Using social media as a tool for business improvement and certification of knowledge workers

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Summary

Business improvement is a hot topic in all business areas. In the last years, the unstoppable emergence of the use of social media by organizations and individuals alike has opened this tool for knowledge networking purposes. In this paper the authors shed some light on how the traditional knowledge management approach has changed to a networked approach of knowledge sharing. Authors also explain how social media is used as a business tool, in particular in Information Technology industry environments. SIMS (ECQA Certified Social Media Networker) is a new qualification which is available from 2013 and is meant to train and certify experts in the use of social media as a business improvement enabler and as a means for knowledge networking in organizational settings.

Keywords: Social Networks; Software Improvement; Knowledge Clusters; Professional Certification.

1. Introduction

Competent workers are the cornerstones of organizational success. Drucker has pointed out that in the emerging electronic economy, knowledge is the primary resource for individuals and for the economy overall [1]. Moreover, according to this author, productivity issues are the biggest of the 21st century management challenges [2]. In this scenario, knowledge networks are important players in the development of organizations and workers alike. The openness and richness of networks are believed to foster a fertile environment for the creation of entirely new knowledge, while also accelerating the innovation rate [3]. Not in vain, knowledge networking is a term used to signify a number of people, resources and relationships among them, who are assembled in order to accumulate and use knowledge primarily by means of knowledge creation and transfer processes, for the purpose of creating value [3].

In this scenario, Chatti et al. [4] state that it is crucial to address what today's knowledge workers need. In this work, authors define a good knowledge networker as one who has the ability to:

- Create, harness, nurture, sustain, and widen his/her external network to embrace new knowledge nodes.
- Identify connections, recognize patterns, and make sense between different knowledge nodes.
- Locate the knowledge node that can help achieve better results, in a specific learning context.
- Aggregate and remix.
- Cross boundaries, connect, and cooperate.
- Navigate and learn across multiple knowledge networks.
- Help other knowledge networkers build and extend their networks.

Knowledge is a key factor in the growth and development of the economy as a whole and has been a "hot topic" since the late eighties. As a consequence of its importance, this research field has been fertile in the software industry setting both historically [5] or in more recent efforts [6–9].

The old paradigm of knowledge management, applied in all industries, assumes that organizations store all knowledge and implement more and more sophisticated algorithms to search knowledge and give advice. The new paradigm which we follow in expert and knowledge networks does adopt this trend, because the tacit knowledge is much larger than the stored knowledge, so that any decisions made on just the stored knowledge are questionable within an expert network. In this scenario, knowledge clusters are a new way to approach the problem. Beyond the emergence and growth of geographic knowledge clusters reported largely in literature e.g. [10], knowledge clusters enabled by established communities and empowered by new social networking tools could contribute to the development of knowledge societies.

On the other hand, the Social Web is represented by a class of web sites and applications in which user participation is the primary driver of value [11]. Web 2.0 is a term coined in 1999 by Darcy DiNucci to describe web sites that use technology beyond the static pages of earlier web sites. Online social networking tools are reinvigorating knowledge management by making it easier for employees to participate in knowledge creation and organizations have been able to use these to help employees connect across disparate regions [12]. Organisations are implementing Enterprise Micro Blogging (EMB)-based solutions for creating a new channel for organisational and team communication. This is especially beneficial when information may be relevant for a whole group of users that is unknown in advance [13]. For an organization, a frequently used microblog offers the benefit of faster knowledge sharing and improved networking [14].
In sum, Social Media Networks are useful as a communication channel among organizations. Furthermore, literature underlines the importance of social media for collective innovation communities and online innovation communities [15,16]. Finally, and taking into account that gender also plays a major role when it comes to using Web 2.0 technologies [17,18], social media tools must also include ways to deal with these differences.

