Action Research Methods

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INTRODUCTION

To date, most research into the implications of the Internet for SMEs has focused on individual business barriers to ICT and e-commerce adoption. Such research has shown that SMEs tend to be time- and resource-poor, with their size being their main disadvantage vis-à-vis ICT adoption (OECD, 2000; Van Beveren & Thompson, 2002). Perhaps the question is not whether small firms have adopted ICT, but rather where are small firms in terms of their ICT adoption. ICT encompasses a series of separate yet inter-related components; for example, electronic mail (e-mail), the Internet, the Web, and e-commerce, which can be adopted in a variety of social and business settings. Hence, it is suggested that ICT cannot be considered as a single technological innovation but rather as a series of (process) innovations, potentially resulting in variable ICT adoption patterns (Walczuch, Van Braven, & Lundgren, 2000).

Keeping up with rapidly changing ICT trends and moving ahead with the adoption of the various ICT components is a challenge for all firms but may be particularly confronting for resource- and time-poor SMEs (Earl, 2000). To counter this phenomenon, a SME aggregation or cluster argument may be made for the use of ICT to develop joint e-marketing and e-commerce economies of scale (Braun, 2002). In the context of emerging technologies and related knowledge-economy business models, linking stakeholders in dynamic clusters is believed to enhance competition and regional innovation (OECD, 2000). Indeed, the literature is saturated with views on geographic proximity, or clustering of industries and companies, to create innovation and competitive advantage (Asheim, 2001; Porter, 1990).

The geographic scope of a cluster can vary from a single city, state, or region to a network of companies across state borders or even country borders. They can be formal or informal, in the public or private sector, horizontal or vertical, or physical as well as virtual (in an online environment). In a horizontal network, companies within the same industry sector might share an industrial or technological base, operate within a common market, and use a common purchasing or distribution channel. Vertical networks include horizontal cluster participants, as well as suppliers, users, and related services. Porter discusses competitive advantage as being "created and sustained through a highly localized process" (Porter, 1990, p. 19) and ascribes enduring competitive advantage in a global economy to local knowledge, relationships, and motivation that cannot be duplicated by global partnering (Porter, 1998).

Connectivity has boosted conventional reasons for interfirm networking and virtual clustering—for example, by creating critical mass online—as it facilitates the knowledge-based infrastructure network imperative for today's competitive advantage. While a number of recent studies have shown benefits in physical SME clustering (Enright & Roberts, 2001; Lowe & Berrisford, 2002), notable research on ICT adoption in a virtual clustering context and studies on network use of the Internet as a cooperative e-commerce tool remain in their infancy.

Building on the concept that global positioning and competitive advantage for SMEs may be achieved through connectivity and clustering, this article first explores the conditions for small business network formation underpinned by technology, then presents the results of an action research study with a regional Australian SME tourism network seeking to establish a virtual e-marketing and e-commerce portal environment.

SMALL BUSINESS NETWORKS

Implementing new business models to achieve competitive advantage in the techno-economic innovation paradigm bring to the fore ICT adoption, strategic planning, and network issues.

Research into the adoption of networked technologies by SMEs indicates that the adoption of network structures and networked technologies by SMEs is generally related to the size and nature of SMEs and largely depends on their perception of affordability and business growth opportunities for their business (OECD, 2000). SMEs generally approach clustering and networked infrastructures such as the Internet with caution and hesitate to invest their time and money in a rapidly changing economy. SMEs do not necessarily view the Internet as a vehicle to transform their individual business capability from a parochial to a networked or global level, which may be achieved through the setup of electronic commerce (e-commerce) portals or other Web-enabled cluster structures (Murray & Trefts, 2000). The latter study cites lack

of technology skills, lack of a strategic sense of how to move forward, and fear of competitor use of the Internet as significant barriers for uptake of networked technologies by SMEs. Therefore, creating network infrastructures and collaboration between small firms is contingent not only on adoption of ICT technology, but also on economic and social contexts.

