Technological Forecasting & Social Change xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Technological Forecasting & Social Change

The performance implications of leveraging internal innovation through social media networks: An empirical verification of the smart fashion industry

Veronica Scuotto [b,*], Manlio Del Giudice [a], Maria Rosaria della Peruta [a], Shlomo Tarba [c]

[a] Faculty of International Business Administration, the University of Rome "Link Campus", Rome, Italy and National Research University – Higher School of Economics, Moscow, Russia
[b] School of Business and Enterprise, the University of West of Scotland, UK
[c] Birmingham Business School, the University of Birmingham, UK

ARTICLE INFO

Article history:
Received 19 July 2016
Received in revised form 8 March 2017
Accepted 14 March 2017
Available online xxxx

Keywords:
SMEs
Fashion industry
Social media networks
Return on investment
Knowledge search
Innovation

ABSTRACT

Despite rigorous empirical research exploring the changes in innovation dynamics triggered by Social Media Networks (SMNs), the benefits coming from the use of these digital platforms for knowledge search in innovative activities for small to medium enterprises (SMEs) are still unexplored. Customers become the new trailblazers. Thus, by adopting a customer led innovation perspective, this paper seeks to measure the effect on return on investment (ROI) of the use of SMNs as external drivers for supporting internal innovation search processes. On the basis of the extant literature on information system and social network analysis, the research describes and evaluates the multidimensional activities interwoven into the open innovation process, driven by integrating the five constructs of structural dimension, relational behaviour, cognitive dimension, knowledge transfer, and legitimization into our hypothesised conceptual model.

Empirical research was conducted via the Classification Regression Tree (CART) on a sample of 2548 SMEs belonging to the fashion industry and based in Italy and in the United Kingdom. This study is of importance to academics and practitioners due to the increasing significance taken on by the adoption of social media networks in the fashion industry to improve innovation search. Recommendations are made to fashion managers and social media experts to support the planning and development of new products and services. New contributions are offered to the innovation and knowledge management literature. In addition, theoretical implications and avenues for future research are also considered.

1. Introduction

Since the 1990s, the process of knowledge search in company innovation activities has increasingly accessed external networks (Chesbrough and Appleyard, 2007). Initially, the locus of such external networks was represented by suppliers; however, over the last decade, users have been identified as a relevant source of innovation (Cillo & Verona, 2008; Grigoriou & Rothaermel, 2014; Smith et al., 2005; Toh & Polidoro, 2013). Companies started to seek new knowledge externally by relying on an outflow of knowledge which called for an open innovation approach (Chesbrough, 2011). Lately, with the internet and social media networks, the knowledge search process has sped up and the cost of innovation has gone down (Billington and Davidson, 2013).

The knowledge search in innovation activities involves a much broader network, one that goes beyond company boundaries and also advocates combining with company knowledge stock (Savino et al., 2015; Enkel & Gassmann, 2010). Therefore, through such extension of the borders of this activity, millions of users work with a company in order to create a new product and\or service (Billington and Davidson, 2013). Companies have jumped on the bandwagon of using social media networks (SMNs) to improve their innovativeness, as has been showed by several case studies involving companies such as Barilla (Martini et al., 2013), Starbucks (Gallaugher & Ransbotham, 2010), and Dell Computers (Di Gangi et al., 2010) among others.

In the innovation process, the involvement of consumers thus fosters and facilitates the acquisition of knowledge. Management scholars have tested the positive influence of involving customers in product development (Rothwell, 1994; Maidique & Zirger, 1984; Dwyer & Mellor, 1991; Cooper & Kleinschmidt, 1995; Souder et al., 1997; Bolotaeva and Cata, 2010), pointing out the essential role they play in R&D activities (Von Hippel, 1976, 1998; Cooper & Kleinschmidt, 1986). Some companies (e.g., LEGO, Procter & Gamble, and Orange) have already involved consumers in their idea creation processes. For instance, LEGO introduced a new co-creation project entitled "LEGO Ideas" to seek new innovative ideas via its dedicated online platform. This new way of innovating calls for an open approach (Chesbrough, 2011) that relies on the external environment and also on the outflow of knowledge. In turn, innovation processes tend to become cheaper, more efficient, and faster due to the use of digital platforms (Persaud, 2005).

* Corresponding author.
E-mail address: veronica.scuotto@uws.ac.uk (V. Scuotto).

http://dx.doi.org/10.1016/j.techfore.2017.03.021
0040-1625/

In a nutshell, companies seek new knowledge by interacting with users through SMNs. They exchange knowledge interwoven with the users' backgrounds in terms of experiences and skills. Then, having acquired external knowledge, companies combine it with their internal one, virtually interweaving inflowing and outflowing knowledge (Chesbrough, 2011; Hvass and Munar, 2012; Tussyadiah and Zach, 2013; Scuotto et al., 2016a; Kietzmann et al., 2011; Palacios-Marqués et al., 2015a, 2015b).

As stated in previous research (Muller et al., 2005; Weinberg and Pehlivan, 2011; Romero, 2011), the entire process of seeking knowledge in innovation activities by using SMNs is kick-started by setting up SMNs as a space in which to seek and share knowledge, and ends with a knowledge legitimization step. Specifically, the whole process involves five dimensions, as follows:

1. The structural dimension of SMNs, pertaining to the time and money invested in innovation search through them;
2. The relational behaviour between customers and SMEs, which refers to the time and money spent interacting with users to foster and facilitate both innovation search and ROI;
3. The cognitive dimension of customers, which is the diverse set of user skills and experiences employed during the knowledge search activity;
4. The knowledge transfer between customers and SMEs, which refers to the combination of inflowing and outflowing knowledge;
5. The legitimization of new ideas, which pertains to the reliability of the external knowledge shared between customers and companies (see Fig. 1).

