

## Chapter 7

# Social Media for Growing Collective Intelligence in Online Communities

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### ABSTRACT

*Scientific society argues that human group demonstrates higher capabilities of information processing and problem solving than an individual does (Luo et al., 2009). Collective Intelligence (CI) is the general ability of a group to perform a wide variety of tasks (Woolley et al., 2010). With the growth and expansion of the Internet and social media technologies, “the way in which CI is utilized and leveraged has been fundamentally altered” (Wise, 2012). The new channels of social media enable new possibilities to be involved in collaborative activities for broader groups of people without limitations of time or geographical zones. The scientific problem in this chapter is defined is relationship between social media technologies and collective intelligence in networked society. The subject of the research are online community projects (collective intelligence ecosystems) which include social media tools allowing and encouraging individual and team creativity, collective decision making, on-line collaboration, entrepreneurship, etc.*

### INTRODUCTION

The growth of networked social media technologies, creative media industry, mobile telecommunications, emergence of web 2.0, 3.0 has contributed to “a thriving ecosystem of online social networks (OSN) serving various business models and personal interests for the citizens ranging from specialist interest groups to social meeting places” (Arniani, De Liddo, Georgi, Passani, Piccolo & Teli, 2014). The scientific and business communities are looking for possibilities to link social media to cloud services in order to maximise the network effect. “The explosion of user-generated content referred to as Web

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2.0, including blogs, wikis, video blogs, podcasts, social networking sites, streaming, and other forms of interactive, computer to computer communication sets up a new system of global, horizontal communication networks” (Barahona, García, Gloor & Parraguez, 2012). The increasingly emerging new societal communication and relation forms claim to change essentially the traditional social practices. It’s important to understand how to exploit and to take advantages of the new ecosystem in order to serve more efficiently the society and economy. According Arniani et al (2014) the main characteristic of networked society is hyper-connectivity, which is the ability to network people, ideas and data across boundaries of any nature: geographical, cultural, disciplinary, linguistic, social, economic. “All of the most innovative game-changing ideas, from Skype to Wikipedia, from online cartography to app stores, had a very quick, viral spreading” (Arniani et al, 2014”). According to the MIT Centre for Collective Intelligence (USA) some of the most valuable results of collective intelligence include Google, Wikipedia, and InnoCentive. Some in the scientific community (e.g. Shneiderman, 2009; Vivacqua & Marcos, 2010; Furtado, Ayres, Oliveira, Vasconcelos & Caminha, 2010) argue that social participation using social technologies may be the only way to some of the biggest problems confronting the population (e.g. health care, climate change etc).

The chapter is focusing on the emergence of collective intelligence in digital enabled communities. The subject of the research are online community projects (collective intelligence ecosystems) which include social media tools allowing and encouraging individual and team creativity, collective decision making, on-line collaboration, entrepreneurship etc. The authors of this chapter maintain the position that the network structure (networked society) is one of the most prospective future societal organization forms. Although online communities are often criticized for the lack of direct contact, yet, in comparison with traditional communities the networked ones can operate more efficiently, due to technologies that make it possible not only exchange of large amounts of information, but also help to process the information more efficiently. New knowledge, ideas, found solutions, suggested problem solving methods, integrated public opinion, structured opinions and views, developed innovations, prototypes, generated added-value etc. are considered to be intellectual capacities of the community. The ability to recognize collective intelligence in virtual communities could contribute to solving other social problems of the networked society by multiplying the successful cooperation models and implementing them on the national or international scale through virtual means. The first research findings (Skaržauskienė et al, 2015) indicate a larger involvement of young people in virtual systems of collective cooperation as well as increasing civil power. What is more important, all this research is related to the common decision-making process, or what Bonabeu (2009) called “Decisions 2.0” in business context. This implies that the knowledge accumulated by researchers, the created models and recommendations can be relatively easily transformed in other spheres where:

1. It is necessary to make decisions;
2. People participate; and
3. There is a need to accelerate the decision making process or to solve problems of complexity through social technologies (Leichteris, 2011).

In the first part of the chapter, the concept of digital enabled collective intelligence is introduced. In order to answer the question what affect the growth and performance of online communities the defining principles for the emergence of CI were identified. The second part of the chapter presents the results and conclusions following the experimental evaluation of online communities in Lithuania using the new developed methodological framework.

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