

Chapter XIX

Basic vs. Advanced Modes of Internet Adoption: A Singapore Perspective

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ABSTRACT

The Internet can be used for different purposes ranging from simple Internet presence to using the Internet for business transformation. This study examines two modes of Internet adoption - basic and advanced. Questionnaires were sent to 566 firms in Singapore and 159 usable responses were received. Results suggested that firms operating in an advanced adoption mode invest more in Internet technology, had larger firm size, proactive business strategy, and significantly greater perceived Internet contributions to competitive advantage than did those operating in a basic adoption mode. No significant differences were found between the two adoption modes in terms of industry sector and hierarchical level of respondents. The results provide some useful information on the relationships between adoption modes and organizational characteristics as well as the impact of adoption modes on the five dimensions of competitive advantage (namely, differentiation, cost, innovation, growth and alliance). Implications of the results are discussed.

INTRODUCTION

New technologies have created innovative ways for firms to do business. The Web has been named as marketplace by researchers. Business Week (2003) reported that despite the dot.com crash in 2000, businesses are plunging ahead, with an estimated US \$3.9 trillion of business-to-busi-

ness (B2B) electronic commerce (e-commerce) in 2003. In order to leverage the potential of the Internet, more and more firms are establishing their presence on the Web. Liu et al. (1997) found that almost two-thirds of Fortune 500 firms are maintaining homepages on the Web, and about one-third of Fortune 500 firms are providing on-line business. Today, all Fortune 500 firms have

Web sites. It is obvious that Internet technology may be used in different ways by different firms and that firms may differ in terms of their mode of Internet adoption.

Although much research has been done on the adoption of the Internet (e.g., Cyr et al., 2005; Papathanassiou, 2004; Tan & Teo, 1998) and e-commerce (e.g., Pavlou and Fygenson, 2006; Vilaseca-Requena et al., 2007), few have examined the topic of adoption modes. The basic or advanced nature of Internet adoption can be considered to be critical to its impact on competitive advantage. Despite the importance of Internet adoption modes, research in this area is still primarily conceptual in nature. Empirical research focusing on Internet adoption modes is relatively sparse. Most research has focused on identifying factors affecting Internet adoption issues rather than on assessing the extent, nature and impact of these adoption modes. This paper sheds light on this issue by empirically examining the impact of two Internet adoption modes – basic and advanced. An understanding of Internet adoption modes is important for researchers, practitioners and policy makers who intend to encourage greater Internet adoption and usage, as well as assess the impact of Internet adoption. Please note that the focus of this study is on firms that have a physical presence plus an email address or Web site address. Firms with only an online presence (i.e., pureplay firms) are beyond the scope of this study.

Three questions are addressed in this study:

1. Do organizational characteristics differ for firms that have basic versus advanced adoption modes?
2. Do firms with an advanced adoption mode perceived greater competitive advantage (in terms of cost, differentiation, alliance, growth and innovation) than firms operating in a basic adoption mode?
3. Can an assessment of the specific significant differences between basic and advanced adoption modes yield any information on

areas where the Internet has the greatest impact?

We attempt to answer the above questions through a survey of Internet adoption among firms in Singapore. Singapore is an ideal location to examine Internet adoption since the country is well known for its pro-IT cultural environment (Tan & Teo, 1999). As previous research (e.g., Yap et al., 2006) has emphasized the importance of conducive cultural and socio-economic environment in facilitating e-commerce diffusion, it would be interesting to examine the modes of Internet adoption and their impact among firms in Singapore. Further, Singapore has various national information technology (IT) plans that aim to make the country an intelligent island where IT is routinely harnessed to streamline business operations for competitive advantage, and to improve the quality of life for its citizens. Recently, Singapore launched its iN2015 masterplan that aims to turn Singapore into an Intelligent Nation and Global city where seamless access to IT will help promote innovation, connect businesses, individuals and communities (integration), and enable easy access to global markets (internationalization) (iN2015 Web site, 2007). Further, Singapore has one of the highest penetration (rank#11) of Internet users in the world (Internet World Stats Web site, 2006) thereby making it increasingly necessary for firms in Singapore to have Web sites.

This paper is organized as follows. First, we review the literature on Internet adoption modes, stages of growth theory and IT impact. Second, we describe the methodology used to gather data. Third, we discuss the results of data analyses. Last, we examine the implications of the results for researchers and practitioners.

BACKGROUND

The theoretical basis for our study is derived from stages of growth theory widely used in both

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