PROCEEDINGS OF THE 41ST

ANNUAL MEETING OF THE

TRANSPORTATION RESEARCH FORUM

Washington, D.C.
September 30 - October 1, 1999

DATABASE MARKETING BY LTL MOTOR CARRIERS: AN EMPIRICAL STUDY

Grant M. Davis
and
Carol M. Megehee
Department of Marketing and Transportation
University of South Alabama

Abstract

In a deregulated trucking environment, LTL motor carriers need to develop marketing strategies that will enable them to create and sustain competitive advantage. One such strategy is relationship marketing. LTL motor carriers can use their computers/information systems to identify and target specific customers with specific offerings in order to generate customer loyalty that will lead to the long-term profitability of their firms. This research examined the applicability of database marketing to LTL motor carriers and included a survey of database marketing practices in the industry.

BACKGROUND AND OBJECTIVES

For more than half a century, the basic marketing strategy employed by firms in the less-than-truckload (LTL) trucking industry remained relatively constant. That is, pricing was fairly consistent and was based on the service given; the product was functionally defined by time, place, and form; and promotional strategy essentially concentrated on personal sales efforts (Davis, Farris, and Holder 1975, pp. 159-160). Other aspects of carrier promotional strategy have been limited in scope and size, restricted to mostly generic advertising in trade journals and industry magazines, and personal entertaining (Davis 1986).

Following the passage of the Motor Carrier Act of 1980, LTL marketing efforts shifted to a focus on sales-sales with intensified personal selling and management of the pricing function with only mininal attention paid to advertising and other elements of the marketing mix (Corsi, Grimm, Feitler 1992). In short, the LTL industry's marketing strategy mirrored that of other industrial markets wherein personal sales efforts had become the primary marketing tool.

During the past twenty years, an awareness has developed that increasing a company's customer base through the addition of incremental customers can be and is costly, with marginal sales dollars being rather small (Johnson 1994, Woods 1995). The key to long-term growth and profitability appears to be through relationship marketing wherein growth and profits flow from existing customers. Companies such as Procter & Gamble, in consumer markets, and the Ford Motor Company have used database marketing to identify factors that insure repeat sales and long-term customer-binding provided that certain sequences of events transpire (Stacey 1993).

379

One obvious key to implementing and benefiting from database marketing has been the evolution of personal computers with user-friendly software along with the development of comprehensive databases of customer information.

The primary purpose of this brief manuscript is to examine database marketing to determine if it has applications in the LTL trucking industry and to report the results of a survey of LTL marketing executives regarding their present use of database marketing tools and techniques. The manuscript opens with an examination of the fundamentals of database marketing and concludes with survey results.

DATABASE MARKETING

Database marketing is an essential component of relationship marketing or patronage theory. Relationship marketing is the development and maintenance of long-term, profitable relationships with relevent stakeholders for mutual benefit (Nickels and Burk Wood 1997, pp. 3-5). Relevant stakeholders include individual customers, suppliers, employees, and other important trade partners (e.g., regulators in heavily-regulated industries). In relationship marketing, the customer-focused enterprise integrates the needs and benefits of relevant stakeholders in order to strengthen long-term relationships with potentially profitable customers. Database marketing uses computers to identify and target specific customers and/or groups of customers to create long-term profitability for the firm. If used correctly, database marketing can help companies identify and select the "best" customers, calculate the expected lifetime value of their business, and create a meaningful exchange of ideas, opinions and information in order to

380

strengthen customer loyalty. Some of the attendant benefits of customer loyalty are improving customer retention rates, increasing referral rates through positive word-of-mouth communications, increasing sales volume, and reducing marketing costs (Denks1999).

Attracting new customers, a primary marketing activity of the past, is no longer as significant as retaining existing customers—especially in mature markets where most customers, suppliers, and other "players" are already within the industry and there is little to no growth. A typical business losses half of its customers every five years (Reichheld 1996). Sixty-five percent of an average company's business activity (Woods 1995) and ninety percent of their profits (Johnson 1994) emanate from current, satisfied customers. Existing customers are easier to deal with, and hence less costly, than new customers. On average, it takes seven sales calls to close a first sale but only three to close subsequent sales (O'Connell and Keenan 1990). Overall, the cost of acquiring a new customer is five times greater than the expense of retaining an existing one (Woods 1995).

