Determinants of B2B E-Marketplace Adoption: An Empirical Study of Indian Small Firms

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ABSTRACT

Development of Micro, Small and Medium Enterprise (MSME) sector in India has been a priority issue. They constitute 95 percent of total industrial units, provide huge employment opportunities and contribute significantly to GDP. Prior research indicates that B2B e-marketplace offers ample opportunities for MSMEs to access global markets and enhances their competitiveness. There is limited empirical research on B2B e-marketplace use by Indian MSMEs, as also on the factors that influence their adoption. As adoption of B2B e-marketplace is in its growth stage in India, there is a need to understand the factors that influence the adoption. Based on the theoretical frameworks of Diffusion of Innovation, Institutional theory and Transaction cost theory, a conceptual framework that identifies organization, environment, product and e-marketplace related factors influencing adoption is developed. Using the data from 122 MSMEs, the significant factors that influence adoption of B2B e-marketplace are identified. The practical implications for the B2B e-marketplace service providers are also discussed.

KEYWORDS

Adoption, B2B E-Business, E-Marketplace, Small Firms, SME

INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) are major growth catalysts in developing countries like India as they create employment opportunities in rural and urban areas. Their potential to be growth engines and change agents offer ample scope to accomplish the goal of inclusive growth. It is estimated that MSMEs in India provide employment to more than 9.3 million people, contribute 45-50 percent of total exports, and 40 percent of the gross industrial value added. As per the Fourth Census of MSMEs, there are 1.56 million registered MSMEs in India, out of which 67 percent are manufacturing enterprises, 17 percent are service enterprises and 16 percent are repairing and maintenance enterprises (Ministry of Micro, Small and Medium Enterprises, 2011a, 2011b). Technology adoption among MSMEs in the manufacturing sector has been one of the thrust areas of policy makers, as it is believed to improve efficiency and facilitate the growth of MSMEs. Despite several efforts, technology adoption among Indian MSMEs has been limited (Intuit & Ministry of MSME, 2012). As the country aspires to be one of the global manufacturing hubs, MSMEs have to adopt technology to remain competitive. B2B e-marketplace is a web-based technology that enables MSMEs to promote their products to potential buyers. B2B e-marketplace is a type of inter-organizational system (IOS) that allows firms

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to exchange information about products and prices (Bakos, 1991). Neutral B2B e-marketplaces are independent intermediary-owned marketplaces that offer a variety of services such as hosting electronic catalogs, credit verification, industry reports, updates on buy/sell offers and consulting services. B2B e-marketplaces offer benefits to buyers such as competitive prices (Bakos, 1991), efficiencies due to increased information about products (Bakos, 1991), and reduce transaction costs and search costs (Baron, Shaw, & Bailey, 2000; Kaplan & Sawhney, 2000). Buyers use B2B e-marketplaces to achieve efficiencies in purchasing, inventory management, and logistics. Sellers would have varied benefits from B2B e-marketplace such as reduction in marketing costs (Baron et al., 2000), increase in the liquidity of sellers’ products (Dai & Kauffman, 2005), market expansion, identification of potential customers, facilitation of direct transactions with customers and reduction in costs of expensive catalogs (Loukis, Spinellis, & Katsigiannis, 2011; Stockdale & Standing, 2004). B2B e-commerce adoption would facilitate SMEs to gain competitive advantage through cost reduction, differentiation, quality improvement, and growth (Hamad, Elbeltagi, Jones, & El-Gohary, 2015).

Despite these benefits, several researchers have found that sellers have avoided B2B e-marketplaces. Some of the challenges faced by sellers are cut-throat competition, loss of brand distinctiveness due to pressure to standardize products, loss of direct relationships with customers (Baumgartner, Kajuter, & Van, 2001), measuring trustworthiness of suppliers (Hu & Wu, 2008; Kumar & Mohite, 2015), and a variety of technological, organizational, and legal factors (Loukis et al., 2011). Even though there are a number of empirical studies from the buyer organizations’ perspective (Grewal, Corner, & Mehta, 2001; Hadaya, 2006; Joo & Kim, 2004; Son & Benbasat, 2007), there are limited studies on sellers’ and SME perspectives. A few studies (Loukis et al., 2011; Stockdale & Standing, 2004; Wang, Hong, Archer, & Wang, 2011) have recognized the benefits of using electronic marketplaces for SMEs and barriers to participation. There are inadequate literature and empirical studies on factors that impact e-marketplace adoption among MSMEs in the Indian context, taking into account the perspectives of organizational, environmental, product and technological factors. This study endeavours to fill this research gap and attempts to identify factors that influence MSME’s adoption of B2B e-marketplaces. The study includes manufacturing MSMEs that have participated in neutral B2B e-marketplaces such as Indiamart.com, TradeIndia.com and Alibaba.com. The e-marketplaces that are controlled by buyers or industry consortia and MSMEs in the service sector are excluded.

THEORETICAL FRAMEWORKS

Review of IT adoption at firm level reveals that four theoretical frameworks have been extensively used to understand technology adoption in organizations. Theory of Diffusion of Innovation (DOI) (Rogers, 1995) identifies that relative advantage, complexity of technology, compatibility, trialability and observability influence adoption behavior. This theory has been widely used in literature to explain the impact of technological factors on IT adoption. Technology, Organization and Environment (TOE) framework proposed by Tornatzky and Fleischer (1990), is extensively used in research studies to explain organizations’ adoption of Inter-Organisational Systems (Chong, Ooi, Lin & Raman, 2009; Kuan & Chau, 2001) and electronic business (Oliveira & Martins, 2010; Zhu, Kraemer, & Xu, 2003). The TOE framework identifies factors in the firm’s external environment, internal factors within the organization and technological factors to explain the organizations’ adoption behavior. The Institutional theory proposes that external pressures such as mimetic, coercive and normative pressures lead organizations to adopt practices and innovations of organizations in their environment (Dimaggio & Powell, 1983). Several studies have operationalized these constructs in the context of IOS (Teo, Wei & Benbasat, 2003) and B2B e-marketplace (Son & Benbasat, 2007). This theory proposes that desire to achieve legitimacy drives organizations to adopt innovations. Transaction cost theory proposes uncertainty in the market as one of the factors that would influence an organization’s selection of governance structures (Coase, 1937; Williamson, 1975). Choudhury (1997) operationalized this variable and found that uncertainty in demand and market volatility influenced adoption of IOS. Literature renders ample evidence to believe that product characteristics have an influence on the
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