

# Government Intervention in SMEs E-Commerce Adoption



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## INTRODUCTION

Innovation and technological change has been considered an important factor for economic development. Information technology has been among the fastest growing innovations in both production and use in the second half of the last century. In the last decade, a particular type of information technology, the Internet, has been changing business processes, organizational and industrial structures and given form to new communication and business forms as for example e-commerce.

The institutional environment created by governments in the form of policies and interventions is very important for the economic development of developed as well as developing nations (e.g., North, 1990). The external environment, and especially the role of government, has been very important in the adoption and diffusion of technological innovations such as telecommunications and more recently e-commerce (e.g., Tornatzky & Fleischer, 1990). Government intervention is and has been especially important at sustaining technological development in SMEs (Rothwell, 1994). Recently, many governments and international organizations are taking initiatives to foster the adoption of electronic commerce in small and medium size enterprises (OECD, 1999). For example the American government has set up a set of guidelines to foster the diffusion of electronic commerce in SMEs and the European Union has approved a series of "Directives" aiming at guaranteeing free availability of products and services for electronic signatures, copyright protection, taxation policy, and so forth (<http://europa.eu.int/>).

This study provides insights into small and medium size enterprises' perception of government intervention in e-commerce adoption in Southern Italy. The research question addressed is: "How do SMEs perceive government intervention in adoption and diffusion of e-commerce and what do they believe government intervention should focus on?" This study does not however differentiate between different types of governments, such as local, regional and national governments. The research was designed as a case study (Yin, 1994) and was conducted in Southern Italy.

The chapter is structured as follows. The next section provides a background of the institutional roles in adoption

and diffusion of IT. The following section presents the research methodology. This is followed by the main thrust of the chapter that presents the major findings. Finally the last two sections discuss future trends and give some concluding remarks and suggestions for further research respectively.

## BACKGROUND

The literature on adoption and diffusion of innovations, especially that focusing on information technology, has mostly focused on the factors affecting adoption and diffusion. These factors have been classified into three main groups or other categories that can be reconnected to these three groups: technological context, organizational context, and environmental context (e.g., Scupola, 2003a; Tornatzky & Fleischer, 1990).

Within the environmental context, the institutional research has focused on the influence of institutions on adoption and diffusion of technological innovations. Institutions have been historically important in the shaping of organizational and economic life and their importance is always increasing. King, Gurbaxani, Kraemer, McFarlan, Raman, and Yap (1994) identifies a series of institutions that influence IT adoption among which government authorities, international agencies and trade and industry associations.

Many studies have used institutional perspectives to study implications of information technology for organization and economic development (e.g., Corbitt & Al-Quirim, 2004; Gengatharen & Standing, 2005; Gibbs, Kraemer & Dedrick, 2002; Kraemer, Gibbs & Dedrick, 2002; Wong, 2003). Recent literature is addressing the disparity in local government readiness and community demand for e-commerce by investigating the tripartite relationship between State, local government and community in e-commerce adoption and diffusion. For example, Howell and Terziovski (2005) investigated adoption and diffusion of e-commerce in 12 local government councils in Australia funded by the Victorian e-Commerce Early Movers Assistance Scheme (VEEM). They found that the VEEM scheme was successful in raising awareness of e-commerce within the community; however there is a wide disparity in local government readiness for e-commerce and community demand for e-com-

merce emphasizing the importance of tripartite relationship between State, local government, and the community in e-commerce diffusion.

The research on the role of institutions in the adoption and diffusion of information technology is summarized here in three main frameworks: Andersen, Bjørn-Andersen, and Dedrick (2003) model of environmental drivers, Lal (2001) analytical framework encompassing the interactions among different factors and King et al. (1994) model of institutional actions.

Andersen et al. (2003) model for analyzing environmental factors mainly focuses on the demand drivers. Such drivers include industry structure (e.g., concentration, sectoral distribution, vertical integration, size of firms, etc.), information infrastructure (telecommunication, wireless and Internet infrastructure, technology acceptance, etc.), financial and human resources (e.g., venture capital, population, IT skills, education) and social and cultural factors (consumption patterns, consumer preferences, language, business culture, etc.). The second group of factors of the model includes initiatives

taken by the government and private sector institutions to promote e-commerce. The model identifies four main initiatives: knowledge diffusion, economic incentives, regulation and legislation and electronic government.

Lal (2001) proposes an analytical framework that encompasses the interactions among government policies, information infrastructure, the IT industry and the markets. The framework shows that governments can influence the growth of an industry (in Lal's study the IT industry in India) by embarking on economic policies that affect supply-side and demand-side factors. Supply-side factors include telecommunications networks, power, transport and human resources development, while demand-side factors include encouragement of the use of IT in domestic markets.

King et al. (1994) classify the nature of institutional intervention in IT innovation on whether the desired changes are in production or use. Production concerns the actors that make innovative products, while use concerns the actors and ways in which innovations are used in the society. Institutions can affect IT adoption in several ways, for example

Table 1. Dimensions of institutional intervention (King et al., 1994)

	<b>SUPPLY-PUSH</b>	<b>DEMAND-PULL</b>
I N F L U E N C E	(I) KNOWLEDGE BUILDING Funding of research projects KNOWLEDGE DEPLOYMENT Provision of Educational Services SUBSIDY Funding Development of Prototypes Encouragement of capital markets to support R&D activity Provision of tax benefits for investment in R&D (e.g., investment tax credits, rapid depreciation) INNOVATION DIRECTIVE Direct institutional operation of production facilities for innovation	(II) KNOWLEDGE DEPLOYMENT Training programs for individuals and organizations to provide base of skilled talent for use SUBSIDY Procurement of innovative products and services Direct or indirect provision of complementarities required for use Direct or indirect suppression of substitute products or services MOBILIZATION Programs for Awareness and promotion
	(III) KNOWLEDGE DEPLOYMENT Require education and training to the citizens SUBSIDY Reduction in general liabilities for organizations engaging in innovative activity Modification of legal, administrative or competitive barriers to innovation and trade STANDARDS Establishment of standards under which innovative activity might be encouraged INNOVATION DIRECTIVE Establishment of requirements for investment in R&D by organizations	(IV) SUBSIDY Procurement Support for products and processes that facilitate adoption and use STANDARDS Require particular products or processes to be used in any work for the institution Require conformance with other standards that essentially mandate use of particular products or processes INNOVATION DIRECTIVE Require that specific innovative products or Processes be used at all times

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