Furthermore, the principles of personal selling, as compared to relationship marketing, are transaction-oriented. That is, the primary objective of selling is short-term in its focus in that the goal is to close a specific sale. On the other hand, relationship marketing focuses on long-term or future sales by building customer loyalty that equates to greater customer retention, less dissatisfaction, lower costs, and higher profits (Kotler and Armstrong 1991, p. 497).

Because a basic tenet of database marketing is customer retention, companies often develop loyalty programs as rewards (incentives) for customers who purchase more of the same or other products offered by the seller, who purchase more often, and who do not defect to a

competitive offering (Davis and Dillard 1995). Frequent flyer miles by airlines is an example of customer retention marketing, and cumulative price discounts are employed in the LTL trucking industry even though this is frequently ineffective insofar as customer retention and development is concerned (Davis, Dillard and Ozmont 1989).

Conversely, customers defect because of dissatisfaction (Davis and Dillard 1995, p. 3). The one-on-one relationships cultivated through use of database marketing provide a firm with to opportunity to monitor dissatisfaction. According to Kotler (1993), there are four levels of relationship with customers, and the appropriate level of relationship is a function of product margins and the number of customers. LTL carriers have, for the most part, adopted a product strategy of value-added service which is essentially a proactive "I can enhance your use of the product," strategy, even though they have difficulty in maintaining this important level of their relationship with various customers. Some truckload carriers, competing fo the same traffic but with different economic-market characteristics, have attained a partnership level of relationships which emphasizes "I want to help you succeed in every way." (Kotler 1993, p.4). LTL carriers, conversely, have generally experienced difficulty in reaching the partnership level of relationships for a number of reasons (Davis and Ozmont 1990).

Since customer retention is a major goal of database marketing, LTL carriers should strive to monitor customer needs, detect any dissatisfaction, and use lifetime value analysis in making market decisions. These carriers have the capability and technology to carefully and closely monitor each individual customer's needs, requirements, *ad infinitum* that are critical to

that customer's success and use this information to develop, maintain, and strengthen relationships with major customers.

Because LTL carriers maintain extensive databases of current customers, they have complete data on their needs such as price, quantity, volume, delivery dates, origins, destinations, special requirements, and other pertinent customer-specific requirements. From these massive databases, customers' needs, new product ideas, and profit margins are readily available for practicing relationship marketing. Carriers use these data for a variety of purposes and should emphasize the lifetime value of each current customer (e.g., Federal Express).

METHODOLOGY

A questionnaire was developed to determine the extent and degree of database marketing in the LTL motor carrier industry. Questions pertained to organization, marketing practices, and information processing within the company. The specific questions asked are shown in the results section of this paper.

The sampling frame was a list of 240 names and addresses of members of the LTL Distribution Carriers Association of Washington, D. C. This list was compiled from Section 221 carriers filing annual reports with the U. S. Surface Transportation Board and the American Trucking Association. Because the 240-member list represented approximately 95% of all LTL carriers, the sampling frame was treated as the relevent population and questionnaires were mailed to all 240 members.

RESULTS

As of the date of this manuscript, we have received 49 responses of which 45 were useable (n=240). Reasons for non-use of returned questionnaires included the dissolution of the company, the person to whom the letter was addressed was deceased, the company receiving the questionnaire was not a motor carrier, and the post office return one unopened because the street in the address could not be found. The final count is expected to be closer to 70 (29%) based on the recency of the mail-out and the rate of receipt.

Because of the on-going nature of this research, the results reported here are strictly descriptive in nature. Once all of the data have been received, we will be able to test relationships among variables (e.g., size of the firm and marketing organization's on-line access to customer accounts.)

The percentage shown with each question is equal to the number respondents who answered in the affirmative ("yes") for that question as a percentage of the total number of respondents who answered that question. For rank-ordered items, the mode and the median are appropriate measures of central tendency. However, the mean is provided for additional information—the lower the number, the more important the item. Results that indicate areas of opportunity for expanded use of database marketing in the LTL industry are listed in the conclusion.

