterprise is driven by humans. As a consequence, centrally coordinated and premeditated transformations are likely not to be the only kind of transformation occurring in an enterprise. Enterprise transformation might be initiated centrally or decentrally. Furthermore, they can take place in a premeditated or in a more spontaneous fashion. This raises the question on how to manage transformation in enterprises. We suggest to take the notion of stewarding as a starting point:[2] *the conducting, supervising, or managing of something; especially: the careful and responsible management of something entrusted to one's care*, where, in the case of ET, depending on the situation at hand, a top-down or bottom-up, premeditated or spontaneous, controlled or guided, etc, strategy can be applied.

Good stewardship requires at least (1) an understanding of the goals of stewarding the entrusted object, (2) an understanding of the state, momentum and underlying causalities, of the entrusted object and its environment, (3) foresight of possible changes in the stewarding goals, (4) predictive models wrt the object and its environment, (5) SWOT analysis of the stewarded object irt the stewarding goals, and (6) the means to intervene in the 'behaviour' of the stewarded object and its environment. In the context of (management of) enterprise transformations, this also gives us some clear cues on potential ways to support these processes by means of IT.

A core part of IT support for enterprise transformations will focus on the manipulation of models in the broadest sense. This includes models, at different levels of detail and/or precision, capturing the current state/trajectory of the enterprise and its environment, the desired state/trajectory, the stewarding goals, as well as predictive models and models expressing risks towards these goals. The model manipulation activities need to cover the initial gathering/elicitation/designing of these models, the validation of these models with the reality of the enterprise and its environment, the transformation/analysis of these models to enable decision making, as well as the communication/enforcement of models to influence/direct the transformation of enterprise. These activities might be part of centrally and/or de-centrally driven transformations, as well as part of premeditated and/or spontaneous transformations.

During the presentation we will explore some of the associated challenges and potential IT support, as well as the relationship to existing research endeavours dealing with e.g. process and text mining, business intelligence, enterprise modelling, enterprise architecture and model driven engineering.

About the author: Henderik A. Proper, Erik for friends, is a senior research manager at the Public Research Centre Henri Tudor in Luxembourg, and is also a Professor at the Radboud University Nijmegen, the Netherlands. He is one of the co-initiators of the ArchiMate language for Enterprise Architecture. Erik has co-authored two books on enterprise architecture, and provided substantial contributions to two other books on this topic. He is also an editor inchief of the book series on Enterprise Engineering, published by Springer. His home on the web can be found at www.erikproper.eu

[1] The notion of enterprises includes companies, government departments or non-governmental organizations.

[2] www.webster.com