

9-1-1997

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Recommended Citation

Farris, M Theodore. (1997). Carrier portfolio management. *Journal of Transportation Management*, 9(2), 32-36. doi: 10.22237/jotm/873072360

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CARRIER PORTFOLIO MANAGEMENT

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INTRODUCTION

This article investigates the concept of carrier consolidation and how it impacts the performance measurements of the carrier for measured variables to the shipper. It recommends treating the carrier base as a portfolio of assets, with each carrier contributing unique, strategic advantages to the sum of the whole.

For the practitioner, the article offers a technique to graphically analyze and display changes in numerous performance variables. The technique utilizes data available annually from *Distribution Magazine* to quantify the effect of carrier consolidation. It concludes by applying the model to a case study in which a shipper consolidated its annual business from 14 carriers down to two key carriers; saving in excess of \$600,000 annually and reducing transportation expenses by 20% while improving service by 13.9%.

Your "Portfolio" of Carriers

Shippers seeking cost saving opportunities should consider assessing their current pool of carriers to determine their investment in transportation services. Similar to personal financial portfolios, a shipper has, intentionally or unintentionally, invested their business with a variety of carriers and the performance of these carriers may directly impact the shipper's bottom line. Unfortunately, many shippers tend to operate on a transactional basis and do not consider their on-going relationships. Manage your carriers as you would a personal financial portfolio. Make sure that each component of the carrier portfolio is resident for a

different reason and uniquely contributes to the overall portfolio. What holds for personal stock investing also holds for carrier portfolio management. "Select" carriers which offer the most value to your process without redundancy.

Efforts to determine and improve standard measurements of carrier quality are lagging approximately seven years behind the efforts of materials suppliers (Minahan, 1996). Most shippers recognize the importance of intangibles in what a carrier offers. The problem is, when intangibles play a part in the selection process, it's often a gut decision (Richardson, 1994). While no one seems to have formalized the process of incorporating intangibles into the carrier selection process, leading companies are starting to develop quantitative ways to measure intangibles (Richardson, 1994). Fifty percent of how UNISYS determines who it will do business with is not price based (Richardson, 1994). Tangible and intangible are a package. Either can cause you to lose a customer (Richardson, 1994). The best way to ensure that carriers provide consistent on-time damage-free deliveries is to take a proactive position in improving carrier quality (Minahan, 1996). The first step is proper selection, or weeding, of the carrier base.

Reducing The Number of Carriers

When a carrier portfolio is initially constructed, it is not surprising to discover redundancy in the form of replicated geographic coverage or available equipment. The argument for multiple sourcing is an age-old debate pitting single sourcing against multiple sourcing. Architect Ludwig Mies van der Rohe based his architectural designs on the concept

that "less is more." This holds in the purchase of transportation services. A key transportation concept suggests that greater volume with a single carrier results in a lower rate. Single sourcing allows a company to aggregate their volumes. It also results in improvements in areas other than price. Becton Dickinson's strategy included reducing the number of carriers and improving carrier management and control. As a result of carrier reduction actions, Becton Dickinson (Thomas, 1993):

- Has one carrier interfacing with key customers
- Reduced transit time by 15% and cost by 6%
- Has a broader geographic coverage by a single carrier
- Has less product handling damage
- Receives a steady supply of transportation equipment
- Received just-in-time loading at distribution centers

As their carrier's number one partner, Becton Dickinson receives 97% service versus 94% service for non-partner customers.

Partnering has become common in transportation. A survey by Crum and Allen (1991) of 266 Class I and Class II motor carriers indicated carriers depend on a primary shipper for a substantial portion of its total revenue and generates a large percentage of its revenue from contracted traffic. Carriers service their "core" customers by providing a different level of service, increased attention, and lower prices.

This paper will show how improved service links to the higher shipping volumes of being a "core" customer. Still, many companies continue to disaggregate their volumes in the name of multiple sourcing hoping the free market will sort out the best carrier. They never get to the point of sorting out the carriers and thus typically pay higher costs and receive poorer service.

Developing a Graphical Model

To understand the difference between carriers a graphical model may be used. The key to the model is the availability of reliable data. *Distribution Magazine* dedicates its August issue for its "Annual Quest for Quality." This annual survey provides a

consistent, unbiased source of data for comparing carriers. The "Quest for Quality" is a summary of over 4300 surveys received from *Distribution Magazine*. *Distribution Magazine* compares responder demographics to other industry lists to ensure it is a fair representation of the universe of buyers. Carriers are rated on a three point scale ("3" outstanding, "2" average and "1" poor). A "core" score reflects the scores or respondents who indicated the carriers they rated handled a large portion of their freight due to a partnership or alliance agreement (*Distribution Magazine*, 1996).

