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Collaboration Models or What Does It Take for Collaboration to Become a Common Asset?

Barbara Flügge, Otto-von-Guericke University Magdeburg, Germany; E-mail: bfluegge@sap.com

1. INTRODUCTION

The UN E-Government Author team has been assessing the readiness of the 191 UN Member States with respect to their E-Government readiness (Nation, 2005). The analysis of more than 50.000 features on their website has been used as a first indication how ready and serious a country is applying E-Government, including E-Government related procedures and processes. It also focuses in the second part on the interaction of information technology and the role of governmental and industrial institutions with the human being, the citizen itself.

This range of the study expresses the desperate need of more advanced E-Government applications and as a consequence the ability, accessibility and ease of use of advanced technology from a Governmental perspective. (Nation, 2005), see page 16. The fifth recommendation is expressing the need of the *formulation of a development strategy based on effective and indigenously appropriate utilization of the information and communication technologies (ICTs) in each sector is required so that the market, the government and the citizen have a mutually beneficial and equitable role to play.*

It is also pointing the value-add eGovernment should provide to the entire community.

2. RESEARCH AREAS

Traditionally academic research in collaborative topics started with a specific focus on the individual elements of collaboration. The relevant elements that have been investigated are Enterprise Architecture Frameworks, Business Process Management and Modelling Techniques and eCommerce, namely B2B and eGovernment standardization initiatives.

The dissertation will explore the shift from the traditional context of eCommerce towards collaboration. Collaboration takes place in areas where business and governmental institutions meet. Historically, collaboration research analysed the nature of networks (internal and external networks), business as well as cultural relationships. Through the introduction of local networks like the *keiretsu* phenomenon in Japan (Satoshi Hamaya, 2004) eCommerce and collaboration moved towards IT enabled collaborative scenarios for many to many relationships and away from the one to one focus in eCommerce. As *keiretsu* is specifically linked and limited to the Japanese cultural and business environment, the dissertation will introduce the term ecosystem. The ecosystem illustrates participants and contributors in a pre-defined business environment such as the trade environment and their interactions.

The research is linked to ITAIDE (ITAIDE, 2006) and further activities in Europe focusing on facilitation global trade across business partners and governmental institutions. ITAIDE is an integrated project funded by the IST 6th Framework Programme of the EU which started January 2006 to address some of the key issues related to cross-border trade. Further activities are related to the standardization initiatives at UN/CEFACT where I will be a team member of a steering group for customs specific process, data and form standardization.

3. RESEARCH PROBLEM

What Subject Am I Discussing?

The topic that will be subject to the dissertation is the standardization and interoperability of Enterprise Architecture Frameworks with respect to cross-border and cross-country trade in selected EU member states. The topic fits into the EU wide initiative of the European Commission to implement electronic customs. The expected outcome is the reduction of the administrative burden for governmental authorities and business partners, the compliance of logical, data and product flows as well as assuring secure trade lanes.

The question I am discussing and answering is the following: Why is electronic collaboration still not a common asset to support daily business operations? A hypothetical answer might be that semantically correct, interpretation free contractual and negotiation agreements are not covered yet in the area of information exchange and information standardization.

4. RESEARCH METHODOLOGY

4.1. Indicators of Relevance

Why are still substantial efforts being made in spending time, money and resources to analyze the effects of eGovernment – when will they pay forward?

Accompanied by literature review, the research will use business-oriented indicators of the relevance of eGovernment such as the analysis of Lévy (Lévy, 2005), and the case of Denmark (NIELS BJØRN-ANDERSEN, 2004). These indicators will be empirically extended and categorized along my participation in the ITAIDE project.

There is a number of studies such as the e-Business Watch (Commission, 2005) and UN Report on E-Government and E-Inclusion (Nation, 2005) that point out the need of focusing on the core roles of eGovernment. The current focus goes beyond publishing web sites and providing electronic media to download documents.

Modern business-oriented research is always urged to address the need of providing financial or any other measurable evidence to get an open ear in the commercial and governmental community. The need is to proof that a concept works in real life environments. As one part of the research will be an academic driven research on governmental business cases and applying eGovernment applications within companies and legal authorities, this will be taken into account.

The expected outcome hereby is the definition and the concept of cost and process implications on transformation from customs to eCustoms as well as the definition

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of the key elements for transforming another region into an eCustoms region. In this context, I will be assessing the evolvement of process and value drivers that are used in the area of performance measurement research.

4.2. Current Academic Status-Quo

In literature there has been a variety of procedure models and analysis that add to my research field.

The literature I will be assessing is on the one hand reflecting the dimensions of procedure models. Those are related to the technical understanding of collaboration (Thomas Theling, 2005), applicability of applications and the key concepts of interoperability.

In the context of process driven models there will be a brief analysis of models we find in product development (W Hesse, 1992), object oriented models (J Noack, 1999), component based modeling (Schwickert, 1998) (C Heidrich, 1998) and Business Process Management models.

In the area of collaboration research, there is a variety of collaboration related definitions and different meanings. Those need to be clarified and aligned along the research area of global trade. I will focus on inter-organizational business processes, business process management and the way of analyzing collaboration readiness. The cases studies conducted in Denmark, New Zealand and other areas provide empirical data. They indicate what has been useful so far in collaboration research and what not.

