Understanding the determinants of social network sites adoption at firm level: A mixed methodology approach

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ABSTRACT

The incredible numbers associated with social network sites makes technology a very attractive element in the eyes of organizations. Despite this, the existing scholarly literature does not demonstrate sufficient knowledge on how firms should adopt and use these technologies. With this lack in mind, a study was conducted aiming to understand what might be the determinants with the most influence on the SNS adoption process at firm level. the study was performed making use of a mixed methodology approach. In order to achieve an initial list of variables that might have a significant level of relative importance (RI) to the adoption of SNS, a Delphi study was designed and executed through the inclusion of 25 experts in the IT/IS area. From the Delphi results, a proposal for an adoption model that characterized the adoption of SNS at firm level was designed and validated through an empirical study. This empirical approach revealed that the proposed model explained 65% of variation in SNS adoption at firm level. The active involvement of top management, the alignment of the SNS plan with the firm's business plan, the existence of competitive pressures, and the use of SNS for gaining competitive advantages are the determinants with the most influence on technology adoption by firms.

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1. Introduction

Since their initial creation, social network sites (SNS) have been receiving a serious amount of public attention, to the point of having millions of registered users and a billion hits per day (Agarwal et al., 2008; Kane et al., 2012; Kim et al., 2010). By perceiving the significance of SNS user registration numbers, firms started to direct their business efforts toward seizing the opportunities inherent to this massive adoption (Kaplan and Haenlein, 2010).

Conceptually SNS can be considered as a new class of information technologies (IT), given that they incorporate a range of new capabilities allowing them to stand out from the crowd and assume their own space in the Web technologies catalogue (Kane et al., 2012). Hence, and assuming Pai and Arnott (2013) arguments toward the characterization of SNS as Web based technologies that allow for a virtual representation (profile) of a user and, through

this profile, establish connections with other users to whom he then can communicate, SNS must be considered as fully individual technologies and the preconceived mindset that all IT are equally adopted and used must be adjusted. This is a research gap that needs to be addressed. Through honest and straightforward recognition of this reality, we believe that studying the factors affecting the adoption of SNS by firms is a relevant undertaking that will make a valuable contribution to both science and organizations (Jussila et al., 2014; Leonardi, 2014; Malik et al., 2016; Wu, 2013).

A literature review on the SNS adoption topic finds several works with interesting theoretical models for explaining the factors affecting this phenomenon (Cheng, 2010; Curtis et al., 2010; Mergel, 2013; Sarosa, 2012), the great majority of which focus on individual adoption. The focus of the present research, on the other hand, is to deepen our knowledge of the adoption of SNS at the firm level. In order to so, a mixed methodological (Venkatesh et al., 2013) approach was followed: (1) a Delphi study (Cebi, 2013; Okoli and Pawlowski, 2004) was executed in order to collect the consensual prediction of a group of experts on the factors that might impact the adoption of SNS at firm level, and (2) the development of an SNS adoption model – comprising the variables identified during the Delphi as the most important ones in the adoption

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process. that the model was then quantified by an empirical study involving 247 firms. By following this approach, we believe that the proposed adoption model is more robust and represents a valuable and innovative contribution to both science and organizations.

The paper is divided into seven sections, starting with an introduction to the context of the research. The second section is the conceptual arguments that support the research. In the third section the reader gains a detailed perspective on the research methodology chosen and its stages. In the fourth and fifth sections the empirical study and its results are described, and then discussed in Section 6. The seventh section presents some overall conclusions.

2. Conceptual framework

2.1. Social network sites – SNS

Social network sites are technological extensions based on all the properties and significances of "non-virtual" social networks, which, due to their Web essence have their features extrapolated. This essence allows for a substantial increase in the number of those receiving communication/input made within the SNS (Kaplan and Haenlein, 2010; Kim et al., 2010; Pai and Arnott, 2013). At the present there are several active social network sites and, even though the extent of functionalities may vary, ranging from simple communication tools to blogging and sharing of photos and videos, they maintain a fairly consistent goal of triggering the creation and maintenance of social networks whose members connect with each other according to their common interests, activities, nationalities, or political views. Still, despite their differences, the common denominator among the vast majority of social networking is that it allows users to create a public profile that displays a list of other users from that same SNS to whom the user is connected (Boyd and Ellison, 2007). Profile is an individual web page that displays all user inputted information, such as age, location, personal description, interests, and photos. In order to encourage the user adoption of these systems, they allow users to update their profiles by adding content generated by themselves or other multimedia content from multiple other websites and Web systems.