DATABASE MARKETING USED BY LTL MOTOR CARRIERS
Summary Data, 5/25/99

1. Does your company use a central billing system for all of your customers? 86. 7%, n=45

2. Is your marketing department centralized? 75. 6%, n=45

3. Does your marketing department have individuals with the following titles or designations:

A.	Marketing Vice President:	51.0%	n=45
B.	National Sales Manager:	27.0	n=45
C.	National Accounts Sales Manager:	44.4	n=45
D.	Regional Sales Manager:	49.0	n=45
E.	Terminal Sales Manager:	42.0	n=45

4. Is your sales force organized along any of the following lines:

A.	By accounts:	53.3%	n=45
B.	By geographic regions or territories:	78.0	n=45
C.	By commodities (auto, paper, etc.):	2.2	n=45
D.	By revenue size (largest to smallest):	1.3	n=45

5. Does your company engage in any, some or all of the following activities:

A.	Preparing advertising materials:	93.3%	n=45
B.	Attending trade shows:	73.3	n=45
C.	Attending customer-related trade shows or conventions:	66.7	n=45
D.	Mailing sales materials to prospective customers:	80.0	n=45
E.	Attending customer-related social/professional meetings:	80.0	n=45
F.	Distributing advertising specialty materials such as calendars, pens, etc.:	86.7	n=45

6. Does your company's traffic department report the following:

A.	Revenue:	82.2%	n=45
B.	Volume:	77.8	n=45
C.	Origins-destinations:	75.6	n=45
D.	Number of shipments:	84.4	n=45
E.	To your marketing department:	68.9	n=45

DATABASE MARKETING USED BY LTL MOTOR CARRIERS
Summary Data, 5/25/99
Continued

If yes (to items in #6), are any of these data used for:

A.	Sales presentations:	69.2%	n=39
B.	Pricing decisions:	87.2	n=39
C.	Suggesting new services:	69.2	n=39
D.	Establishing price incentives:	66.7	n=39

7. When establishing price incentives (discounts) for customers, does the marketing department participate? 77.8%, n=45

   If yes, are any of these data used for:

A.	Account history such as part sales:	74.2%	n=35
B.	Tonnage trends:	65.7	n=35
C.	Revenue-levels of your company:	85.7	n=35
D.	Desire to balance traffic lanes:	85.7	n=35

8. In your professional opinion, which of the following is the most important variable in retaining an existing customer. Please rank the variables from 1 being the most important to 7 being the least important:

		Mean	Median	Mode	n
A.	On-time deliveries	1.73	1	1	45
B.	Price	2.36	2	1	44
C.	Ancillary services provided	4.61	5	5	44
D.	Carrier loyalty	4.74	5	6	43
E.	Long-term relationships	3.45	3	3	44
F.	Shipping advice regarding logistics or methods to reduce shipper costs	5.39	6	7	44
G.	Flexiblility in operational schedules	3.86	4	3	44

Note: Not all variables were included in rankings, and in some rankings there were ties.

9. In marketing your company's services to existing accounts, does your company strive to identify the following needs:

A.	Market expansion:	97.6%	n=42
B.	Pricing goals:	83.3	n=42
C.	Capacity requirements:	90.5	n=42
D.	New specialized services such as Equipment:	81.0	n=42

Please rank (the 4 items in #9) from 1 being the most important to 4 being the least important factor:

	Mean	Median	Mode	n
A. Market expansion	2.06	2	1	31
B. Pricing goals	2.13	2	1	30
C. Capacity requirements	2.39	2	3	31
D. New specialized services such as equipment	3.23	4	4	30

10. Does shipper-specific information (price, volume, origins-destinations) generated by your traffic department assist your company in preparing marketing strategy? 88.9%, n=45

11. Based on customer-generated data, does your marketing department strive to advise existing customers on shipping practices such as possible areas of consolidations, use of stops-offs, etc.? 64.4%, n=45

12. Does your company use a IBM AS400 main-frame computer? 43.2%, n=45
If not, what type does your company use? (With n=45, N/A=9%, PC server/network=9%, Client's server=2%, None=2%, All others ≤ 1%)

13. Does each member of your marketing organization have on-line access to customer accounts? 57.8%, n=45

Firmographics:

	Year	Mean	Median	n
Revenues($000):	1998	117,340	27,500	38
	1997	102,630	27,000	35
	1996	94,289	18,900	31
Employment:	1998	1497	325	32
	1997	1284	260	30
	1996	1138	243	28
Total Marketing Expenditures ($000):	1998	3617	200	23
	1997	3422	110	20
	1996	3365	60	27

· As mentioned earlier, this research is still in progress. Therefore, results may change slightly with the receipt of additional data.

