

Decision Making Process Approach for Choosing the Adequate ICT Tool in Virtual Teams

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ABSTRACT

Actual business process activities are done in virtual space by teams that are building, exploiting an adequate collaborative environment. This is defined mainly by the specific information and communication technology (ICT) enabled by Internet/Extranet/Intranet. The ICT tools functionalities have been developed to better satisfy virtual teams requirements related to knowledge management activities. In this context, this article presents a brief state-of-the-art of virtual teams' definitions and characteristics that reinforce them with efficiency-effectiveness. Foreword, because of the large variety of ICT tools available to support virtual collaboration, the authors proposed an approach for the decision making process of choosing the adequate software solution based on the particular needs and requirement determined by the collaborative environment specificity. Assisting this, there will be analyzed the specific software tool's main functionalities that are correlated with the virtual teams requirements. This is the main step for the decision making process approach definition in order to choose the adequate software solution, using ELECTRE method (decision under conditions of certainty).

Keywords: *Collaborative Work, Decision Making Process, Information and Communication Technologies (ICT), Software Functionalities, Virtual Teams*

INTRODUCTION

It was already recognized by Gartner group (www.gartner.com) that in 2004, more than 60% of professional workforces in the Global 2000 Company work in virtual teams. By

2003, half of existing virtual teams fail to meet either strategic or operational objectives due to the inability to manage distributed workforce (Kanawattanachai & Yoo, 2002). Today, organizations of all types build-up and encourage the development of virtual teams for better attend

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their global objectives and interests, as acting in the global economy. The changes in human resources management field and particularly in group working specificity (mainly based on Internet facilities and knowledge management) have underlined the importance of virtual teams (created by the organization extension boundaries) for the global business management. Virtual teams and work performance (efficiency and effectiveness) are strongly supported by the information and communication facilities implemented and used. Furthermore, the required functionalities of the information and communication applications have been defined in order to support and automate knowledge management activities as: knowledge sharing, transfer, acquisition, integration and archive.

Specialists, researcher all over the world have recognized that information and communication technologies are vital for the support of virtual teams, and the definitions of virtual teams have underlined this fact. According to Townsend et al. (1998), virtual teams are groups of geographically and/or organizationally dispersed co-workers that are assembled using a combination of telecommunications and information technologies to accomplish an organizational task. Other approach recognizes that VIRTUAL TEAMS are groups of geographically and/or temporally dispersed individuals brought together via information and telecommunication technologies (Piccoli & Ives, 2003).

In the same context, Gassmann and Von Zedtwitz (2003) defined virtual team as a group of people (sub-teams) that interact with independent tasks guided by a common goal and work through strengthened links to information, communication and transportation technologies. Other definition suggests that virtual teams are working teams whose members are geographically dispersed and coordinates work mainly through electronic information and communication technologies (Hertel et al., 2005).

Ale Ebrahim et al. (2009) have a more explicit virtual team definition, recognizing that virtual teams are small temporary groups

of geographically, organizationally and/or time dispersed knowledge workers who coordinate their work predominantly with electronic information and communication technologies in order to accomplish one or more organization tasks.

Therefore, references underline that virtual teams have the same problems as traditional teams, but they are confronted with new challenges. At the same time, virtual teams have the potential to achieve further gains in work processes (mainly collaborative) and provide high quality solutions by meeting, gathering people with different knowledge, expertise in order to generate a high rate of added value (Draghici et al., 2008).

Based on references in the field of virtual teams' development and management (Draghici, 2007a; (Draghici, 2007b), Figure 1 presents the synthesis of the most important aspects that have to take into consideration for building, development and managing high-performing (with high levels of efficiency and effectiveness) virtual teams.

Elevating goal (associated with mission statement) refers to virtual teams goal definition and understanding (by all group members, including managers) that should be clearly expressed by specific performance objective, phrased in such concrete language that it is possible to tell, unequivocally and elevating as personally or collectively challenging (Larson & La Fasto, 1989; Draghici et al., 2007b). Virtual teams need to understand much more so than co-located teams what goal they are working towards because the working specificity is different (in time and space, and from the perspective of methodologies, methods and tools used). Members of virtual teams will play a much stronger role if they know what their ultimate target should be and everyone will work towards the same thing (Kirkman et al., 2002). These will conduct to a high coherence and synchronization of team processes.

Team structure is related to aspects as tools, processes, communications systems, facilities, and organization of the team. The optimal structure depends on the objectives (mission,

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