Chapter XI

Assessing the Impact of E-Commerce on SMEs in Value Chains: A Qualitative Approach

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Abstract

This chapter is intended as a contribution to the establishment of a theoretical foundation for the e-commerce field. Our specific contribution to methodology is through the description of a qualitative approach based on multiple case studies across industry and country boundaries. This has enabled us to propose an analytical framework that will identify the triggers for value chain transformation that will encourage SMEs to adopt e-commerce. The chapter describes seven elements that make up this framework, including the automation of value activity interactions between partners in the value chain. These elements form the basis for a discussion of future trends.
Introduction

Knowledge Information Transfer Systems (KITS) was designed as a support action for small and medium-sized enterprises (SMEs) in Europe and funded by the European Commission. It included a research program whose aim was to analyze the activities of SMEs engaged in industry value chain relationships with suppliers and customers in order to establish best practice. An SME in this context is a company that employs fewer than 250 people. The research program for KITS included two main work packages: the first looked at individual companies, while the second looked at evaluation across the value chain. This chapter, which is based on the first of these packages, proposes an analytical framework that is designed to identify the triggers for value chain transformation that will encourage SMEs to adopt e-commerce.

The analytical framework draws on key concepts proposed by a number of authors. It consists of the following elements:

- **Type of industry value chain**, based on four types proposed by Baldock (1999): customer-centric, seller-driven, buyer-driven, or fragmented
- **Stability of position within industry value chain**, based on the number and type of customers/suppliers and customer/supplier churn (Yli-Renko & Autio, 1998)
- **Level of penetration of electronic links with customers and suppliers**, covering network connections, support for information exchange, the use of applications, and external services
- **Complexity of automation of the internal IT environment**, based on a classification proposed by Lockett and Brown (2001)
- **Key value activities** (Porter, 1984; Chu, 1995), extended to cover interactions between value activities
- **Complexity of automation of value activity interactions**, extending the Lockett and Brown classification to e-commerce solutions deployed in the industry value chain
- **Level of achievable impact on the industry value chain**, using a new four-level impact model

This chapter describes our findings under each of these headings and draws some conclusions about future trends.

Background

Our research was based on multiple case studies, using semi-structured interview guides. Case studies have been identified as a suitable strategy for research when a ‘how’ or ‘why’ question is being asked about a contemporary set of events over which the investigator has little or no control (Yin, 1994). They have been used extensively in social science research. However, they are also popular in other areas, including information...
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