Given the importance of Social Media Networking and its new way of fostering communication, branding and marketing both from a personal and organizational perspective, a

new job role (Social Media Networker) has been developed by the ECQA in order to guarantee the availability of trained and certified professionals across Europe. But beyond the importance of this job role to the ECQA community and the EU as a whole, there is also potential in the use of social media networking skills as a support for both community and society that this paper will investigate. Moreover, and given the volatile nature of IT skills in general and social media skills in particular, there are a set of challenges that this paper will also review in order to support the sustainability of the certificate in the future.

To do so, the remainder of this paper is structured as follows. In section 2 the authors present a review of the use of social media in industry with a special focus on the IT industry. Section 3 contains a description of the role and certification schema. The authors then present on the knowledge networking opportunities by means of Social Media in System, Software & Service Process Improvement & Innovation in the context of ECQA and EuroSPI initiatives in Section 4. Finally, section 5 presents the main conclusions and recommendations for the future.

2. Using Social Media in industry: A particularization in IT

Few domains in business and society have been untouched by the emerging social-media revolution, which is currently around a decade old [19]. These technologies have become equated with collaborative and participatory modes of information sharing and knowledge production [20]. As a result of these features, many organizations have been responding to this new reality, realizing the power and the potential of this technology for corporate life [19]. According to [21], social media seem to have been used in two primary ways in the organizational context: The first way is for organizational communication with external parties, such as customers, vendors, and the public at large. The second is for internal communication and social interaction within the enterprise. The first of these two is the most commonly reported in the literature and examples of this can be found in corporate aspects like promotion [22],customer relationship management [23], branding and loyalty [24] and advertising [25]. Regarding the second, literature has reported the use of social media in personnel development [26], internal communication [27], knowledge sharing activities among employees [28] and job performance appraisal [29] citing the most relevant and recent ones.

The IT industry is not ignorant of this trend. Thus, social web and social media have been employed broadly to boost products and services. In what follows, some of the most recent efforts are presented and briefly explained and discussed.

In [30], authors present a system to reuse and extrapolate knowledge and software products across projects and organisations. Erol et al. [31] discuss the introduction of social software into Business Process Management System support. Jussila et al. [32] reviews the utilization in business-to-business relationships of technology industry firms showing that there are differences in the perceived potential of social media and social media use in business-to-business companies. [33] provides a set of guidelines for software engineers and recruiters to use social web for assessing software personnel. The work of Al-Ani et al. [34] confirms that Web 2.0 applications played a role in the development of trust in globally distributed teams. Finally, Murphy-Hill [35] underlines the importance of social learning for software practitioners.

Apart from the tools and methods, there are also a number of relevant studies that review the importance of social tools and environments in several aspects within the field including global software development [36], distributed requirements engineering scenarios [37] or global knowledge management [38] naming just three of the most recent and relevant cases.

To sum up, academics in several disciplines have reported on the importance of social media in their knowledge areas. Within IT and in particular in the software industry, social media plays a crucial role as a field of study but also as a tool to support the development of the discipline. Thus, given the role played by social media, there is a need to develop programs to support long life learning approaches adapted to the discipline along with certification efforts recognized by the industry.

3. ECQA Social Media Networker

In order to support individuals and organisations in building competences in using social media for networking, a new innovation transfer project entitled 'ECQA Certified Social Media Networker Skills (SIMS)' has been completed (2011-2013) within the frame of the European-wide accepted scheme of the European Certification and Qualification Association (www.ecqa.org). One of the aims of this project is the transfer of the Social Media Networker Skills to the industry. The two year project started in October 2011 and ended in September 2013 with funding from the EU Lifelong Learning Programme. This project is aligned with previous projects developed under the umbrella of ECQA certification scheme e.g. [39–41].

The SIMS project applies specfici accredited European standards assuring a Europe wide available certification. The European Certification and Qualification Association is the result of two EU LLP projects (EQN 2005 - 2007, and EU Cert 2007 - 2009) which set up a Europe wide standard for skills definitions, skills assessment, training performance, and certification. So far more than 30 LLP projects have collaborated with the ECQA, more than 60 training bodies from 18 countries support it, and it has certified over 7000 managers in all European countries and even in USA, India, Australia, Russia, etc. The ECQA certified social media networker implements all these quality standards - involving skill sets, standard modular structure of training material and standard Europe wide exams and certification.