Even though the most known SNS perception is that they allow for the creation of connections (or relations) between individuals, the feature that allows for the conceptualization of these technologies to be unique is their ability to enable users to interact and connect with each other at the same time, allowing for a public display of the network of users to whom they are connected and with whom they interact. Therefore, a set of connections between users will be established not only with users to whom there is already a real-life connection, but also with others to whom they have no real-life affinity (Haythornthwaite, 2005). Nevertheless, on larger social networks sites users are not always trying to connect with others, but instead are indulging in a communication process with multiple users at the same time (Boyd and Ellison, 2007; Mislove et al., 2007).

During the last decade not only has the number of SNS increased, but also their complexity and number of registered users, which currently is in the hundreds of millions. This massive adoption has been encouraging several types of actions from entities belonging to almost every sector of society and transforming SNS into a hot topic and a venture for new business opportunities (Fang et al., 2013; Kane et al., 2012; Xu et al., 2012). By analysing today's business environment, one can easily perceive that it is becoming increasingly complex and more technological. This is mainly because existing customers are using newer technologies and platforms to build social groups, thereby triggering the devel-

opment of relationships with others and promoting the exchange of product/service related content and feedback. This affects business behaviour and forces firms to adopt these technologies to answer the current market needs and trends (Berthon et al., 2012; Joo et al., 2011; Nosek and McManus, 2008). Proof of this massive SNS adoption is presented by Everson et al. (2013), who state that around two thirds of people who regularly go online use SNS.

Despite the difficulties in defining and characterizing SNS and what they represent as innovative technologies (Kaplan and Haenlein, 2010; Teng, 2015), a considerable amount of research has been undertaken focusing on this adoption. When analysing these studies one notices that the majority address SNS adoption at the individual level, while neglecting its adoption at the firm level – and providing a research opportunity. Authors such as Durkin et al. (2013), Kietzmann et al. (2011), and Ko (2013) have been arguing that this resulting knowledge gap is the origin of so many firms' unsuccessful SNS business initiatives and that deeper research is needed in this field of study. In parallel, Meske and Stieglitz (2013) highlight that, despite the incorporation of SNS within their business activities and initiatives, organizations still have issues concerning the adoption process and the identification of business opportunities and return on investments. This issue is so critical mainly because as companies recognize the necessity for being active in SNS, they also confess their inability to understand how to do so, which performance indicators to measure, and how to measure them (Hanna et al., 2011). Their concern is also expressed in the McKinsey Global Institute report on the social economy (Chui et al., 2012), according to which almost two thirds of companies use SNS in some way, but only a very small portion of these take full advantage of the potential these technologies have to offer, mainly because the most impactful uses of SNS in the global economy today are yet to be considered. Hence the need to improve knowledge on how firms may properly adopt SNS.

Currently firms are using SNS with three main purposes: (1) internal purposes; (2) customer oriented purposes; and (3) partners, suppliers, and external-expert purposes. Concerning the use with internal purposes, firms are trying to increase the speed at which their collaborators access information, are analysing and implementing mechanisms to reduce their communication costs, and are also seeking to increase the ease of access to internal expertise. Regarding the customer orientated purposes, firms hope to improve their marketing initiatives' effectiveness and their customer satisfaction while simultaneously driving down marketing costs. In terms of purposes related with partners and suppliers, firms are also trying to increase the speed of access to external knowledge and experts and, in parallel, to improve their communication processes' efficiency (Bughin et al., 2011).

According to Muñoz and Strotmeyer (2010) and Divol et al. (2012), the use of SNS has allowed firms to not only create a buzz for their brand, but also target customers and learn from them. These consequences are arising from the adoption of SNS as tools to monitor social trends and insights, interact with customers from a customer service perspective and a crisis management standpoint, amplify the benefits associated with products or services, and trigger (planned) behaviours from customers toward new deals, products, or brand changes.

Even though scholars have been thriving on the SNS topic and inherently producing considerable amounts of knowledge on it, the use of this technology at firm level is still very much clouded by a considerable amount of misinformation that, with some recurrence now, leads to problematic SNS use that may negatively impact a firm's business (Patel, 2016). This is even critical when acknowledging the awareness that SNS success might be defined for the number of comments and shares a given SNS post receives or by the count of visitors to a firm's SNS page (Gesenhues, 2013).