Collaboration Change Management strategy

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Abstract. This paper focuses on the relationship between globalization and collaboration technologies. Collaboration technologies are changing the business landscape, understanding those new technologies implications is a key to enable researchers and practitioners to face these new challenges to the domain of collaborative business processes. This paper examines the impacts of Collaboration Network Organization (CNO) globalization on collaborative business, as well as, illustrates some key challenges for research in the area of CNOs. This paper also, argues that there is a convergence of interoperability of Cloud Computing, Service Oriented Architecture and Grid Computing

Keywords- Globalization; ICT; E-Commerce; Firm Performance

1. Introduction

The new era of Technology and globalization are changing the nature of business have created a new global economy, fueled by "information" and driven by "knowledge"[1]. This era yield the need of collaborative business which, realizing a new competitive edge thus need an integrated infrastructure for collaboration. This collaborative infrastructure should support Business to Business (B2B), Many-to-Many (M2M) communication, coordination, knowledge sharing, reusing, modelling, rapid learning, and organizational memory [2]. Some of the stakeholders are direct competitors; they are also mutually dependent on the success of the industry chain as a whole and thus are forced into collaboration with other entities [3].

Collaboration technologies are changing the business landscape; some enterprises might find that valuable collaboration tools and technologies are underutilized, or worse, unused [4]. In order to fully realize the potential of collaborative technologies to achieve targeted collaborative business goals and looked-for Return on Investment (ROI), it is crucial for cultural, behavioral, and process changes to occur throughout the organization. Having a rapid technological, Information Technology (IT) strategy is the key establishing a competitive advantage over any competition [5].

In business, a change management strategy describes specific ways in which an organization will address such things as changes in the supply chain, inventory requirements, scheduling, project scope or logistics [6]. To effectively institute a change management strategy, stakeholders must create a plan for how to recognize when a change is need, how to approve changes, how to implement changes and how to monitor changes to ensure they have brought about the desired effect [7].

2. Collaborative Business Networks of the Future

One of the main trends of distributed computing is what is called Collaboration Network Organization (CNO), which is defined as a global competitive dynamic business environment [8]. CNO works as an alliance of organizations and their interconnected supporting institutions, in a federal, trust and common operating principle's infrastructures. CNOs are mainly known as knowledge intensive organizations. In order to exploit effective knowledge sharing, they have to

develop practical knowledge sharing implementation approaches. Nevertheless, strong demand and expectation from clients for efficient service delivery, coupled with business challenges in the knowledge based economy to consider effective implementation of knowledge sharing as a strategy to improve service delivery.

Decision makers need more comprehensive information about CNO system to support their decision, to motivate the need to enlarge this type of collaboration by sharing software services, that help CNO clients to be more confident during the accessing services from CNO members,– on the other hand- CNO members have to support how their services should be properly developed and made available to CNO clients [9].

2.1. Challenges of Enterprise Integration and Networking

Collaboration networks continues to grow in a number of manifestations including not only virtual organizations and virtual enterprises, but also dynamic supply chains, professional virtual communities, collaborative virtual laboratories, global research and global collaborative education with a wide spectrum of application domains [7]. The realization that all these collaboration forms represent variations of general paradigm has lead to their consolidation into CNOs as a new scientific paradigm [8].Key challenges for research in the area of CNOs are:

- ➢ There is no clear roadmap for building CNOs, to address their different aspects including their behavior, structure, topology, cultural/legal framework, infrastructure, and social interactions [10].
- ➢ The need of coordination, administration and management of highly distributed activities, and development of value added-services, dynamic evolution of revenues, rights and liabilities, in combination with the understanding of new value system [11].
- ➢ The need for a sound theoretical foundation to create risk management and assessment tools, soft modeling and reasoning applications, e-contract management, and advanced simulation tools for collaborative networks [12].
- ➢ The identification of the urgent need to invest on establishment of a sound theoretical foundation for CNOs, such as new methodological approaches for the creation and support of CNOs, to foster innovative products and business processes based on collaborative paradigms [13].
- ➢ Development of new applications, architectures, and infrastructures to support CNOs [13].

2.2. Facilitating Technologies for Collaboration Network Organization

The collaboration between CNO's partners and the technological agility are essential to satisfy the new trends of business [9]. Therefore, these two issues increase the need to address diverse aspects of distributed computing concepts that support the various capabilities that make up such as business collaboration [14]. With recent IT development, some technological and methodological advances turn out to synergize business collaboration. While a lot of research is currently taking place in the technologies mechanization, there is an equally urgent need for understanding the business-related issues [15].