With a reporting rate of around 30%, there is also a question of representativeness of the data. Subjects willing and able to answer affirmatively about database marketing practices are probably more likely to complete and return the questionnaire. It is interesting to note that a few large companies (which are those probably more likely to practice database marketing), skewed the average revenue, employment, and marketing expenditure averages upward. (Compare the means or averages to the medians or midpoints.)

In addition, several questions arise about the missing data—especially "firmographic" data—that could bias results. Did the right person complete the survey? Were they unwilling or just unable to provide correct responses? And how reliable is the data that was provided on items with missing data or any other items, for that matter?

Finally, there were mergers and declines in business (i.e., flat and or declining revenues) hidden within the data. Perhaps, when all of the data has been collected, separate analyses of small, medium, and large firms will reveal a need for different strategies to position individual firms within the LTL industry.

CONCLUSIONS

Several things were observed in this research that have implications for database marketing in the LTL industry:

- Ninety-eight percent of carriers have the computing capacity to practice database marketing.
- Carriers are trying to develop relationships with mixed results.
- Carriers are not necessarily integrating database capabilities with marketing strategy. Almost ninety percent of carriers said that they used shipper-specific information generated by the traffic department to assist in preparing marketing strategy, but fewer than seventy percent said that the traffic department reports that information to the marketing department.
- Only half of LTL carriers consider the marketing function to be important enough to warrant executive-level representation.
- Organizational structure is traditional, not customer-oriented.
- Most carrier marketing efforts emphasize personal selling and advertising. It is also interesting to note that after on-time deliveries, price is considered the most important variable in retaining existing customers (a very close second).

Overall, carrier marketing efforts seem to be more transaction-based than relationship-based. This research indicates that there are still many opportunities for database marketing in the LTL industry. Most companies have the capacity, now they need to integrate their information systems to develop more profitable, customer-oriented marketing strategy.

REFERENCES

Corsi, Thomas M., Grimm, Curtis M. and Feitler, Jane (1992) The Impact of Deregulation on LTL Motor Carriers: Size, Structure, and Organization. *Transportation Journal*, 32, 2, 24-28.

Davis, Grant M. (1986) The Use of Advertising as a Marketing Variable by Class I Intercity For-Hire Carriers in the U. S. *Proceedings: Canadian Transportation Research Forum* (May 28-30, Vancouver, Canada) 118.

Davis, Grant M. and Dillard, John E. (1995) Patronage Theory, Loyalty Management, and Database Marketing. *Proceedings: American Marketing Association Symposium on Patronage Behavior and Retail Strategy* (May, Baton Rouge, Louisiana) 1.

Davis, Grant M., Dillard, John E. and Ozmont, John (1989) Price Knowledge and Motor Carrier Practices. *Transportation Practitioners' Journal,* 55, 4, 275-277.

Davis, Grant M., Farris, Martin T. and Holder, Jack, Jr. (1995) *Management of Transportation Carriers.* Praeger Publishers, New York.

Davis, Grant M. and Ozmont, John (1990) Estimating the Relative Importance of Customer Sensitive Variables: Lead Time vs. Dependability. *Proceedings: Southwestern Marketing Association* (Dallas, Texas) 8-10.

Derks, Richard P. (1999) Business Trends: The Competitive Advantage of Database Marketing. *Information Strategy* 5, 5-11.

Johnson, Claude A. (1994) Winning Back Customers through Database Marketing. *Direct Marketing* 56, 5, 56.

Kotler, Philip (1993) *Marketing Management.* Prentice Hall, Englewood Cliffs, New Jersey.

Kotler, Philip and Armstrong, Gary (1991) *Principles of Marketing.* Prentice Hall, Englewood Cliffs, New Jersey.

Nickels, William and Burk Wood, Marian (1997) *Marketing.* Worth Publishers, Inc., New York.

O'Connell, William and Keenan, William, Jr. (1990) The Shape of Things to Come. *Sales and Marketing Management* January, 36-41.