European studies on SME positioning in the networked economy point to SME's networking as being contingent on favorable economic conditions, for example, by providing government-sponsored external networks (Cooke & Wills, 1999).

An Asian study similarly provides empirical evidence that successful SME collaboration needs to be underpinned by resources that provide SMEs with the tools to become global players (Konstadakopulos, 2000). The European studies on SME positioning in the networked economy also associate social relationships with enhanced business, knowledge, and innovation performance (Cooke & Wills, 1999). While connectivity through public or private initiatives may facilitate the electronic linking of SMEs to one another for potential business-to-business (B2B) resource and transaction sharing, and help to reduce isolation of individual SMEs, there is another critical factor to consider in terms of network building between SMEs, namely trust.

Trust is an attribute not only of organizations but also of communities, industry networks, or even entire geographic regions, which can help expedite economic development and facilitate large-scale economic activities (Fukuyama, 1995). Trust between network partners is said to reduce fear of opportunistic behavior and improve collective learning and knowledge sharing. The trust may be historical and already exist between different firms, as illustrated above, or it can be built during the relational exchange (Gulati, 1995). Some scholars argue that relationships do not necessarily have to be based on trust, as long as systemic mechanisms are in place that allow stakeholders to have confidence that network partners will exhibit cooperative rather than opportunistic behavior and not take competitive advantage of knowledge-based exchanges (Das & Teng, 1997). In the aforementioned Asian example, SME collaboration was in fact taking place based on prior existence of trust and in an atmosphere of continued trust building between stakeholders (Konstadakopulos, 2000).

In summary, SME (virtual) clustering seems contingent on favorable network conditions such as connectivity (infrastructure), network relationships, and trust. ICT and related capabilities, such as virtual business network environments, can potentially have a significant impact on how interorganizational relationships are developed. Conversely, the structure and culture of an existing network of firms can have considerable influence on the way

in which the telecommunications network is developed, implemented, and used.

CASE STUDY

An action research study with a regional Australian SME tourism network seeking to adopt ICT and e-commerce provides some practical insights into network-based ICT and e-commerce adoption. Action research (AR) is a methodology and intervention process that is collaborative in nature, as it aims to work *with* stakeholders rather then *on* them (Reason & Bradbury, 2001). All action-oriented interventions value some form of participation, although there are varying degrees of collaboration depending on the method of invention. The participatory and action-oriented nature of action research is particularly suited to technological innovation, such as the adoption of ICT and portal technology, as it is flexible enough to meet the emerging issues of technology-related change.

In the pursuit of introducing ICT-related change in the tourism network, AR was found to be particularly suited to ICT-related organizational change, as it enables inquiry into and integration of the technical, economic, organizational, human, and cultural aspects of the intervention. AR-type consultations typically include a cyclical and action-oriented design that includes a diagnostic phase, a planning phase, a taking-action phase, and an evaluation phase. Apart from its cyclical approach and practicality, AR is generally appropriate when a project relates to "an unfolding series of actions over time in a given group, community or organisation" (Coughlan & Coghlan, 2002, p. 227).

The AR intervention ensued from a portal development consultancy with a geographically dispersed regional tourism network in the state of Victoria, Australia. Tourism network formation in the form of cooperative destination marketing has been in place in Victoria since 1993 as part of the state's strategic direction to develop integrated marketing campaigns for its product regions and to attain competitive advantage through collaboration (Tourism Victoria, 1993). Each product region has a so-called campaign committee, a voluntary organization made up of representatives from local industry and local government. Campaign committees are responsible for the marketing of the product region and the maintaining of communications with industry stakeholders in their region.

The AR project was undertaken with one such campaign committee, the Grampians Campaign Committee ("the Committee"), seeking to extend its traditional marketing media range and upgrade its basic ICT network to include an online marketing and transaction presence.

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