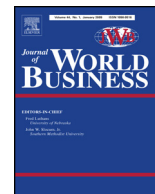




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How valuable is information and communication technology? A study of emerging economy enterprises

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ABSTRACT

Anchored at the knowledge management perspective, we address how information and communication technology (ICT) improves the productivity of emerging economy enterprises. We present the logic that ICT enhances firm performance because it is an important channel or facilitator of effective knowledge sharing and knowledge integration. We further argue that the conditions characterizing an emerging economy (i.e., a country's economic development) and emerging economy businesses (i.e., internationalization and quality assurance) would affect the extent to which ICT contributes to knowledge management, and thus to firm performance. Our hierarchical linear modeling analysis of 6236 firms from 27 emerging economies lends support to our arguments and predictions, suggesting that ICT is a critical investment that generates satisfactory returns for emerging economy enterprises, yet this investment–return relationship is further contingent upon the macro- and micro-level conditions facing these enterprises. ICT actually adds more value to productivity when a focal emerging economy is less economically developed, and when a focal firm reaches foreign markets or its quality control and assurance is superior.

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1. Introduction

Information and communication technology (hereafter, ICT) has improved rapidly and drastically in recent years, affecting business development in most countries of the world, including emerging economies. According to the International Telecommunication Union (ITU, 2013), the past decade has seen fast growth in ICT uptake worldwide, with an increase in all indicators (mobile-cellular telephone subscriptions, Internet access, mobile and fixed broadband subscriptions, etc.). Mobile-cellular subscriptions reached 6.8 billion by 2013—almost as many as the total global population. The fast move from using mobile to broadband has also enabled the rapid development of numerous new information and communication channels, such as social media, portable cloud computing, big data, and smart terminals. Undoubtedly, such development is shaping human life and creating new ways of operating and managing businesses.

Parallel to the above trend, research on ICT has begun to forge ahead in recent years. Prior studies looked at ICT conceptually, often

through a resource-based view, contending that firms can and do differentiate on the basis of their ICT resources, which then create firm-specific capabilities and contribute to sustained competitive advantage (Bharadwaj, 2000; Melville, Kraemer, & Gurbaxani, 2004; Mithas, Ramasubbu, & Sambamurthy, 2011; Ray, Muhanna, & Barney, 2005). Empirical efforts, though limited, have shown that ICT improves a firm's Tobin's *q* (Bharadwaj, Bharadwaj, & Konsynski, 1999) or profit ratio (Santhanam & Hartono, 2003) and can leverage firm-specific assets in the process of international diversification (Chari, Devaraj, & David, 2007). Most extant empirical studies emphasized U.S. firms and relied heavily on data collected from U.S. sources. For example, a widely used source is Information Week' (IW) 500 annual survey of chief information executives of U.S. firms.

We know generally little on how valuable or how important ICT is for emerging economy enterprises (hereafter, EEs), a gap requiring a significant attention for not only theoretical advancement but also practical implications. EEs are competing in an increasingly knowledge-intensive and interconnected global marketplace, and at the same time are coping with the overflow of data and information which serves as one of the most important

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