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## Industry characteristics, stages of E-commerce communications, and entrepreneurs and SMEs revenue growth

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### ABSTRACT

This paper empirically examines the role of industry characteristics portrayed by information intensity of value chain or product in the relationship between the stages of E-commerce development and revenue growth for a large representative sample of small and medium-sized enterprises (SMEs) and other entrepreneurs who operate in the United Kingdom. The results indicate that SMEs characterised by (A) high information intensity of value chain or product of industry that (B) have their own business website, a third-party website and/or a social profile, on average more often report increases in revenue growth versus their counterparts in either (A) other industries or that (B) do not have the E-commerce development. However, the likelihood of improved performance does not vary significantly among SMEs which are at different development stages of E-commerce. This finding holds regardless of whether the business is in a high value chain information intensive industry or a product information intensive industry. In short, business performance appears to improve as entrepreneurial organizations adopt information technology to facilitate greater market communication and increased exposure to online shoppers. Furthermore, this is irrespective of the level of sophistication of the interface, the design of the E-commerce technology and the high information intensity types of the industry. To conclude, this paper presents some discussions and recommendations for entrepreneurial research and practice that are implied by the results.

### 1. Introduction

As part of the strategic choices in ‘business model’ formulation and evolution, entrepreneurs must choose how their small and medium-sized enterprises (SMEs) will interact with customers and deliver value to them (Morris et al., 2006). Part of that strategic decision involves deciding on which, if any, of the stages of E-commerce development, they should spend their time and resources to create for the SME (Daniel and Wilson, 2002; Rao et al., 2003). This choice is possible because the World Wide Web has effectively flattened the playing fields by lowering the barriers to firm entry, resulting in many new entrants to the markets, and in particular the entrepreneurs' SMEs (Dahnil et al., 2014; Kim, 2003; Öztamur and İbrahim, 2014; Shin, 2001; Sinkovics and Penz, 2006; Wen et al., 2001).

This preceding development is important because (1) entrepreneurs' SMEs are a critical component of many economies—e.g., in the UK economy SME's employ over 70% of the total workforce—and (2) E-

commerce represents a most viable way of developing efficient retail channels and thus, overcoming their inherent resource constraints (Kirchhoff, 1994; Kirchhoff et al., 2013; Storey, 1994). E-commerce is an internet-based commercial transaction that benefits from the flexibility and speed offered by electronic communications between buyers and sellers, which can lead to substantial costs savings, increased competitiveness and efficiency for SMEs through the redesign of traditional business methods (Chen and Zhang, 2015). Aside from lowering their investment and transaction costs of developing both marketing and distribution channels, E-commerce also minimizes transport obstacles and eliminates the physical limitations of time and space, therefore, enabling SMEs to enlarge their customer bases (Santarelli and D'Altri, 2003). Specifically, internet-based E-commerce enables SMEs to communicate better and interact with potential new and existing customers, to conduct less costly market research, and to deliver various customer services and support more effectively and efficiently (Auger and Gallagher, 1997; Hoffman and Novak, 1995).

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Research has shown that over half of SMEs in some way or the other actively participate in the marketing and selling of products and/or services in the online marketplaces and communities (Morris et al., 2006). Furthermore, they use the online marketplaces and communities for the dissemination of their products, services contact information, the provision of customer reviews, online orderings and payments, and social media based brand communications (Huang and Benyoucef, 2013; Kietzmann et al., 2011; Laroche et al., 2012). However, this statistic also means that nearly half of SMEs have not adopted any stage of E-commerce development.

One plausible explanation of this happening lies within the domain of guided mastery modelling, which proposes that both employees and their supervisors have to achieve E-commerce competence. Further, this theory suggests that the supervisors need to guide employees. Thus, the adoption of E-commerce as a new skill will take time depending on the human capital of the SMEs (Wood and Bandur, 1989); even though the SMEs are within the same industry, they all have different capabilities (Galbraith, 1995). Therefore, the time taken for each to adopt E-commerce will be different. E-commerce is a new marketing paradigm; as such there are inherent uncertainties associated with it. Therefore, according to the information processing model, the SMEs will take a certain amount of time to adopt this paradigm to affect performances positively (Galbraith, 1976). Another plausible explanation may be associated with the contextual relevance of the factors of the firm. For instance, the heterogeneous nature of industries in which small firms operate. Thus, it is logical to argue that the impacts of using E-commerce to alter customer-supplier-interfaces and streamline international procedures can differ significantly from industry to industry (Preissl, 2003). The importance of industry characteristics in the linkage between E-commerce and performance is widely acknowledged (Melville et al., 2004). Yet still, there is a paucity of studies on the mechanisms of the roles employed to represent industry characteristics in the context of the small business population. In this article, we apply the concept of information intensity of value chain information and product matrix, as proposed by Porter and Millar (Porter and Millar, 1985), to complement the transaction cost theory (Williamson, 1991) and the product fit theory to advance the understanding of the performance discrepancy between E-commerce adopters and non-adopters in the SMEs.

