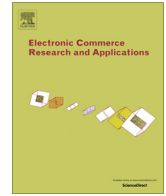




Contents lists available at ScienceDirect

Electronic Commerce Research and Applications

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

E-visibility maturity model: A tool for assessment and comparison of individual firms and sets of firms in e-business

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ARTICLE INFO

Article history:

Received 31 July 2014

Received in revised form 1 June 2015

Accepted 3 July 2015

Available online 22 July 2015

Keywords:

E-business

Maturity model design

Social software

E-visibility

Interactivity

Global market

Sociability

Internet security

Internet presence

ABSTRACT

The Internet has transformed traditional patterns of firm-to-customer communication and opened new channels through which enterprises can engage with consumers around the world. Yet ways to measure firms' visibility in this electronic marketplace have failed to keep pace with these developments. We present a new model – the e-visibility maturity (e-VM) model – that can be used to assess the degree to which a firm or set of firms has the potential to engage customers in the global e-business market. The suggested model is developed based on a literature review, an international survey of online customers, and a comprehensive review of 1868 firm websites representing 27 industries in five countries. After presenting the model, we show how it can be scaled to different levels (e.g., the industry or country level) using three illustrative cases: a set of four countries across industries; a set of four industries across countries; and a set of four individual firms. We found substantial differences in levels of e-visibility and its specific dimensions of interactivity, firm globalization, sociability, and security between the countries and specific firms sampled. The industries sampled all emphasize firm globalization and interactivity. The model offers a simple and reliable way to evaluate a company's adaptation to the challenges of the social web, and can be used by strategists and policy makers at the industry or government level as well as to help firms establish strategies for improving their position in the online marketplace.

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1. Introduction

The Internet has transformed the world of business, upending traditional patterns of firm-to-customer communication and opening new channels through which enterprises can engage with consumers around the world. In recent years, the emergence of social software (SoS) has accelerated this development by enabling fast and even real-time interaction between customers and enterprises, and even among customers (Coelho et al. 2014, Hollenbeck and Kaikati 2012, Mollen and Wilson 2010, Papasolomou and Melanthiou 2012). SoS – interactive Internet-based applications such as blogs, wikis, instant messaging, and social networks (Bryant 2006, McCarthy 2013, Pereira et al. 2010) – can be a potent customer service tool, enabling companies to respond to consumer queries and concerns rapidly and effectively. Well-managed SoS also offer firms a source of insight into customers' attitudes, as well

as an opportunity to spread commercial information through the power of electronic word of mouth (eWOM) – a phenomenon first described by Westbrook (1987) and further documented by Dellarocas (2003), De Bruyn and Lilien (2008), and Hennig-Thurau et al. (2004).

Given the power of the Internet in general and SoS in particular to support the most essential business processes, from customer service to marketing to sales, it is unsurprising that enterprises throughout the world and in all types of industries now conduct at least some portion of their business online – a phenomenon known as e-business or e-commerce. Yet the extent to which individual firms – and by extension, nations and industries – maintain an active, visible online presence can vary considerably.

The current paper presents a maturity model designed to assess the degree to which a firm or set of firms has a visible presence in the online marketplace – i.e., its e-visibility. Maturity models serve as means to evaluate some feature of a given domain for purposes of benchmarking, assessment, and comparison (Rosemann and de Bruin 2005). Building on Capriotti's notion of media visibility as key to a firm's public prominence (Capriotti 2009), we define e-visibility as the accessibility of opportunities to interact with the firm in the online market, via tools such as Internet sales,

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SoS, etc. The e-visibility maturity (e-VM) model presented here thus offers scholars, decision makers, and practitioners (e.g., marketing and sales executives) a powerful tool for assessing the relative strength of a firm or other object of interest (e.g., industry, region, or country) in the online market for purposes of analysis and future development.

In developing the e-VM model, we followed the design science approach (Becker et al. 2009) and employed the latest research methods in e-commerce (Liang and Turban 2011–2012) and marketing (Coelho et al. 2014, Parka et al. 2011). In so doing, we drew on social presence theory (Gefen and Straub 2004) and social impact theory (Latané 1981) to clarify the ways in which firms can use online tools, in particular SoS, to strengthen their relationship with existing customers and reach out to potential new customers. We asked the following questions: What are the dimensions that characterize e-visibility? What instruments or functionalities exist by which these dimensions can be operationalized? What are the maturity levels to which these operationalization criteria can be mapped? We then used two independent sources to construct the model: an international survey of 92 online consumers (specifically, undergraduate students in Germany and Israel – two countries in which young people are known to conduct much of their consumer activity online); and a comprehensive literature review. These sources enabled us to define specific evaluation criteria and indicators for each dimension and stage of the model. A comprehensive review of 1868 firm websites covering 27 industries in five countries was conducted to illustrate the usage of the suggested model.