The SIMS project aims at developing a new skill set and a job role qualification study program, where competencies in social media networking are customised for the European industry into an online study program complemented with an on-line examination and certification training and certification schema for the job role of social media networker. A pilot training took place in the participating organisations/member states (Austria, Greece, Hungary, Ireland and Spain) during the project lifetime and the study programme was refined and improved based on systematic feedback.

At the end of the funding period, a Social Media Networker Job-Role Committee (JRC) was created by a number of experts in the area for ensuring sustainability and exploitation. The JRC initiates, develops and frequently revises the training and certification schema. Since the JRC group provides the know-how and material needed for certification and training, it also has the right to decide upon policy related to the job-role, in alignment with the overall strategy and processes of ECQA. In other words, the Social Media Networker job-role is taken to the market

through a self-funding system and its future development is decided by the JRC. The training material is frequently revised and updated for ensuring high quality outcomes, wide acceptance and diffusion in the industry.

As the number of people who are taking the social media networker certification grows, the database of exercises and exam questions will also grow. In order to make the system sustainable, comprehensive and systematic updating, maintenance and quality assurance of the database are incorporated enabling wider acceptance and user satisfaction. The ultimate measure of success will be the widespread valorization and the sustainability of the project outcomes. This success will satisfy the requirements of all stakeholders starting from the individuals (trainers and trainees), the participating organisations and the funding bodies.

Emergent challenges for organisations regarding the skills of their workforce in social media networking practices and the advantages organisations can gain when actively using contemporary social media platforms are summarised below:

- Creation of an innovative culture involves a learning process that builds on evaluation, reflection and development of the organisation toward response maturity for emerging challenges. The relationship between social attribution and technological possibilities are cornerstones for the learning process. Social media is an excellent tools for this [42].
- Tapping of collective explicit and tacit knowledge and intelligence of users (customers and consumers) by social media networks and thus reaching beyond the conventional boundaries of the organisation [43].
- Open innovation involve the process of ideation through ideas flowing out of the organisation for evaluation and flowing into the organisation as new offerings and new business models. Social media are important for 'reflection in practice' and activities such as the launching of prototypes for user tests before a product or service is launched on the market [42].
- User participation for value creation facilitated by social media is increasingly appreciated by organisations [11].
- Leverage of disparate assets of people from different cultures, different disciplines and different organisations are facilitated by social media networking [42].
- Word-of mouth marketing is obtained effectively through social media marketing and the Next Generation of Business Engagement [44].

Organisations have increasingly recognised the value of social media for creating added value and competitive advantage. The basis of the operations today in the knowledge based economy is the knowledge of the individuals facilitated through knowledge sharing and collaboration as well as understanding of user needs through open and collective innovation and user participation. Organisations have increasingly understood the potential for using social media networking in their everyday operations and the importance of a skilled workforce in social media practices.

4. Knowledge Networking by means of Social Media in System, Software & Service Process Improvement & Innovation

Especially in the area of SPI, we have observed many methods and concepts to come and claim that they represent the silver bullet to solve all problems. When we observe the last 20 years of SPI, it is actually not true that we ever found one single solution that solved all problems. It is rather so that all new concepts and methods ran through a hype cycle and were networked and integrated later into a combination of methods and concepts based on industrial feedback and experience [45].

Also the old paradigm of knowledge management assumes that we store all knowledge and implement more and more sophisticated algorithms to search that knowledge and give advice. The new paradigm which is followed in expert and knowledge networks does not believe in this, because the tacit knowledge is much larger than the stored one so that any decisions made on just the stored knowledge are questionable in an expert network [45].

Thus the strategy is to create social web based expert clusters around key industry topics. Key articles are stored around topics and experts can be connected from there. Instead of querying to a database we use query experts clustered around key topics.

To establish this approach in Europe, the leading industry and the researchers must learn how to act in a social space, how to collaborate and how to also protect interests at the same time.