Survey respondents rated carriers in five areas:

Variable	Criteria
On-Time Performance	<ul style="list-style-type: none"> • on-time pick-up and delivery • consistent dependable schedules • transit times
Value	<ul style="list-style-type: none"> • competitiveness of rates with carriers offering similar services • relationship of price to service level provided • simplicity of tariffs and contract prices
Equipment and Operations	<ul style="list-style-type: none"> • equipment availability • condition of equipment • good attention to safety • low incidence of loss and damage
Customer Service	<ul style="list-style-type: none"> • willingness and ability to quickly answer inquiries and resolve problems • claims settled promptly and courteously • ability to provide information when needed via the most appropriate communications link
Administration and Staff	<ul style="list-style-type: none"> • knowledge of shipper needs and carrier capabilities • responsiveness to special requirements • billing accuracy • regular and effective sales calls that provide timely information on service and options

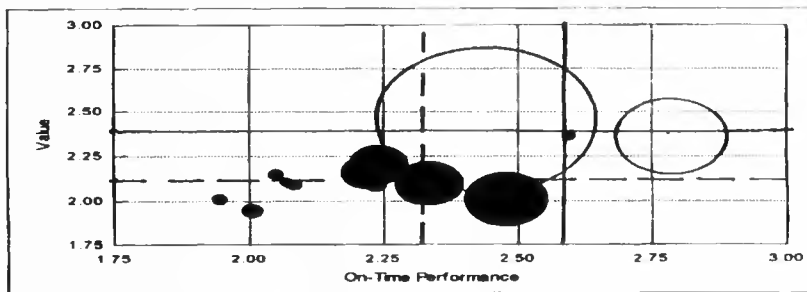
The survey data offers a basis for comparison. Key variables may be charted, for example, comparing value versus on-time performance for each carrier a shipper uses. The chart will help identify which operating measurements are the strongest for each carrier and how they compare relative to other carriers. Some carriers will focus more on a specific variable than others. The shipper should consider

what efforts are required to become a "core" customer. A third dimension can be shown on the two-dimensional plane by changing the size of each data point so it reflects the proportional amount of business each carrier represents to the shipper. Figure One compares On-Time Performance with Value. The area of the circles represents the proportion of the shipper's overall transportation budget.

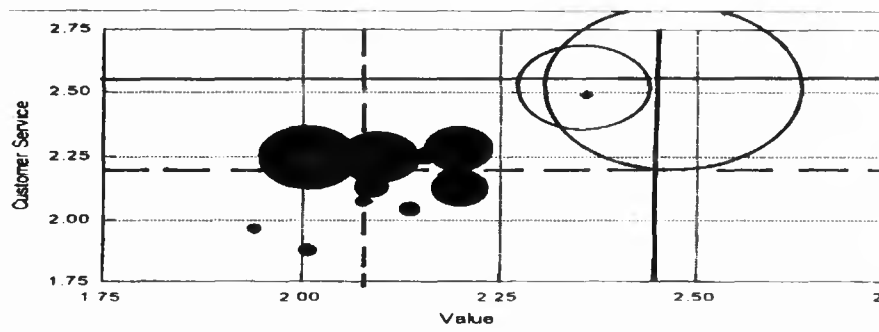
Figures One through Four show the application of the model using *Distribution Magazine* data for seven LTL carriers servicing a manufacturing

company located in Columbus, Ohio. Over the course of a year, the shipper consolidated its annual business from the twelve carriers shown down to two key carriers; saving in excess of \$600,000 annually and reducing transportation expenses by 20% while improving service by 13.9%. The solid circles reflect transportation service prior to the consolidation. The dashed line represents the weighted average score (actual numbers are shown in Table One). The unfilled circles reflect the "core" customer service for the two carriers remaining after the consolidation. The solid line reflects the new weighted average score.

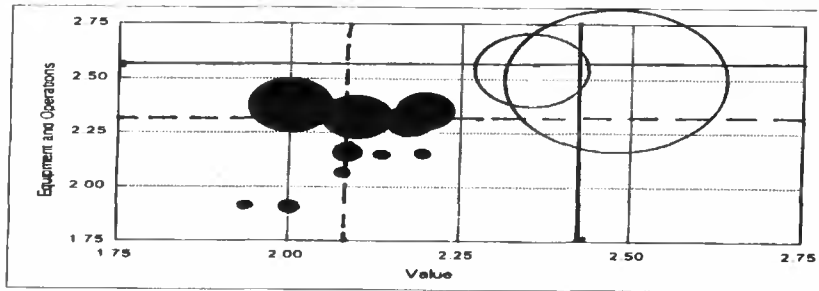
**FIGURE ONE
ON-TIME PERFORMANCE VS. VALUE**



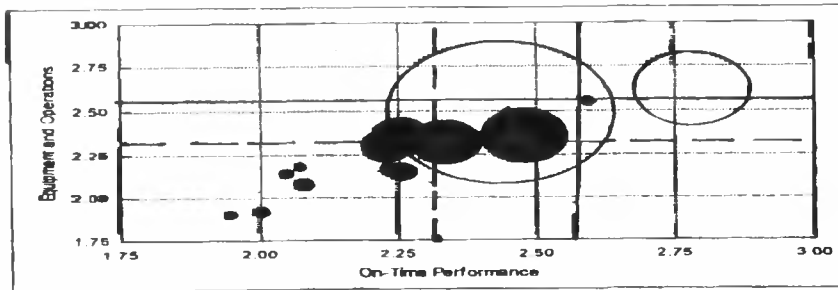
**FIGURE TWO
VALUE VS. CUSTOMER SERVICE**



**FIGURE THREE
VALUE VS. EQUIPMENT AND OPERATIONS**



**FIGURE FOUR
ON-TIME PERFORMANCE VS. EQUIPMENT AND OPERATIONS**



**TABLE ONE
Average Weighted Performance Scores—
Before and After Consolidation**

Average Weighted Score for:	Before	After	Improvement
Value	2.08	2.45	18%
Customer Service	2.23	2.54	14%
On-Time Performance	2.29	2.56	12%
Equipment and Operations	2.29	2.53	11%

Consolidation activities by the shipper likely will utilize tested carriers who already provide above "average" service to the shipper as a "traditional" or non-core customer. Charting this position offers an estimate of the potential improvement of converting from "traditional" customer status to that of "core" customer.

The Concept of Relational Transactions

The concept of relational transactions suggests a company should emphasize increasing business with current customers rather than to spending the time, effort, and money to seek new customers. The concept suggests it is more effective to build a business relationship with current customers by expanding product or service offerings in logical niches which are unfilled or unsatisfactorily handled by the competition. The benefits of entering into a relational transaction have been shown graphically in Figures One through Four.

Conclusion

The decision to consolidate a carrier base involves many variables to consider. Data is readily available through the *Distribution Magazine* "Annual Quest for Quality" which can help identify how average performance will change when a company shifts from the role of a "traditional" customer to that of a "core" customer. It is also recommended that companies develop and track their own measures of their carriers since the *Distribution Magazine* data may not accurately reflect unique circumstances and are an average of the survey responses. Charting key variables and including performance scores of all the carriers currently in the portfolio may help to identify which carriers to maintain in the portfolio and which to eliminate. It may also reflect changes in the average weighted performance. Treat your carrier base as you would a portfolio of assets, with each carrier contributing unique, strategic advantages to the sum of the whole.

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Dr. Ted Farris (PhD and MABA, The Ohio State University, MBA, Michigan State University, BS, Arizona State University) is an assistant professor in logistics at the University of North Texas. He has worked in the high tech sector in a variety of logistics- and materials management-related positions including international purchasing, traffic, new logistics development, systems design and analysis, and inventory and production control for the INTEL Corporation and IBM. Dr. Farris has taught a variety of industrial courses such as Introduction to EDI, Total Acquisition Cost, Cycle Time Reduction, and Fundamentals of Business Administration for Purchasing. His publications have appeared in such journals as *Journal of Business Logistics*, *Air Force Journal of Logistics*, *International Journal of Physical Distribution and Logistics Management*, *Journal of Transportation Law, Logistics, and Policy*, *Transportation Journal*, and *Journal of Transportation Management*. He has recently presented papers at the International Purchasing Conference for the National Association of Purchasing Management and the Intermodal Distribution Education Academy Conference emphasizing issues linking purchasing with transportation management. Dr. Farris has recently accepted the position as editor for "Transportation and Related Services" section of the 6th edition of the *Purchasing Handbook*. His research interests include virtual logistics cycle time reduction, outsourcing issues, carrier measurement, event logistics, and reverse logistics.