Another dimension adding to inter-organizational process analysis is the dimension of the so called ecosystem. Deriving from the ecological context, the term ecosystem got introduced by researchers to refer to the complex and mostly complete picture of a real-life environment in research. At ITAIDE the ecosystem is being represented in a research environment called the Living Laboratory (Living Lab).

A third component to the literature review is the concept of standardization. There is a limited number of analysis on real standardization concepts like RosettaNet and EDI and their contribution to the next generation of eCommerce Frameworks (T. Janner, 2006). I will refer to the UN/CEFACT approach in my research work[1]. The UN/CEFACT approach is providing a framework for standardized data models that did not reach the dissemination level yet to be applied in the software development arena (Flügge, Janner, & Schroth, 2006). ITAIDE itself is providing a collaboration ground itself. I will undertake research in the aspect of collaboration from a business-oriented, process driven and from a technical dimension.

4.3. Evaluation of Current Academic Status-Quo

Concluding the research activities as outlined before, the first milestone of the research activities will be the conclusion which components are relevant to the definition of a collaboration framework for electronic customs.

The evaluation activity will also point out the key roles that are required to move forward with the concept of electronic customs. It will equal electronic customs with the concept of collaborative living scenarios. Different roles like key initiators or early movers might be found in the governmental, academic, commercial or technical world. Wherever they are found, they are definitely required to proceed with this concept (NIELS BJØRN-ANDERSEN, 2004). The evaluation will also include the question of need of organizational adaptability, innovation and flexibility (NIELS BJØRN-ANDERSEN, 2004).

A second milestone will focus on determining common denominators of the procedure models and key differentiators relevant to all business and governmental partners in an ecosystem focusing on global trade.

The evaluation will conclude in the question how new research techniques such as the Living Lab approach support research in the area of collaboration.

4.4 Business Partner Analysis and the Ecosystem Applying Electronic Customs

This section will focus on the relationships of the distinct business partners in the way of trading and doing business. It will also explore the key elements of customs procedures within the EU and the common denominators for the participating countries. As there is no European Customs Office is in place, research might include the World Customs Office and its expectations on electronic customs and its relevance to key elements of collaboration.

From the EU 20.000 foot level it will be key to take a closer look onto the next levels such as regional and industry specific levels, the ecosystem of companies, their business partners in the supply chain for example and a pre-selected user community. Business experts and technical experts complete the assessment of the ecosystem.

The business partner analysis might also focus on political, economical, strategy and infrastructure related influencers. Those might lead to certain behaviour of accepting or denying electronic applications. Still, a detailed analysis of policy and strategic influencers is beyond the scope of the dissertation.

4.5 Process and Data Modelling

Based upon the findings above I will decide upon additional data and analysis I like to add to the research field for the technical process related research on collaboration. The research approach will be case study based.

Within my research I will use business scenarios that have been collected in the living labs of ITAIDE. Each of the business partners is applying different tools and methods to structure and describe the business process scenarios. Such tools are RosettaNet[2] and AIN[3] for example. The scenarios will focus on the interaction of the industry leaders with the legal authorities, namely the tax and custom institutions and describe the logistics, invoicing, trade and reporting processes. I will then transform the scenarios into data models by applying the UN/CEFACT data modelling approach.

4.6 Business Oriented Collaboration in Technology, Industry and Government

This chapter will focus on mapping the traditional and novel collaboration approaches to get an overview on business oriented collaboration.

Figure 1 summarizes the individual steps in the research approach.

The research will be carried out applying qualitative research methods, such as structured and unstructured interviews, questionnaires and case studies.

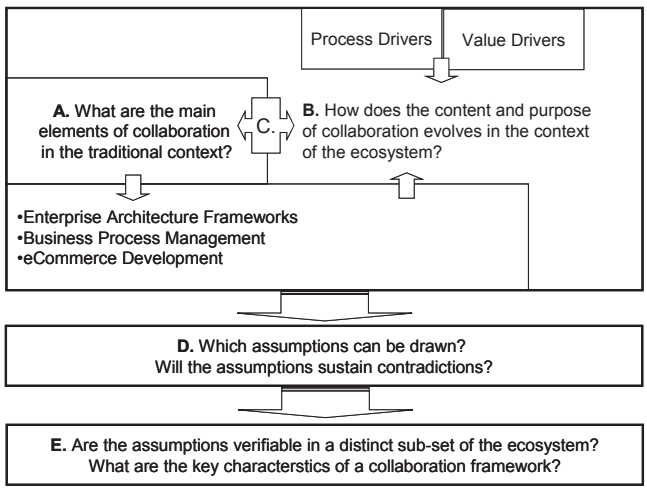
5. EXPECTED OUTCOME

The expected outcome of my research is expressed in the need of a standardization methodology to overcome any effort that is needed to transform collaboration into a common (accessible, understandable and available) asset.

The methodology should provide guidelines to add collaboration as an out-of-the-box or better built-in characteristic of any software solution that is offered in the market.

The methodology should provide in addition a framework with procedures suitable for any company regardless its size, its industry focus, its technical competence or

Figure 1. Research approach



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its cultural background. Companies should not worry anymore about the following: How can we invite technically, content and document wise a new business partner to join a trade ecosystem? Which standards would the business partner need to apply or adopt to do business? Does the business partner need to adopt or enhance its information technology to join another ecosystem?

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ENDNOTES

1 UN/CEFACT stands for United Nations Centre for Trade Facilitation and Electronic Business.

2 See www.rosettanet.org

3 See www.objectivity.com/WhitePapers/AINwhitepaper.pdf

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