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Research Updates

The Use of Intermodal Information Technologies by Intermodal Ports and Terminals Serving Agricultural and Food Product Firms in Mississippi*

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Introduction

Intermodal information technologies can be defined as those technologies involved in acquiring, storing, processing, and distributing data and information by electronic means (including radio, television, telephone, and computers) between two or more different modes of transportation in such a way that all parts of the freight transportation process are efficiently connected, seamless, coordinated, and continuous (Collin, 1997; Muller, 1999). The results from this study should enable firms and ports improve operational efficiencies, reduce information delays and errors, speed up cargo transfers, improve customer service and improve overall firm and port productivity. The use of intermodal information technologies should enable intermodal ports and terminals to maintain or attract additional traffic, since the competition for business is as fierce among ports and terminals as it is among carriers and agribusiness enterprises.

Objectives

The general purpose of this study will be to assess the use, adoption, benefits, and impacts of intermodal information technologies on intermodal ports and terminals serving agribusiness firms in Mississippi. The specific objectives are to (1) identify the intermodal ports and terminals in Mississippi that handle agricultural and food products at their facilities; (2) identify the various types of in-

formation technologies available for use and adoption by intermodal ports and terminals in Mississippi; (3) determine the reasons intermodal ports and terminals implement or do not implement information technologies at their facilities; and (4) examine how well intermodal port and terminal operators feel that information technologies are helping them to better manage their facilities.

Procedures

To accomplish the objectives of this study, data and information will be gathered from the literature, secondary sources, and surveys. The surveys will be developed and sent to port and terminal operators in the state. This research will be concentrated on those intermodal ports and terminals that serve primarily agricultural and food product firms.

To accomplish objective 1 of the study, data and information will be gathered from port officials, terminal operations, and the publication Comprehensive Assessment of the Ports of Mississippi (Parsons et al., 2000). The sources will be reviewed and contacted to determine the extent of the volume and value of agricultural and food products handled through the terminals and ports in Mississippi.

Objective 2 will be accomplished through the use of both secondary and primary data. Existing intermodal ports and terminal information technologies systems will be characterized and compared in terms of quality and efficiency of service. Major emphasis will be placed on the technical and economic potential of recent intermodal information technologies to transform the handling and shipping phase of the intermodal ports and terminal system in Mississippi into a more seamless and integrated system in its linkage to the agribusiness sector. Much of the relevant information for this objective is of such recent vintage that direct personal consultation with port officials, terminal operators, and manufacturers of advanced information technologies will be necessary. Also, the Internet will be used to identify manufacturers of intermodal information technology systems for intermodal ports and terminals. By using the Internet, it is anticipated that manufacturers will have literature describing their technologies and products. One of the web sites the authors will use is Cargo Systems. This web site provides information on some of the most recent

*Information in this paper is primarily taken from a project by Allen and Couvillion (2000).

developments in information technologies for intermodal ports and terminals on a worldwide basis. In addition to that web site, the publication *Challenges and Opportunities for an ITS/Intermodal Freight Program* prepared by Cambridge Systematics, Inc. in association with VZM/TranSystems will be used. This report was prepared for the U.S. Department of Transportation, Office of the Secretary-Office of Intermodalism Federal Highway Administration-ITS Joint Program Office. This report describes how a national Intelligent Transportation Systems (ITS) program for intermodal freight can promote the application of ITS technology to intermodal freight transportation.

In objectives 3 and 4, information on the reasons intermodal ports and terminals implement or do not implement advanced information technologies at their facilities and how well intermodal port and terminal operators feel that advanced intermodal information technologies at their facilities have impacted them and their customers will be obtained through surveys with the information gathered in objectives 1 and 2. This information will provide invaluable feedback to manufacturers, distributors, users, and potential users of the various types of systems. Also, a web site will be set up so that researchers, government agencies, students, intermodal ports and terminals, carriers, and agribusiness firms will have access to the results of this study. Some of the information that will be made available to the public on the web site will be publications, questionnaires sent to intermodal ports and terminal operators, current research projects, courses taught, professional background and links to other web sites in which the users may be able to find additional information on intermodal information technologies.

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Green Grocers: A Viable Wholesale Outlet for Small-Volume Fruit and Vegetable Growers?

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In Tennessee, as well as in many other states, Departments of Agriculture have successfully expanded the marketing opportunities of low-volume producers by contributing to the development and/or expansion of many direct-market outlets. The increased number of farmer's markets in the United States is partially attributable to state-sponsored development programs and to consumers' heightened interest in fresh produce in response to changing lifestyles. However, fixed-facility farmer's markets, on-farm markets, and pick-your-own markets tend to experience limited sales growth, which seems to be related to several factors. Among them is the convenience of grocery stores and the expansion of fresh produce departments in supermarkets. That is, many producers are too small to operate in the commercial distribution system, and the distance to farmer's markets, on-farm markets, and pick-your-own locations limit their customer bases. Alternative outlets for smaller growers need to be identified and ways found for them to compete.

Promising strategies include the creation and expansion of specialty store formats (especially green grocers) that emphasize atmosphere and products that are unique and desirable enough to draw food shoppers. Green grocers often are more convenient than other direct outlets and are small enough to work with local growers. The market development problem for these types of outlets is to increase their customer bases at the same time they expand access to local growers who supply the needed produce. In other words, the simultaneity of supply and demand must be addressed.