

Barriers to e-commerce and competitive business models in developing countries: A case study

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Abstract

This paper integrates and extends research on e-commerce in the developing world. We use three categories of feedback systems—economic, sociopolitical and cognitive—to offer a simple model of e-commerce barriers in the developing world. We also examine characteristics of e-business models that can be successfully employed in developing countries. Then, we provide the case of an e-business model followed by a Nepal-based multiple international award winning online provider. This paper's theoretical contribution is to explain the 'hows' and 'whys' of e-commerce in developing countries and to identify clear contexts and attendant mechanism.

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1. Introduction

E-commerce arguably has a potential to add a higher value to businesses and consumers in developing countries than in developed countries [1–5]. Yet most developing country-based enterprises have failed to reap the benefits offered by modern information and communications technologies (ICTs) [6].

Some business models have emerged that overcome e-commerce barriers in developing countries. Yet in e-commerce journals, the developing world has received surprisingly scant attention. There are a very few analytical e-commerce studies in the developing world settings [7]. Moreover, empirical evidence in the developing world lags behind theoretical development. There have been calls for research on developing country-based enterprises' e-commerce strategy [7].

To fill the research void and this paper attempts to gain an understanding of e-commerce barriers in developing countries and illuminate successful e-business models. To

achieve this, we draw upon the literature to offer a model of e-commerce barriers in the developing world and illustrate a competitive business model employed to overcome some of the barriers. In the remainder of the paper, we first discuss the methodology. Next, relevant literature on e-commerce in developing countries is reviewed. Then, we provide a case study of a competitive business model employed by Thamel.com, a Nepal-based e-commerce firm. It is followed by a discussion of the case. The final section provides conclusion and implications.

2. Methodology: case based research

This study uses a single-case research design. We used multiple data sources. First, we collected and analyzed extensive secondary materials. Since Thamel.com had won multiple awards such as International Institute for Communication and Development (IICD) award and Global Knowledge Partnership (GKP) Tony Zeitoun award, there was a good amount of media coverage on the company. In the summer of 2004, we visited its Kathmandu offices and interviewed the company's CEO and marketing director. Subsequently, several rounds of email exchanges

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took place with both the CEO in Kathmandu and one of the founders at the US offices.

Yin [8] suggests that case studies are epistemologically justifiable when research questions focus on reasons behind observed phenomena, when behavioral events are not controlled, and when the emphasis is on contemporary events. Other researchers argue that case method is “appropriate and essential where either theory does not yet exist or is unlikely to apply, . . . where theory exists but the environmental context is different . . . or where cause and effect are in doubt or involve time lags” [9]. This study satisfies these criteria. There are persuasive arguments for thinking that e-commerce research is in an early stage of theoretical development, especially in the developing world. Studies on developing countries have also put assumptions of the “normal process” of Internet development to a “severe test” [10]. Thus, the generalizability of research conducted in the developed world is questionable in developing world’s context.

Multiple and single case studies have strengths and weaknesses [8,11–14]. Despite some disagreement, researchers agree that single-case studies are useful for inductive theory building, especially in the early development of a field of research [15] such as e-commerce in the developing world.

Case-based research requires a sampling approach focusing on theoretically useful cases [11,15]. In particular, best practices models provide good candidates for a case research methodology [11,15]. It is worth noting that as a multiple international award winner, Thamel.com’s model can be considered as a best practice model for e-commerce in the developing world.

Finally, there has been a good deal of debate on whether case research should be based on theory specified a priori or on grounded theory. Whyte [16] argues that, to be valuable, research should be guided by “good ideas about how to focus the study and analyze those data” (p. 225). On the contrary, Glaser and Strauss [17] suggested that evolution of a theory from the data is the basis for development of grounded theory rather than an imposition of a priori theory. Likewise, Van Maanen, Dabbs and Faulkner [18] suggested that investigators avoid prior commitment to any theory (p. 16). In this study, we follow Whyte’s approach. As such, the next section provides a theoretical framework related to e-commerce in the developing world and competitive business models.

3. Literature review

3.1. Barriers to e-commerce in developing countries

We analyze e-commerce barriers in terms of three categories of negative feedback systems: economic, sociopolitical and cognitive [19–21]. While economic and sociopolitical factors focus primarily on the environmental characteristics, the cognitive component reflects organizational and individual behaviors. Arguably, for the initial adoption of

e-commerce in developing countries, the cognitive component plays a more prominent role [22]. As organizations assimilate sophisticated e-commerce practices, environmental factors play more critical roles [22].

3.1.1. Economic barriers

Positive economic feedback occurs in the presence of increasing returns to scale [19]. Research has suggested that a slow Internet diffusion in developing countries has led to a low IT business value measured by performance and productivity [23,24]. Barriers associated with the lack of economies of scale in small developing countries are widely recognized. A study found that small sizes of many Caribbean nations inhibited the development of “clusters” for the IT industry [25]. Another study found adverse scale effects in the Tanzanian e-commerce industry [26].

Slow Internet diffusion in developing countries can be attributed to *market and infrastructural factors* controlling the availability of ICTs [27]. In Tanzania, for instance, a lack of electrical supply, a low teledensity and a lack of purchasing power resulted in a low rural Internet usage [28]. Moreover, manufacturers of ICT products focus on large distributors [29] often located in developed countries for their selling initiatives.

Unavailability of credit cards is also a major hurdle [28,30–32]. Past studies have found such problems for B2C e-commerce in Russia, India and Latin America [33,34]. In Asia, 35–40% of transactions are cash-based [32]. Other aspects of financial systems are also underdeveloped [35]. In the Caribbean, local banks do not process online credit card transactions [25] or other forms of electronic payment systems [36].

The Internet is also less attractive for traditional economic sectors (e.g., agriculture) that account for a significant proportion of developing countries’ economies. For instance, a study indicated that cost savings from e-commerce – as a percent of total input costs – is only 2% for firms in traditional sectors such as coal compared to 40% in electronic components [37].

Rapid growth of e-commerce in the US can be attributed to infrastructure already in place and an easy availability of a physical delivery system. Such systems are more rare in developing countries [33]. In the Caribbean region, logistics challenges are among major barriers to e-commerce diffusion [36]. It is difficult for small developing countries to attract FedEx and UPS to provide delivery services [30]. Finally, bandwidth availability is low in developing countries [38]. A lower bandwidth means that a longer time is needed to transfer data and hence a lower relative advantage of the Internet.

3.1.2. Sociopolitical barriers

Sociopolitical barriers can be explained in terms of formal and informal institutions [39–41]. They often tend to be more difficult and time consuming to overcome than technological barriers [42–45]. Social barriers are related with informal institutions. In Asia, personal relationships

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