Information & Management 53 (2016) 380–397

Contents lists available at ScienceDirect

Information & Management

journal homepage: www.elsevier.com/locate/im

The impact of social information system governance, utilization, and capabilities on absorptive capacity and innovation: A case of Austrian SMEs

Everist Limaj [a], Edward W.N. Bernroider [a], Jyoti Choudrie [b,*]

[a] WU Vienna, Austria
[b] University of Hertfordshire Business School, Hatfield, Hertfordshire AL10 9 EU, UK

ARTICLE INFO

Article history:
Received 13 January 2015
Received in revised form 4 November 2015
Accepted 22 December 2015
Available online 31 December 2015

Keywords:
Social information systems
Absorptive capacity
Innovation
Dynamic capabilities
Empirical survey

ABSTRACT

The study aims to understand the influence of social information systems (SIS) on absorptive capacity (AC) and innovation in Austrian small and medium-sized enterprises (SMEs). For this purpose, a framework was developed and empirically tested using a nationwide, mixed-mode survey on a random sample of 138 SMEs of knowledge-intensive industries. The results show that the backbone of SIS utilization is SIS governance. SIS capabilities mediate the positive effects of SIS utilization on AC components, which build on each other and mediate the positive effects of SIS capabilities on innovation. Our findings provide a number of useful implications for research and industry.

1. Introduction

The rapid adoption of social information systems (SIS) in recent years has given rise to new capabilities that have changed the way organizations act, interact, communicate, collaborate, and conduct their businesses [4,119]. SIS are information systems (IS) based on social technologies and open collaboration [109]. As such they contribute differently to firm value creation than to traditional business IS. As economies become increasingly knowledge based, firms strive to develop new capabilities in an effort to outperform their competitors [65]. The consensus view seems to be that these technologies have the potential to become a key instrument for creating business value [3,88]. However, a recent article suggests that the impact of these technologies on organizations is rather unclear [72]. A key aspect is the complex dynamics that arise from the combination of new features that these technologies bring and the existing firm resources and capabilities. The subsequent rise of novel capabilities is important, particularly for small and medium-sized enterprises (SMEs) that have limited resources, constrained opportunities, and face mere survival challenges [67,92]. Understanding the value of this new class of information technologies for absorptive capacity (AC) and innovation purposes is crucial in grasping the dynamic and discontinuous environments in which firms must strategically develop and sustain a competitive advantage [110].

Although prior research has provided theoretical models associating AC to information technology (IT) capabilities or innovation [15,104], few empirical studies consider the specifics of IT capabilities [124], and even fewer studies form an enhanced understanding of the dynamic effects created in the SIS settings. In fact, scholars have called for a renewed look at even established theories, asking for consideration of how this new class of technologies could alter organizational dynamics [85,72]. To the best of our knowledge, there is minimal to no empirical evidence explaining the value of SIS for different organizational capabilities and whether the combination of these capabilities results in valuable outcomes such as innovation. This empirical deficit is particularly evident given that the business use of SIS has increased steadily in recent years, while enterprises struggle to reap the full potential benefits [28,88].

With the intention of addressing this research gap, this study aims to broaden our understanding of the strategic role played by SIS by examining the nomological network of influences through which SIS influence organizational innovation. The research

* Corresponding author. Tel.: +44 21707281271.
E-mail addresses: everist.limaj@wu.ac.at (E. Limaj), edward.bernroider@wu.ac.at (Edward W.N. Bernroider), j.choudrie@herts.ac.uk (J. Choudrie).

http://dx.doi.org/10.1016/j.im.2015.12.003
0378-7206/

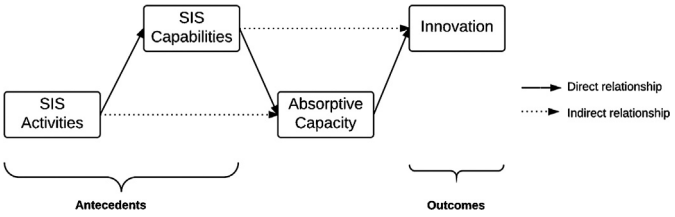

Fig. 1. The SIS model of AC for innovation.