In addition, prior research finds that many SMEs who adopted E-commerce, did not do so strategically (Quayle, 2002). It is unknown whether the adoption of the different stages of E-commerce development has resulted in improvements in revenues or if it has just added extra costs and complexities to the SMEs of the entrepreneurs. For instance, the design and maintenance of a commercial website requires a large volume of financial capital. Therefore, it is important for SMEs to know whether adopting the different stages of E-commerce positively affects revenue. In other words, the extent to which the E-commerce contributes to organizational performance is partially dependent on the interface sophistication, as well as the functionality and design of the web-based transaction platforms.

Hence, the contribution of the present study is twofold: firstly, it examines whether the relationship between the adoption of internet-based E-commerce technologies and revenue growth in SMEs varies among industries in terms of the information intensity of value chain or product; and secondly, it determines whether there is a difference in the percentages of groups succeeding by looking across and comparing the three different development stages of E-commerce: presence, portals and transaction integration [see (Rao et al., 2003)]—examining the usage of firm websites, third-party websites, and social media for E-commerce. The hypotheses are examined through analysis of a representative sample of SMEs in the United Kingdom.

The rest of the paper proceeds as follows. Firstly, the authors outline hypotheses drawing upon the existing literature and logic in the *Theory and hypotheses* section. Then in the *Data* section and *Methods* section the authors describe the research sample, the measures, and the

analysis techniques. Results are then presented, implications outlined, and finally the conclusions drawn.

## 2. Theory and hypotheses

### 2.1. E-commerce technologies

E-commerce is broadly defined as a transaction in which the internet is used first as a platform to establish the terms of trade (e.g. price, availability, order processing time to delivery) among the participants in a marketing channel, and second, to sell goods and services that can be delivered offline (i.e., the services can be ‘digitised’) and delivered online (Shin, 2001). Products and services offered in the digital economy can be delivered through information-based channels, thus, reaching an enlarged customer base. Furthermore, the information itself is considered as a source of value and presents opportunities to develop new relationships with customers at very low costs. In the present study, we focus on (A) three different choices of internet technologies to reach customers—i.e., the SME's own website, third-party websites, and the SME's social media presence; (B) different stages of usage—as each technology could (1) not be used, or it could be used at the (2) presence stage (to show information), (3) portal stage, or (4) transaction integration stage (Rao et al., 2003).

A SME's own website that can be used for presence, portal, or transaction is one of the main vehicles for content marketing (Wainwright, 2014). Namely, content marketing involves unrequited sharing of beneficial product information, ideas, and experiences to the users or communities<sup>1</sup> of consumers by the firm (Ahmad et al., 2006; Blank, 2014). Therefore, it is ... “a strategic marketing approach that focused on creating and distributing valuable, relevant, and consistent content to attract and retain a clearly-defined audience to gain profit” (Content Marketing Institute, 2015). In other words, it is geared towards creating and strengthening within the consumer's mind, the firm's brand image, which translates into firm growth via sales and increased shareholder values (Ahmad et al., 2006; Cornelissen, 2014; Keller, 2009; Pachitanu, 2016; Young, 2014). Today, the brand is a very significant determinant of firm growth and performance, with regards to profits (Zhu and Kraemer, 2002), sales, and consumer loyalty (Berger et al., 2007). To be more precise, a healthy brand ensures a forward looking competitive position, thus, it is really about the image of the brand, as this reflects the image and identity of the firm itself (Ahmad et al., 2006). In short, not all websites are created to focus on transactions. Often entrepreneurial SMEs first establish a website simply to show and/or gather information (i.e. presence stage).

Likewise, third-party website usage includes the strategic choice to focus usage on establishing presence, portal, or transactions. For instance, when the firms have information about their products that they are not desirous of sharing to consumers, giving rise to information asymmetry. This has significantly contributed to the emergence of the new phenomenon of the market, which is commonly referred to as third-party product reviews (Akerlof, 1970; Nelson, 1974). Nevertheless, this phenomenon, which is one of the most effective yet least understood of marketing strategies (Misner, 1999) became increasingly popular after Amazon.com brought out the first customer review book in 1995. Thus, by 2008, some 43% of the online retailers started to do so on their own websites (Gogoi, 2007). Precisely, there was a free flow of information from customers to potential customers on an extensive product array: the emergence of the word-of-mouth as a marketing phenomenon (de Valck et al., 2009). In fact, market researchers have found that customers place greater trust in online reviews when

<sup>1</sup> The concept of communities was first termed by Rheingold (Rheingold, 1993) as virtual communities: “social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace” and can be also termed: virtual worlds, virtual realities, virtual presence and online communities (Lange-Faria and Elliot, 2012).

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