The SIMS qualification is seen as an appropriate set of base knowledge to be transported to the experts to form a basis for collaboration in social media based knowledge and expert clusters.

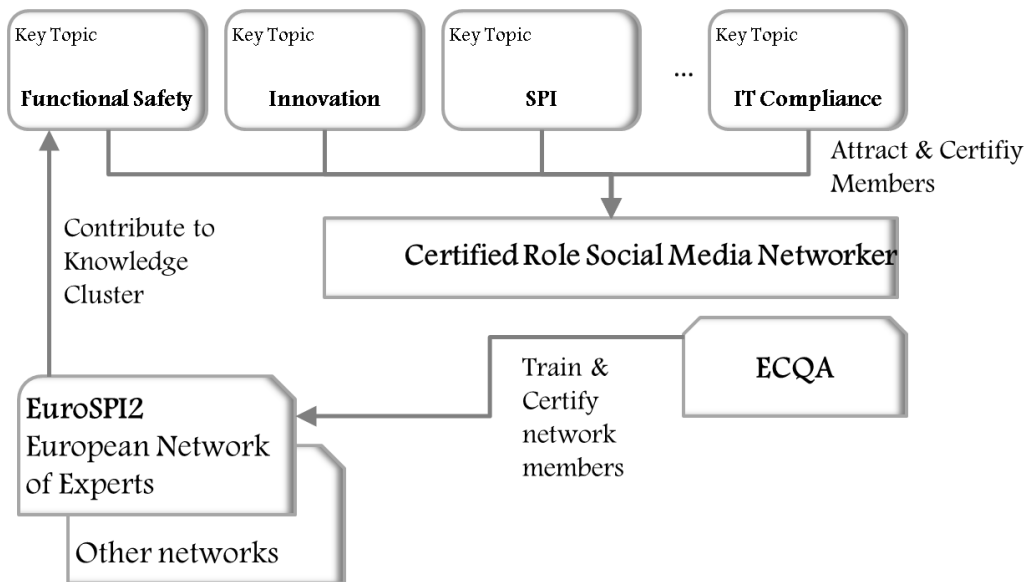**Figure 1**. Integration of SIMS into a European Network, an example.

Fig.1 shows the integration of SIMS into ECQA and EuroSPI (European Systems, Software and Services Process Improvement and Innovation) in a holistic approach. In this wat, the ECQA offers people a training and certification of social media skills. EuroSPI has established so called workshop communities for key topics in industry. The members of the workshop

communities are trained and certified in several professions and skills including social media networking.

The workshop communities continue to use the knowledge to collaborate in a social knowledge area through which more experts can be attracted.

This then leads to a loop which continuously increases the number of experts involved, the workshops at EuroSPI and the ECQA pool of certified people.This is only an example implementation of SIMS in a European context and could be applied in a similar setting in different industrial groups.

5. Conclusions and future work

The SIMS training is now fully functional and is currently available from mid-2013. The SIMS skill card and training is also being promoted across Europe. The training is available online and people can attend the training from home and/ or their work place. The exams are based on a Europe wide standard exam questions pool and utlilse the exam servers of the ECQA.

The development of the materials posed a challenge for project members. On the one hand there is a lot of material available in books, scientific papers and in more social avenues like websites, blogs, etc.. In this case, a major problem to be addressed by the authors was information overload. On the other hand, the intrinsic evolution of technologies and tools made the definition of a coherent and sustainable set of contents difficult. In this case, the problem was technological obsolescence. In any case, the commitment to updating materials on a regular and rigorous basis guarantees the availability of up-to-date learning contents and assessment tools.

Future Work will be focused on the development of training devoted to specific needs for the use of social media in fields like product development, innovation management and co-creation environments. Apart from that, as a community, EuroSPI members will focus on, firstly, the creation of knowledge clusters on key topics around the ECQA, secondly, on the construction of a platform to match needs with competent consultants for education or consultancy purposes and thirdly, on the adoption of the innovation in assembly paradigm to build new tools and services based on existing ones.

Acknowledgements

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