Despite the process described above seemingly being improved by the use of digital platforms, the creation of a new product and/or service is still fraught with a high degree of uncertainty in terms of the expected return on investment (ROI). Managers are particularly obsessed by achieving ROI in the short term. It is likely that the use of SMNs has not only changed the ways in which innovation is sought, but it has also increased company revenues and, in turn, it has sped up the accomplishment of ROI (Kaske et al., 2012). Billington and Davidson (2013) pointed out that the increasing number of people involved in the process of innovation search proportionally enhances the degree to which the time necessary for such accomplishment is reduced (see Fig. 2).

Kaske et al. (2012) declared that SMNs enhance product development through the close collaboration with customers and, consequently, drives ROI in innovation. As reported by McKinsey (2013), SMNs are bringing relevant benefits to companies, such as a 20% increase in of successful new products or services, a 15% increase in revenue, and a 30% improvement in knowledge search and sharing.

Despite the aforementioned studies, the influence exerted by SMNs on the process of knowledge search in innovation activities to facilitate the achievement of ROI has been rarely argued. Very few scholars have analysed this aspect by taking a qualitative approach (Billington and Davidson, 2013; Martini et al., 2013; Gallaugher & Ransbotham, 2010; Di Gangi et al., 2010). In fact, ROI is considered to be "stubbornly difficult to identify and quantify" (Kane et al., 2010:iii), which gives rise to the widely accepted understanding of not being able to measure ROI through SMNs, which, in turn, was one of the main barriers to the use of digital tools (Fisher, 2009).

However, in spite of this, this study seeks to evaluate whether the aforementioned five dimensions have a positive direct effect on the achievement of ROI in the process of knowledge search in innovation activities through SMNs. Empirically, by means of a classification and regression tree (CART), this research analysed a sample of 2548 SMEs belonging to the fashion industry and based in Italy and in the United Kingdom.

The remainder of this study is structured as follows. Section 2 is based on the study of the hypotheses regarding the value of using SMNs to support the knowledge search process in innovation activities and how this process is related to the achievement of ROI. Especially, five hypotheses are developed, relying on five key dimensions (1. structural; 2. relational behaviour; 3.cognitive; 4.knowledge transfer; and 5. legitimization) involved in the process of knowledge search through SMNs. Section 3 reports the empirical test of the hypotheses on a sample of 2548 SMEs from the fashion industry and based in Italy and in the United Kingdom by applying a classification and regression tree (CART). In Section 4, the findings show that ROI is positively affected mainly by the structural, relational behaviour, knowledge transfer, and

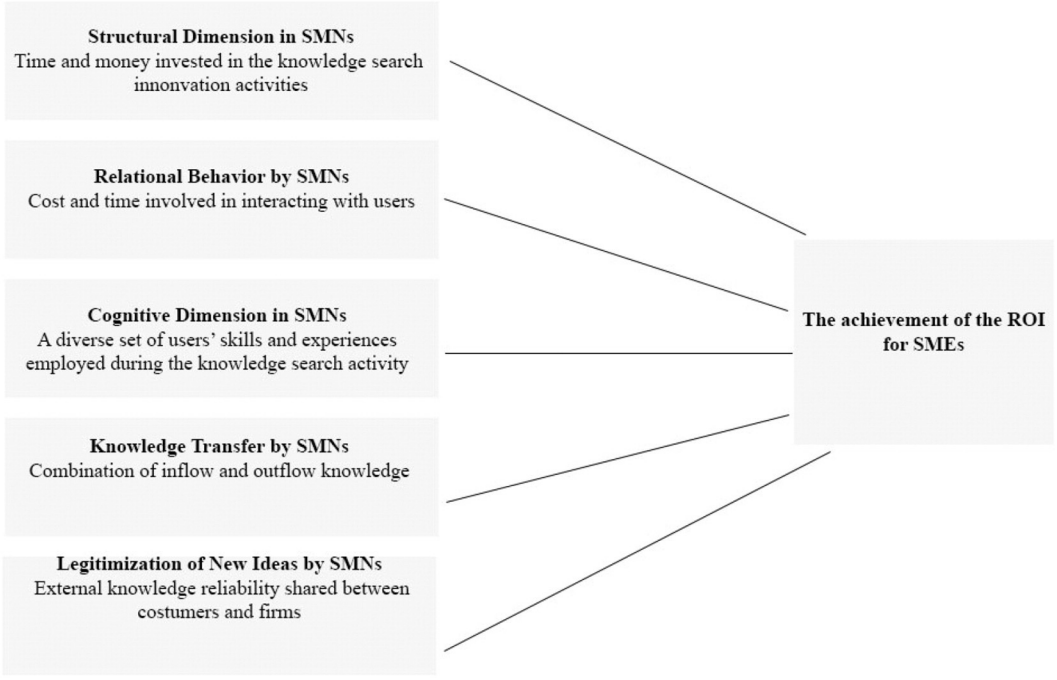

Fig. 1. Research Design for the Search for Innovation through SMNs.

Please cite this article as: Scuotto, V., et al., The performance implications of leveraging internal innovation through social media networks: An empirical verification of the sma..., Technol. Forecast. Soc. Change (2017), http://dx.doi.org/10.1016/j.techfore.2017.03.021