THE GLOBAL SUPPLY CHAIN:
CHALLENGES AND SOLUTIONS

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ABSTRACT

While there have been independent examinations of several of the changes that affect the supply chain, to date there has been little in the way of studies that holistically examine the changes facing front line supply chain managers today and the solutions they have implemented to address those changes. Supply chain executives have been interviewed in depth to better understand how manufacturing or distribution network changes, technology implementation, corporate re-structuring and/or increasing customer demands have been addressed in the field. An understanding of the challenges and successes faced by Global 1000 firms as they address these changes should help others in the field to better accomplish supply chain change.

INTRODUCTION

Over the last four decades the logistics discipline has managed two opposing goals: minimize costs of the firm and maximize customer service delivered by the firm. Cutting edge companies such as Dell, Wal-Mart and many others, have managed to do both. Supply chain managers have also designed their supply chains aimed at balancing cost and service. Mentzer (2004) suggests that “customer value is created through collaboration and cooperation to improve efficiency (lower cost) or market effectiveness (added benefits) in ways that are most valuable to key customers.” The goal has been to minimize cost, while providing the required level of service. The costs are often measured in decreasing cash-to-cash cycle time and the customer service, whether internal or external, is often measured in availability, delivery quality, communication and the like (Emerson and Grimm, 1998).

Wisner, Leong, and Tan, 2004; for example), research studies to examine supply chain metrics (Lambert and Pohlen, 2001), as well as a comparison of two major supply chain
PERCEPTUAL DIFFERENCES BETWEEN SHIPPERS AND MOTOR CARRIERS REGARDING THE IMPORTANCE OF CARRIER SELECTION CRITERIA

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ABSTRACT

The primary focus of this study is the identification of significant differences in the assessment of the importance of 36 carrier selection variables by both carriers and shippers. This study is based on the original 1992 investigation. Currently, statistically significant differences resulted between shipper and carrier mean ratings for nine of the thirty-six selection criteria. In the original study, there were significant differences for nineteen of thirty-five selection variables. The rating and ranking discrepancies in this study indicate that shippers and carriers do not classify the importance of some selection variables similarly, but carrier understanding seems to be improving. Carriers must take the forefront by providing leadership and innovation in relation to their selection mixes, rather than keying on past performance and relationships.

Since the mid-1990's, competition in the motor carrier industry has greatly intensified with globalization, NAFTA, and the move toward requiring technological information support systems (Milligan, 1999). Because of this intense competition, even more attention was focused on satisfying shipper preferences. According to Crum and Allen, “shippers are increasingly demanding better quality service from carriers” (Crum and Allen, 1997). An effective marketing strategy will deliver better quality service and result in greater shipper satisfaction. Shipper satisfaction is a function of carriers providing a selection variable mix that best serves shippers. Surprisingly, little has been done to determine the nature of carrier understanding of the most significant carrier selection variables. In fact, previous studies indicate that the carrier choice decision may be regarded by shippers and carriers in a much different manner. Specifically,
COMMON FARE: AN EXAMPLE OF “BLANKET” RATES IN HAWAI’I WATERBORNE TRADE

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ABSTRACT

“Blanket” rate structures apply uniform rates to a geographical region in spite of differences in the costs of carrying the goods. They are generally utilized by carriers to achieve some strategic objective, whether rate simplification, to be more competitive, or to meet some political objectives. While blanket rates are common in land transportation, the Hawai’i waterborne trade offers a unique example of this pricing mechanism. Further, given new and potential competitive factors in this trade, this is a unique case study for those interested in transportation pricing and the economic impacts of changes in the competitive structure in an isolated market.