The rest of this paper proceeds as follows. We begin with a review of the relevant literature about the social presence and social impact theories, SoS, and existing e-commerce maturity models. We then present our suggested framework for the assessment of e-business visibility. Following this, we describe the methodology used for development of the e-VM model, and we illustrate its application using three cases: a comparison of e-VM between countries (across industries), between industries (across countries), and between individual firms. We conclude by discussing the implications of the case analyses and the contribution of the model to the e-market.

2. Literature review

2.1. Social presence and social impact

Social presence theory (Gefen and Straub 2004) holds that media differ in the degree to which they enable “social presence,” defined as acoustic, visual, and/or physical contact between communication partners. Social presence is influenced by the intimacy (interpersonal vs. mediated) and immediacy (synchronous vs. asynchronous) of the communication, and can be expected to be lower for mediated than for interpersonal, and for asynchronous than for synchronous communications. The higher the social presence, the greater the influence that the communication partners have on each other’s behavior (Kaplan and Haenlein 2010). Social presence overlaps strongly with interactivity, defined by Rafaeli and Sudweeks (1997) as “a condition of communication in which simultaneous and continuous exchanges occur, and these exchanges carry a social, binding force” – i.e., a force promoting cooperation and socialization.

Social impact theory (Latané 1981) concerns ways that people influence each other in social situations. The theory holds that the impact produced by any social situation is a function of three things: the perceived power or influence of the source(s); the immediacy of the event or communication; and the number of sources acting on the target (i.e., the number of people showing

a given behavior). In the consumer context, these mechanisms help explain the power of word of mouth (WOM) in broadening consumer adoption of certain brands or products (Xu 2014). Cialdini (2001) builds on social impact theory by including ideas like “social proof” (people tend to conform to what they see others doing) and “liking” (people are more easily persuaded by others whom they like) among his six “weapons of influence.”

Together, the social presence and social impact theories build a picture in which a mechanism that involves large numbers of people in synchronous, interpersonal communications centered on a firm, product, or brand would be a powerful force for savvy marketers. The Internet and, particularly, SoS provide such a mechanism.

2.2. SoS in the context of e-business

The economic effects of SoS is a relatively new area of research, but it is abundantly clear that SoS has changed the way customers engage with businesses, brands, products, and services (Heller Baird and Parasnis 2011, Mangold and Faulds 2009, Shobeiri et al. 2014). Businesses can use SoS to broadcast information to internal and external audiences, to facilitate dialogue both with and among customers, and to improve the firm’s knowledge maintenance and collaboration (Hu and Schlagwein 2013). SoS enables people to effortlessly access information, providing increased visibility (Boyd 2010, Yang et al. 2001) and therefore potential for further engagement in the e-market. For instance, Coelho et al. (2014) showed that maintaining an active organizational Facebook account is associated with a more positive brand image, and Parka et al. (2011) highlighted the use of Facebook accounts by health organizations to communicate with customers and for health advertising and promotions.

Perhaps most important, resourceful enterprises can employ SoS to create fellowship and loyalty among customers. This is partly because today’s consumers tend to be skeptical about advertisements, and to rely more on information from social media – i.e., experiences and opinions conveyed by others – to support their decision making about products or services (Chamlertwat et al. 2012, Pöyry et al. 2013). Treem and Leoradi (2012) point out that social media allow users to widely disseminate behaviors and opinions that were once hidden – an important feature of SoS, considering that users will likely not seek out information they do not know exists (Brown and Duguid 2001). In this context, studies have shown that eWOM, which has evolved as a byproduct of SoS, has a positive effect on e-market sales (Amblee and Bui 2011, Stephen and Galak 2012, Stephen and Toubia 2010, Trusov et al. 2009).

2.3. Maturity models

Maturity is a measure of the capabilities of an organization with regard to a certain discipline (Becker et al. 2010, Rosemann and de Bruin 2005). A maturity model captures the development of those capabilities through defined levels or stages, which may represent an anticipated, desired, or typical evolution path (Becker et al. 2009). Use of a maturity model can help managers assess the maturity of a given set of capabilities, with the aim of suggesting strategic measures to effect improvements (Morais et al. 2007, Pöppelbuss and Röglinger 2011).

Several researchers have proposed e-business or e-commerce maturity models. McKay et al. (2000) proposed an e-business maturity model called the Stages of Growth for e-business (SOG-e) based on the model suggested by Galliers and Leidner (2004). The SOG-e focuses on technological aspects of e-business growth and includes six stages: (1) *no presence* of the organization in e-business activities; (2) a *static online presence* involving one-way communication from the company to users (e.g., a

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