2.3. SOA, Grid and Cloud Computing Convergence

Clouds, Grids, and SOA are key technologies that will be fundamental to successful CNO transformations, and have strong interlink that can take advantage of resource virtualization by integrating it at different levels of the environment [16]. The abstraction levels of the cloud can be viewed as a layered architecture where services of a higher layer can be composed from services of the underlying layer. The landscape of integration architecture is shifting as service-oriented and cloud-based architecture take the forefront. Cloud applications can be built as compositions of other services from the same/different providers or provided as in-house service.

Although, the Grid infrastructure faces big challenges in interoperability, the Open Grid Services Architecture (OGSA) [17] has been developed for the Grid applications. The advent of the Cloud computing has covered the way to envision of a hybrid computational infrastructures based on powerful Grid resources combined with dynamic and elastic on-demand virtual infrastructures on top of Cloud deployments. However, the combination of Grid and Cloud resources relies on the need of collaboration among involved CNO partners [14] [9] [16].

3. Collaborative Business Intelligence

Collaborative Business Intelligence (BI) [18] is a relatively new concept in which BI and collaboration technologies are beginning to merge in support of a new and improved decision-making environment. The idea of collaborative BI is to extend the decision-making process beyond the company boundaries thanks to cooperation and data sharing with other companies and organizations [9].

Unfortunately, traditional BI applications are aimed at serving individual companies, and they cannot operate over networks of companies characterized by an organizational and semantic heterogeneity. In such distributed business scenarios, to maximize the effectiveness of monitoring and decision making processes there is a need for innovative approaches and architectures [19].

The success of organizations or business networks depends on fast and well-founded decisions taken by the relevant people in their specific area of responsibility. To enable timely and well-founded decisions, it is often necessary to perform analyses in a collaborative manner involving domain experts, line-of-business managers, key suppliers or customers. BI is to realize a highly scalable and flexible platform for collaborative, BI over large data sets. This will be achieved by developing methodologies, concepts and an infrastructure to enable an information self-service for business users and collaborative decision making over high-volume data sources within and across organizations.

Despite the benefits of collaborative BI, not all users need all of its capabilities, and it is important to determine which personnel require what features. For example, users who execute assigned tasks may simply require collaborative interaction, whereas business managers may require all three of the collaborative BI capabilities outlined above. Experience shows that attention to this aspect is a critical success factor. A collaborative BI environment that is designed for the wrong types of users will not be used and will not provide a good return on investment.

3.1.Big Data analysis

The rate of growth in the amount of information available nowadays within a corporate environment poses major difficulties as well as challenges in decision making [20].Big Data analytics have become increasingly important in both the academic and the business communities over the past two decades. Industry studies have highlighted this significant development. The amount of heterogeneous data that is available to organizations nowadays has made information management a seriously complicated task, yet crucial since this data can be a valuable asset for business intelligence.

3.2.Collaborative and Ontologies

Ontologies can act as a semantically rich knowledge base in systems that specialize in information management [20]. BI consists of a collection of techniques and tools, aiming at providing businesses with the necessary support for decision making. Ontologies are a key enabling technology for Information Management (IM), as they offer information a common representation and semantics. Ontologies provide to IM systems a semantically rich knowledge base for interpretation of unstructured content. Based on the semantics encoded within ontologies, information can be extracted from natural language texts and, on a further level of processing, knowledge can be discovered that will assist BI.

Nevertheless, the ways ontologies are usually managed within IM systems is unsophisticated and disregard important factors. Ontology layering or integration is rarely used and the dynamic aspect of ontologies, which requires appropriate evolution mechanisms, is often neglected. Overall, the potential of ontologies in IM and BI has yet to be fully realized and put to practical use.

4. CONCLUSION AND FUTURE STUDY

Under the issue areas of Collaborative Business Intelligence, there are gaps in knowledge and research on change management strategy. Knowledge Management is an organizational approach that is not easily implemented.

The gap that has been identified, i.e., the convergence of Cloud, SOA and Grid clearly requires further research. This further research will include extending the Zachman framework by developing a logical model for the purposes of matching and cross matching the services between and among Cloud, SOA and Grid.

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