INTRODUCTION

“Blanket” rates are rate structures that apply uniform rates to a geographical region in spite of differences in the costs of carrying the goods. They are generally proposed by carriers to achieve some strategic objective, whether rate simplification, to be more competitive, or to meet some political objectives. While blanket rates are common in land transportation, the Hawai’i waterborne trade offers a unique example of this pricing mechanism. Further, given new and potential competitive factors in this trade, shippers and the state government should be aware of the implications of both the existing situation and the potential impacts of impending changes. This is also a unique case study for those interested in transportation pricing and the economic impacts of changes in the competitive structure in an isolated market. Hawai’i is often described as the most isolated populated landmass. As such, there are numerous ways in which it is unique from other states, including the costs of getting goods and people between it and other locations. Hawai’i has only air and water
CARRIER SELECTION CRITERIA:
DIFFERENCES AMONG TRUCKLOAD
MOTOR CARRIER OFFERINGS

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ABSTRACT

Effective customer service begins with an understanding of the service components customers’ view as most important to their operations and business success. Within the transportation industry research has investigated the importance of such criteria at an industry level. This article offers detailed rankings of service criteria priority from a shipper’s perspective by comparing criteria across five types of motor carrier offerings including dry van, temperature controlled, intermodal, tank, and flatbed. Results identify the ranked importance of 20 service characteristics, common themes, and distinct differences in the importance of service criteria among the alternative supplier offerings.

INTRODUCTION

Understanding customer criteria for product and service selection is an important consideration in any supplier management and marketing effort. Such an understanding helps to establish key customer-facing performance metrics and provides a means to more clearly define customer value and the factors that may help them establish differential advantage.

In transportation management, research has investigated carrier selection by comparing perceptions of service priorities between carriers and shippers (Premeaux 2002; Premeaux et al. 1995; Abshire and Premeaux 1991). Studies have also addressed carrier selection criteria and processes as one implementation of customer-supplier relationships (Gibson, Rutner and Keller 2002), and as part of a broader service gap analysis framework (Kent and Parker 1999; Hopkins et al. 1993).

While such analyses have investigated selection criteria across one or more transportation modes, studies have not considered how such criteria may differ among specific services offered within a mode. The motor carrier industry, with its alternative forms of equipment and services, provides a context in which to evaluate whether, and to
DISPATCHING CONTINUOUS MOVES

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ABSTRACT

Continuous Moves (CM) is a term coined by the trucking industry. This paper defines CM=s, classifies them and discusses their economies. A unifying mathematical optimization model for dispatching orders is then presented. The model selects the best way to dispatch each and every order, whether as a part of a CM or not. However, the model does consider all the feasible types of CM=s. Practical aspects associated with implementing CM=s are also discussed.

The term continuous move has emerged from the trucking industry during the last decade. A truck is productive (i.e., generates revenue) only when it moves loaded. From the truck operator=s perspective loading and unloading are necessary facilitating activities that rob truck time, whereas waiting and driving an empty truck are counter productive and should be minimized. Thus, the basic concept behind the term continuous move is that a truck should be kept moving with revenue generating loads. However, the term continuous moves has a variety of meanings depending on the type of operation with which it is associated. It usually refers to long-haul trucking operations where a truck is assigned several days of work and doesn=t necessarily return to its starting location. In order to keep their trucks moving loaded, truck operators give a variety of economic incentives to shippers (or to third party providers) who provide continuous moves for their trucks.

This paper reviews continuous moves (CM) in the context of a variety of operational environments. It introduces a classification of continuous moves, discusses the economic incentives offered by truck operators for continuous moves, presents a mathematical model that is used to construct and select an efficient set of continuous moves while simultaneuously considering other feasible alternatives for dispatching the orders, and discusses practical considerations for implementing continuous moves. For the sake of clarity the next section provides definitions of commonly used terms, and defines and classifies CM=s. It is followed by a brief literature review of dispatching CM=s. Then, the orders dispatching environment is presented with a unifying mathematical optimization model that is used to dispatch orders. A discussion of practical considerations in dispatching CM=s follows, and we close with a brief summary.

CLASSIFICATION OF CONTINUOUS MOVES

In order to facilitate clear classification of continuous moves (CM=s), definitions of some basic common terms are required: