



# Investigating the exploitation of web 2.0 for knowledge management in the Greek tourism industry: An utilisation–importance analysis



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## ABSTRACT

The paper investigates the role of Information and Communication Technologies (ICT) and specifically of the web 2.0 in supporting knowledge management (KM) processes. A literature review analyses how the web 2.0 transforms the implementation of KM by supporting conversational and collaborative KM processes that in turn divert KM from a technology-centric to a people-centric approach. The discussion also reveals how different ways of exploiting web 2.0 reflect different levels of technology supported KM practices. The study also investigated the type and the level of web 2.0 exploitation for KM purposes in the Greek tourism industry by collecting empirical data from tourism professionals. The data was analysed by performing an utilisation–importance analysis that compared data measuring the actual utilisation of web 2.0 with the perceived utilisation importance of web 2.0 for KM purposes. The analysis identified several gaps and opportunities in relation to web 2.0 exploitation for KM purposes. The paper concludes by providing practical and theoretical implications for enhancing the exploitation of web 2.0 for KM purposes.

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## 1. Introduction

Nowadays, knowledge is widely recognised as one of the most crucial competitive assets that substantially supports and fosters an enterprise's adaptation, survival and outstanding performance (Bohn, 1994; Boisot, 1998; Mertins, Heisig, & Vorbeck, 2000; O'Dell & Grayson, 1998; Palacios & Garrigos, 2006). This is because by being mainly tacit (intangible) and embedded in organisational structures and cultures, knowledge cannot be easily copied and substituted and so, it enables firms to create business value in a unique, inimitable and non-transferable way. Indeed, research has revealed the performance impacts of KM on various business processes and functions, such as (Boisot, 1998; Mertins et al., 2000; Ruhanen & Cooper, 2003; Sigala, 2011, 2012; Sigala & Chalkiti, 2007): building and maintaining good quality customer relations and so, enhancing customer lifetime value; improving supply chain management by disseminating and sharing information for increasing coordination and collaboration; and enhancing organisational learning and continuous improvement. As information is the lifeblood of tourism, tourism organisations are not excluded from this knowledge revolution (Poon, 1993; Sigala & Chalkiti, 2007). Actually, knowledge management (KM) is recognised as a competitive and survival necessity for tourism firms (Cooper, 2006; Hallin & Marnburg, 2008) that can significantly contribute to their performance (e.g. Yang & Wan, 2004).

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However, previous studies investigating KM in tourism have placed an increased importance on intra-firm KM overlooking the need to also engage in knowledge creation and exchanges with stakeholders beyond the firm's borders (Bouncken, 2002). In tourism, knowledge sharing at an interfirm level (between and amongst firms' external networks) are also highly important due to the complexity of the tourism product (i.e. an amalgam of many different services) that creates increased interdependencies amongst many stakeholders (e.g. regulatory bodies) and amongst tourism firms (Cooper, 2006). Tourism is also a dynamically changing and highly vulnerable industry that is continuously influenced by numerous environmental factors. Because of that, tourism firms need to continually collect, share and process a huge amount of information for keeping abreast with any changes, addressing potential and real risks as well as becoming proactive to tourists' demands and changes. Moreover, in a highly interconnected and dynamic world, technology and specifically, web 2.0 advances empower tourism firms to cultivate, expand and enhance their knowledge sharing practices with their customers, suppliers, various partners and other stakeholders (Chalkiti & Sigala, 2008). Indeed, Young (2008) predicted that by 2013 social networking will be a decent substitute for KM applications. Nowadays, KM is evolving to a new phase that places collective intelligence at its core and promotes its use by accelerating its distribution. However, although tourism research has emphasised and explored the ways

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in which the collective intelligence of web 2.0 can be used for Customer Relationship Management, new service development, marketing and reputation management strategies (e.g. O'Connor, 2010; Pan, MacLaurin, & Crott, 2007; Sigala, 2011, 2012), there is a lack of research investigating whether and how tourism firms can exploit web 2.0 for enriching and expanding their KM practices specifically beyond the organisational borders of their firms.

In this vein, this paper aims: (a) to analyse how the web 2.0 enhances and transforms KM practices; (b) to investigate the level of web 2.0 exploitation for KM in the Greek tourism industry; and (c) to identify any gaps and opportunities in web 2.0 exploitation for KM by conducting an utilisation–importance analysis that compares the actual utilisation levels of web 2.0 with the perceived importance of web 2.0 utilisation for KM purposes. To achieve that, a literature review is conducted that first identifies the KM processes and then, it debates the role and the limitations of information and communication technologies (ICT) for supporting these KM processes. The literature review continues by debating the transformative power of web 2.0, as it migrates the implementation of KM from a technology-centric to a people-centric approach. This is because the web 2.0 supports conversational and collaborative KM processes that overcome the conventional ICT-driven approaches to KM. Overall, the literature review shows that the different types of ICT exploitation reflect different levels of technology-supported KM practices. In this vein, the study investigated the technology-supported KM practices in the Greek tourism industry by conducting a survey measuring the ways in which Greek tourism professionals exploit the web 2.0 for KM. To achieve that, a questionnaire was designed in order to collect data related to: the type and level of web 2.0 use by Greek tourism professionals for supporting their KM processes; and the professional's perceptions regarding the importance of web 2.0 exploitation for conducting these KM activities. Findings reveal interesting information about the level of web 2.0 exploitation for KM purposes in the Greek tourism industry. In addition, an utilisation–importance analysis was conducted for identifying potential gaps and opportunities in web 2.0 exploitation for KM. The paper concludes by providing several implications for advancing future research and addressing the industry's challenges related to web 2.0 exploitation for KM.

## 2. Knowledge management processes

Knowledge management (KM) is a structured approach for addressing the core processes of creating, codifying, using, measuring and retaining knowledge, as well as leveraging knowledge for competing in turbulent business markets (Rowley, 2000; Tobin, 1998). Knowledge is generally categorised into explicit knowledge, that can be easily encoded, stored and transmitted (von Krogh, 1998), and tacit knowledge, that is normally developed from action and experience, and it is shared through highly interactive communication (Zack, 1999). Knowledge is created through an intertwining of the various forms of knowledge (tacit, explicit, individual and collective) expressed by a knowledge spiral (Nonaka, Toyama, & Nagata, 2000) that reflects an iterative conversation from tacit to explicit knowledge through four modes: socialisation, externalisation, combination and internalisation.

The literature does not provide any standard and holistic KM framework (Jennex, 2005; Ponis, Vagenas, & Koronis, 2009) incorporating the processes responsible for knowledge creation. However, the numerous and fragmented KM frameworks that exist comprise the following five generic KM processes: the acquisition, generation and creation, codification, storing, sharing, transfer and utilisation of knowledge. Many authors (e.g. Davenport & Prusak, 1998; von Krogh, 1998) place a great emphasis on the knowledge

creation processes that can create and accumulate intellectual capital. This is because knowledge creation can mobilise and refresh the KM spiral processes with additional and updated knowledge, while the accumulated knowledge enhances the absorptive capacity of people that in turn empowers them to better assimilate and produce further knowledge. Equally, many researchers have argued that knowledge sharing processes are also an essential part of effective KM (Bock & Kim, 2002; Markus, 2001; Wasko & Faraj, 2005), because knowledge sharing lies at the core of continuous improvement processes, and it is quintessential in terms of transforming an individual's process improvements into actual learning. In this vein, knowledge sharing is also a very essential component of knowledge creation activities (Davenport & Prusak, 1998). Knowledge sharing is the process by which an individual imparts his or her expertise, insight or understanding to another individual, so, that the recipient may potentially acquire and use the knowledge to perform his or her task(s) in a better way. As knowledge sharing involves knowledge exchange activities amongst individuals, groups and communities of practices (Wasko & Faraj, 2005), the social networking affordances of web 2.0 can offer numerous opportunities to enrich and transform KM.

## 3. The role of ICT in supporting KM processes: the levels, benefits and limitations of ICT exploitation for KM

ICT are widely recognised as a crucial factor that can boost knowledge creation processes by mobilising and converting knowledge (Kankannalli et al., 2005; Rhodes, Hung, Lok, Lien, & Wu, 2008; Robert, 2009; Yang & Wu, 2008). Traditionally, ICT are viewed as a collection of technological capabilities and tools (e.g. e-mail, intranets, databases, forums) that capture, store and share knowledge (Grover & Davenport, 2001) in order to enable firms to manage, retrieve, disseminate and process information (Swan, Newell, & Robertson, 2000). Nowadays, the internet represents the most successful open information distribution mechanism enabling people to network for sharing, debating, (co-)creating knowledge and learning from each other (Chalkiti & Sigala, 2008; Karger & Quan, 2005; Wagner & Bolloju, 2005).

Several authors have analysed the role of ICT in facilitating all the previously identified KM processes. For example, based on an information systems (IS) approach, Jackson (2000) defined KM to have functions that facilitate and enhance the collection, organisation, refining, analysis, and dissemination of all forms of knowledge. Zack (1999) described the ICT-driven KM as a process aiming to create and disseminate knowledge within firms, which includes activities such as knowledge retrieval, refinement, indexing, distribution, and representation. Rosenberg (2001) proposed a KM pyramid model that includes three layers of ICT-driven KM processes. The lowest level represents technology enabled document management supporting information storage and distribution. The second layer represents KM processes for information creation, sharing, and management, where people actually store information in the ICT, create new content, and enrich knowledge databases for further online retrievals. The third layer refers to the entrepreneurial wisdom, which expresses the affordances of ICT to empower people to create organisational know-how. Jackson (2000) supported Zack's (1999) arguments that ICT can enable higher order KM and creation processes, by arguing that ICT enable multidimensional KM processes that create knowledge value that is not the same thing as data or information. Zack's (1999) KM pyramid model is also important, because it enables firms to identify and measure their level of ICT exploitation for supporting and enhancing their KM processes.

The increasing importance of ICT for implementing KM is attributed to the business need to make KM more independent from hu-

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