questions formed for this purpose are as follows: (a) What is the role of SIS governance and utilization in developing SIS capabilities? (b) Do SIS capabilities affect different components of AC? (c) Does AC mediate these effects on exploratory and exploitative innovation? In particular, as illustrated in Fig. 1, we assume that SIS governance and utilization foster a nomological network of four SIS capabilities (outside-in, spanning interpretation, spanning integration, and inside-out) that in turn nurture the development of an organizational dynamic capability, namely AC. We further propose that the dynamic effects generated by the combination of AC and SIS capabilities affect exploratory and exploitative innovation. Based on the previous models of organizational AC [15], we posit that SIS gives rise to a class of antecedents of AC that catalyze the dynamic capability mechanism to generate new innovation outcomes. With the aim of testing our research hypotheses and validate our measurement constructs, we conducted a partial least squares structural equation modeling (PLS-SEM) analysis [82,130] of a random sample of 138 SMEs from a nationwide, mixed-mode survey conducted in Austria. While SMEs generally play a vital role in economic development [41] and regional innovation performance [10], they are of greater significance in Austria in relation to other nations within the European Union (EU). Austria belongs to the top nations among the 28 EU member states in terms of the number of SMEs (together with Germany, Romania, and Luxembourg) and generated turnover (together with Luxembourg and Latvia). Austria is classified as an innovation follower with a performance of product and process innovation among SMEs slightly above the EU average [44]. Our findings should therefore also be relevant for most developed countries relying heavily on SMEs, in particular to those classified as innovation followers.

For research, the discussion provides contributions to IS literature by highlighting the relationships between SIS, dynamic capabilities, and innovation in the context of knowledge-intensive SMEs. For industry, given that SIS are rapidly increasing and proliferating in day-to-day work and personal lives, this research contributes by identifying the pertinent role that SIS have on learning and innovation.

2. Theoretical background

2.1. SMEs and their role in innovation

SMEs in Europe are defined as enterprises that employ fewer than 250 people, have an annual turnover not exceeding 50 million euros and/or an annual balance sheet total not exceeding 43 million euros [42]. Together with microenterprises, SMEs account for over 99% of all non-financial companies registered in all EU countries [121]. New businesses and product lines based on breakthrough ideas of innovation directives and activities are considered critical and essential for the survival of SMEs [2].

While exploration capabilities describe a firm's ability to "develop new processes, products and services that are unique from those used in the past," exploitation capabilities are a firm's ability to "improve continuously existing resources and processes" [131]. Accordingly, exploratory (or radical) innovation involves the development or application of significantly new ideas or technologies in markets that are either nonexistent or require dramatic behavior changes to the existing markets [91]. It is an innovation that is difficult to achieve, as it tends to depart from the established offerings and understanding [106]. An empirical, cross-industrial study of 209 Finnish companies suggests that technological orientation enhances all dimensions of innovation radicalness, while a customer relationship orientation positively affects the technological and business model dimensions [106]. By contrast, exploitative innovations are typically extensions to a current product line or logical and relatively minor extensions to the existing processes [91]. Exploitative (or incremental) innovation entails changes in the underlying technology, where the changes in the technological trajectory tend to be relatively small and place limited strains on a firm's existing competencies [9,23,49].

A brief review of innovation literature indicates competing points of view regarding the relative emphasis that firms should place on exploratory versus exploitative innovations. For instance, it has been noted that while exploitative innovations can enable companies to remain competitive in the short run, only exploratory innovations can change the game, thereby, leading the way to long-term growth [77]. By contrast, another view suggests that breakthrough innovations could create a buzz in the boardroom and lesser forms of innovation may go unnoticed; hence, the "slow and steady" approach of incremental innovation usually beats exotic innovation strategies [118]. Other studies propose that successful firms must be ambidextrous, that is, they should be able to perform both types of innovation efficiently since findings suggest that exploratory innovations are more valuable in dynamic environments, while exploitative innovations are more useful to a unit's financial performance in highly competitive environments [68].

2.2. Dynamic capabilities and absorptive capacity

The paradigm shift from static to dynamic markets has brought new research to strategic management by extending the resource-based view of firms to dynamic capabilities, which are commonly referred to as the ability of organizations to achieve new forms of competitive advantage by creatively manipulating their resources [116,117]. Considering the ongoing academic debate about the conceptualization of dynamic capabilities [124], it is apparent that no commonly accepted comprehensive definition currently exists.

The first fundamental ambiguity concerns the different nature of capabilities. It is important to distinguish between dynamic capabilities and substantive capabilities, also known as ordinary capabilities [22,129,133]. While substantive capabilities are responsible for performing basic functional firm activities, dynamic capabilities deal with the development of substantive capabilities [22]. Typical examples of substantive capabilities are product development routines. In this case, a firm's dynamic