Factors Influencing E-Commerce Growth: A Comparative Study of Central Asian Transition Economies

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ABSTRACT

This paper presents an inter-country comparative analysis of key inhibitors and enablers affecting the diffusion of e-commerce across transition economies of Central Asia. It reveals that the combined effect of dissimilar economic, political, and technical impediments is a major underlying motive for differing e-commerce adoption patterns across these transition countries. This paper contributes to a better understanding of the issues affecting e-commerce diffusion and their implications for successful e-commerce implementation in countries undergoing the difficult process of transition to a market economy.

Keywords: Central Asia, E-Commerce Adoption, E-Commerce Development, Internet Diffusion, Transition Economies

INTRODUCTION

The aim of this paper is to provide a comprehensive discussion about the economic, regulatory, technological, financial, organizational and socio-cultural factors affecting business-to-consumer (B2C) e-commerce growth in transition economies of Central Asia, namely in: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The growth of e-commerce depends greatly on these factors and they often have been recognized as major drivers of e-commerce diffusion (cf. Ordanini & Rubera, 2010; Wymer & Regan, 2005). Therefore, the choice of these infrastructural factors as a context is motivated by the need for better understanding of how the e-commerce sectors of these countries are affected in general. This comparative study will contribute to better understanding of e-commerce adoption by building new evidence of factors affecting the e-commerce growth in transition economies.

In terms of geographical focus, we have been guided by four observations. First, these five countries are the biggest markets in the region with different levels of infrastructural advancements. Second, they share many similarities with each other in terms of business culture, and most importantly, they have a common experience in transitioning from a planned to a market economy. Next, the evidence on the diffusion of e-commerce in transition economies is in short supply, and thus, many scholars have

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acknowledged the importance of research on Information and Communication Technologies (ICT) specifically focused on transition economies (cf. Roztocki & Weistroffer, 2011). Finally, to the best of our knowledge, we are the first to provide an inter-country comparative analysis of factors influencing e-commerce adoption in these post-soviet states. Our review will thus hopefully shed some light on the understanding of e-commerce readiness in changing business environments of Central Asia.

The reminder of this paper is organized as follows. First, we provide a framework for analyzing the determinants involved in e-commerce diffusion in transition economies. Second, we examine cross-country variations according to these determinants and provide a comprehensive discussion of how dissimilar economic, political and technological environments may cause diverse e-commerce diffusion behaviors in Central Asia. Finally, we conclude by highlighting the limitations and providing suggestions for further research.

**Determinants of E-Commerce Growth**

E-commerce is any economic transaction which includes the process of buying, selling, transferring or exchanging products, services, or information using electronic data transmission via the Internet (Grandon & Pearson, 2004). E-commerce adoption is defined as “the possession of requisite hardware and software to conduct e-commerce transaction” (Kshetri, 2010, p. 160). There are great economic benefits of e-commerce technology in bringing significant changes to businesses, consumers and the entire economy of Central Asia. Particularly, the benefits of e-commerce for retailers include increased sales, decreased costs, higher customer awareness, improved access to new markets, better customer service and efficient communications (Mora-Monge et al., 2010; Zhuang & Lederer, 2003). In addition, e-commerce improves small firm’s ability to compete with larger companies and operate on an international scale (Whitaker et al., 2010).

However, a number of obstacles such as underdeveloped telecommunications, legal infrastructures, economic and socio-cultural factors are hindering the growth of e-commerce in developing countries (Molla & Licker, 2004). For example, due to the underdeveloped ICT infrastructure, vast majority of Internet usage in transition countries occurs via slow dial-up Internet connections limiting the level of e-commerce implementation (Kolko et al., 2007). Prior research also confirms a significant association between the aforementioned key infrastructures and uneven diffusion of e-commerce technology (cf. Kaynak, et al., 2005; To & Ngai, 2006; Wunnava & Leiter, 2009; Wymer & Regan, 2005). To investigate the impact of the infrastructural factors on e-commerce diffusion, we present a framework depicted in Figure 1. Subsequently, we provide a comprehensive discussion on the constellation of these infrastructural factors that influence e-commerce growth in Central Asian transition economies.

**Economic Infrastructure**

Economic power and stability does matter when it comes to predicting the diffusion rates of new technologies (Molla & Licker, 2005; Wunnava & Leiter, 2009). Thus, countries with higher economic wellbeing are more likely to have higher Internet diffusion and e-commerce applications (Dutta & Roy, 2004; Wunnava & Leiter, 2009). Income level, for example, is one of the keys factors affecting e-commerce growth because it determines consumers’ purchasing power in general (Gibbs et al., 2002). High levels of income carry positive implications for e-commerce development (Wong, 2003). In this respect, the economic trajectories of Central Asian countries diverge considerably due to imbalanced natural resource endowments. The economic situation in Kazakhstan, Turkmenistan and Uzbekistan is more stable and the business environment is more favorable. These three countries have extensive natural resources. For example, among the post-soviet countries, Turkmenistan is the second largest...
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