A Composite-Model for E-Commerce Diffusion: Integrating Cultural and Socio-Economic Dimensions to the Dynamics of Diffusion

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ABSTRACT

Why are some countries successful with e-commerce while others flounder? The purpose of this article is to study the impact of technology, cultural, and socio-economic factors on the global diffusion of e-commerce. While past studies have focused on technology reasons alone, this research includes cultural and socio-economic factors as well. Having access to the Internet does not necessarily translate to e-commerce usage. Fundamentally, culture and socio-economic factors are pivotal in bridging the gap between Internet usage and e-commerce diffusion. The objective is to provide a model that quantifies the aggregated influences of all factors on global e-commerce diffusion. A cross-country regression model analyzes the determinants of e-commerce diffusion and the results used in a cluster analysis to provide further evidence that the propensity for e-commerce depends on the interplay among the different factors. The results can provide firms with an improved understanding of strategies to employ while implementing e-commerce.

Keywords: cultural influences; e-commerce diffusion; Internet; socio-economic

INTRODUCTION

During the past decade, global e-commerce has experienced explosive but somewhat uneven growth throughout the world. The Internet has facilitated rapid growth by simplifying traditional business-to-business (B2B) and business-to-government (B2G) transactions while allowing firms to deal directly with consumers using online or Web based selling. Business to consumer selling (B2C) has now become a major component in the marketing strategy of retail firms. The Internet has also been a major factor in globalization since it allows firms, large and small, to extend their reach in selling products and/or services. Digital networks have connected individuals, businesses, and governments and have removed traditional barriers to trade such as transportation and distance.

Given this backdrop, firms throughout the world should expect to see significant success using the Internet as a marketing and selling
tool. However, high expectations regarding the
global diffusion of B2C e-commerce have not
always materialized on a universal basis. While
the potential of e-commerce in the developed
world is high given the existence of a technol-
ogy infrastructure, such potential has not al-
ways been realized. Thus, it appears that hav-
ing a desirable technology infrastructure is not
the sole reason for successful e-commerce dif-
fusion. This research will attempt to explain glo-
bal e-commerce diffusion as critically depend-
ing on socio-economic and cultural variables
along with the necessary technology infrastruc-
ture. By understanding these factors, it is ex-
pected that firms will be able to make informed
decisions in penetrating global markets via e-
commerce. Firms should also be able to cus-
tomize their implementation and strategy needs.

BACKGROUND AND RESEARCH INTEREST

The Internet provides a platform for e-
commerce diffusion in a global setting. In order
to understand global diffusion of e-commerce,
the study focuses on determining what dictates
this process across countries. E-commerce has
helped countries, and commercial sectors within
developed and developing countries to reduce
transaction costs and improve access to global
markets (Humphrey, Mansell, Pare, & Schmitz,
2003; Kraemer, Gibbs, & Jackson, 2002;
UNCTAD, 2002).

Much of the research in e-commerce dif-
fusion concludes that the main barriers to glo-
bal e-commerce adoption are the lack of tech-
nological infrastructure and the citizen’s access
to the Internet at reasonable prices (Dutta &
Jain, 2003-2004; Kirkman, Osorio, & Sach, 2001-
2002; Oxley & Yeung 2001; UNCTAD, 2002;
Wolcott, Press, Henry, Goodman, & Foster,
2001). Petrazenni and Kibati (1999) have focused
on the government’s role in the acceptance and
deployment of new technology such as the
Internet. However, some studies have con-
cluded that it is more than just technology and
infrastructure but also cultural factors that add
to the problem of digital divide (Gurstein, 2003;
Jusswalla & Taylor, 2003; Kling, 2000; Lim,
Leung, Sia, & Lee, 2004; Tibben, 2003; Zhao,
Suh, Kim, & Du, 2004). According to these pa-
pers, “technological” as well as “social” infra-
structures must be considered. Empirical stud-
ies incorporating these factors have been lim-
ited. Gibbs, Kraemer, and Dedrick (2003) exam-
ine global, environmental, and policy factors
that act as determinants for e-commerce diffu-
sion, but their study is limited to a comparison
of only 10 countries. A study by Ferle, Edwards,
and Mizuno (2002) concerning Internet diffu-
sion explores the cultural reasons influencing
the penetration rates of the Internet in Japan
and the U.S., while excluding socio-economic
and technological forces. Furthermore, empiri-
cal studies have included case based ap-
proaches focusing on e-commerce diffusion
across individual countries such as Germany
(Koenig, Wigand, & Beck, 2003), Brazil (Tigre,
2003) and Costa Rica (Travica, 2002).

Therefore, even though there are a num-
ber of studies addressing Internet or e-com-
merce diffusion, they have been limited in their
scope. There has been no attempt to represent
the determinants of global diffusion of e-com-
merce in a cross-country composite-model in-
corporating cultural as well as socio-economic
factors along with technological consider-
ations. Furthermore, some distinctions should
be made regarding global internet diffusion vs.
global e-commerce diffusion. Accessibility to
the Internet does not automatically mean that
consumers and businesses are willing to trans-
act or buy online. Many people and business
establishments surf the Internet to initiate a
transaction without buying online. There are
some reasons for this behavior. In some coun-
tries outside the United States, consumers and
business establishments do not wantonly use
credit, since debt is often viewed as an unfa-
vorable socio-cultural stigma. In addition, citi-
zens in many countries do not trust e-commerce
transactions over the Internet. In the case of
United States, the explosion in e-commerce
growth is based on the ability to use credit and
the willingness to trust online transactions.
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