

# Improving Knowledge Management by Supporting Asynchronous Communications with a Debate Dashboard

*Luca Iandoli, School of Systems and Enterprises, Stevens Institute of Technology, Hoboken, NJ, USA & Department of Industrial Engineering, University of Naples Federico II, Naples, Italy*

*Ivana Quinto, Department of Industrial Engineering, University of Naples Federico II, Naples, Italy*

*Anna De Liddo, Knowledge Media Institute, The Open University, Milton Keynes, UK*

*Simon Buckingham Shum, Knowledge Media Institute, The Open University, Milton Keynes, UK*

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## ABSTRACT

*In today economic environment, innovation is considered the primary source of competitive advantage for companies. The advent of Web 2.0 tools has provided organizations with new models and tools to improve collaboration and co-creation of new knowledge assets. In particular, the shift to Open Innovation models has been recognized as a major change in the way companies create and manage innovation. In this paper the authors focus on a particular kind of web-based platforms known as argument mapping tools. Argument mapping tools have proved to be valuable tools to the organization to support collaborative decision making in distributed environments, but the level of adoption of these technologies in common organizational practices remains quite low. To tackle this problem, the authors propose to augment common argumentation mapping features with a Debate Dashboard. The research hypothesis the authors make is that by providing visual conversational feedback the Debate Dashboard improves common ground and mutual understanding of online conversation thus supporting users adoption of argument mapping tools. Drawing on Grounding cost theory (Clark & Brennan, 1991; Clark, 1996), in this paper the authors describe the main rationale and requirements for a Debate Dashboard and argue that such interface can provide useful users feedback to compensate for the loss of information due to technology mediation, and therefore improve the communication and mediation abilities of argumentation systems. Moreover the authors describe the design and preliminary results of an evaluation study carried out to assess whether the Debate Dashboard can foster more efficient and easier interaction and communication among online users. Initial results appear to support their research hypothesis, at least in terms of users' involvement and level of participation. Indeed, from the preliminary analysis it emerges that by augmenting online argument mapping tools with visual feedback users' performances and users engagement improve, in particular by increasing the total number of user contributions and the number of most active users.*

*Keywords: Argument Mapping Tool, Common Ground, Debate Dashboard, Grounding Cost Theory, Social and Conversational Feedback*

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## INTRODUCTION

In today economic environment, characterized by highly competitive markets, the ability to generate innovative ideas and to transform products quickly and effectively to satisfy customer's requirements assumes a strategic relevance for the competitiveness and the survival of businesses. Therefore, innovation is considered the primary driver of the growth and source of competitive advantage for companies.

In the last years, the shift to Open Innovation models has been recognized as a major change in the way companies and other actors involved in the innovation value chain create and manage innovation. Open Innovation is defined as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation and to expand the market for the external use of innovation respectively" (Chesbrough, 2003; 2006). Put differently, the central idea of Open Innovation is that in a world consisting of widely distributed knowledge, organizations cannot rely entirely on their own research activities and skills, but they should exploit external knowledge and competencies and find ways to profit from internal inventions or ideas that they cannot or do not want to exploit internally.

In the Open Innovation paradigm, market-based mechanisms to capture external knowledge or to valorize internal ideas such as acquisition of Intellectual Property rights, spin-offs and new venture creation are mixed with non-market value creation mechanisms based on collaboration among companies, R&D centers, independent problem solvers and even final users (Von Hippel, 2005; Benkler, 2006).

Collaboration brings many benefits to members of innovative communities including sharing of R&D expenses and risk and free and easy access to know-how, ideas and distributed problem solving developed by communities of practices. Thus, today, more than ever, innovation requires businesses to develop new crucial organizational capabilities to tap into distributed knowledge networks and manage a mix of market and collaborative mechanisms. To cater for this, specific knowledge and

collaborative skills must be deeply embedded in the mindset, skill set and toolset of every firm.

Clearly, Internet and online collaborative tools can contribute to foster Open Innovation because they increase collaborative reach and lower the cost to interact among globally distributed collaborators. Moreover, Web 2.0 technologies make it easier for the organization to access the global job market of knowledge workers and help to increase the visibility and reputation of ideas and research outcomes, thus facilitating funding (Tapscott & Williams, 2006). New social media and collaborative technologies in general are increasingly recognized as effective tools to support collaboration and knowledge sharing also at the intra-organizational level (McAfee, 2009). Indeed, wikis, blogs, group-messaging software and the like, can make a corporate intranet into a constantly changing structure built by distributed, autonomous peers through the creation of a unique, grass-root, accessible body of knowledge. In other words, workers, not only, can self-identify the contents that are most relevant for their activity, but they are also able to set up the knowledge structures and the collaborative processes that are adequate to their collaborative needs. Moreover Web-based collaborative tools are also successful because they allow to access easily a large and diverse pool of competencies and skills. The central role of diversity and variety for innovation and knowledge creation is widely acknowledged.

However, current Web 2.0 tools (e.g. chats, discussion forums, blogs, wikis, podcasting etc.), while enabling effective knowledge sharing and accumulation, are less supportive of knowledge organization, use and consensus formation (Iandoli et al., 2009). Indeed, captured content is often unsystematic, overwhelming and redundant, making harder the individualization of relevant information hidden in the free-text and the evaluation of content quality. Moreover, common Web 2.0 tools have not proved to be successful at capturing, integrating and evaluating conflicting and competing perspectives.

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