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Rural telephone companies: offering technology innovations to enhance the economic development of communities

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Abstract

Telecommunications can encourage development in rural communities by helping them overcome geographic barriers. Rural telephone companies are integral to ensuring that communities in their service areas compete in the Information Age economy by adopting advanced technologies that enable the companies to provide a full spectrum of innovative services. In this study we examined rural telephone companies in the State of Iowa and the organizational characteristics and environmental factors related to their adoption of innovative telecommunications technologies and services. We found that the involvement of rural telephone companies in local development activities was important to their technological innovativeness, suggesting that local leaders should seek the involvement of telephone company managerial personnel in community development activities. © 2001 Elsevier Science Ltd. All rights reserved.

1. Introduction

Telecommunications technologies have considerable potential for encouraging development in rural communities by helping them — through access to the information highway — overcome the barrier posed by their geographic location. But if adequate telecommunications infrastructure that takes advantage of innovative technologies does not exist or is not extended to these communities, the net effect may be to further isolate rural areas. Lack of adequate telecommunications infrastructure

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almost certainly ensures their economic and social stagnation while connected, primarily urban communities move forward. Therefore, telephone companies that serve rural areas can play a major role in ensuring that the communities in their service areas are enabled to compete in the changing Information Age economy.

Of course, not all rural communities are devoid of advanced telecommunications infrastructure. Scandinavia has “telecottages” fully equipped with computers and attendant technologies that enable residents to do information-related work; a rural cooperative in Brazil connects its telephone line to the Chicago Commodity Futures Market to market its coffee; Chinese rural cooperatives use telephones to order supplies and market their produce; and entrepreneurs who have moved to the high country are known as “lone eagles” in Colorado and “modem cowboys” in Montana [1]. Yet worldwide, there are both isolated pockets and vast areas either under-served or not served by an adequate telecommunications infrastructure.

Wresch [2] considers people living in these areas to be “information exiles”. Although the lack of infrastructure is an obvious problem in relatively distressed and underdeveloped nations, it also is an issue in rural and inner city areas in developed nations [3]. Even among the G-7 nations, telecommunications technologies are fairly concentrated, with France, Germany, Japan, the UK and the US accounting for over 80% of the information technology market. Within these five nations, a 1995 estimate found that 90% of households did not have Internet access, although this percentage is considerably less today [4].

A major component of the under-served population resides in rural areas [5]. A recent conference on the problems and issues of rural America identified the lack of infrastructure, particularly telecommunications, as an obstacle to economic welfare in the 21st century. Mark Drabenstott, Director of the Center for the Study of Rural America at the Federal Reserve Bank of Kansas City, stated that the digital divide must be closed so rural as well as urban residents have equal access to high-speed telecommunications [6].

Wilson [7], among others, has suggested that rural telecommunications in fact offer strategies for rural development. But there is often a lack of innovativeness on the part of telephone companies that serve rural areas. Sparse populations, combined with remote locations, make the development of advanced telecommunications infrastructure an expensive proposition with little prospect for reasonable economic returns. However, some telephone companies view their relationship with the local community as symbiotic [8]. They understand it is in their interest to maximize the business potential of the communities they serve, thus increasing their revenues through community development and growth.

What are the factors that influence telephone companies to be more innovative in the technologies and services they provide to rural areas? This paper examines several factors that we believe are related to the innovativeness of rural telephone companies. The study results provide potential policy recommendations that can facilitate innovation among rural telephone companies and improve the economic and social viability of the communities they serve.

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