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TRUCKLOAD TRANSPORTATION REQUIREMENTS: IN ANTICIPATION OF Y2K WITH EPILOGUE

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This article investigates the impact of the much-hyped Y2K phenomenon on truckload transportation requirements in the United States, as a result of year-end inventory build-ups. The article reports the results of a *Y2K Truckload Transportation Survey* of truckload shippers conducted in August of 1999. Additionally, the article takes a post-hoc look at what actually occurred in an effort to completely document the impact of the Y2K phenomenon in the dry van, temperature controlled, and flatbed segments of the truckload transportation industry.

INTRODUCTION

It is highly unlikely that many of us escaped the what-if scenarios of the Y2K phenomenon. These scenarios ranged from a non-event scenario where nothing happens and life goes on without a hitch, to the more media-hyped doomsday scenario where civilization as we know it disintegrates as humans are incapable or unprepared to exist without computer assistance. Olgeirson (1999) describes this latter scenario in a hypothetical situation where, in each case, the worst does happen, panic sets in, and society self-destructs. As businesses and governments had spent \$300 to \$600 billion

dollars world wide (Hamilton and Wong, 1999) in preparation for this event, reality was thought to fall between these two scenarios.

The transportation industry was no exception in terms of preparation for tracking carriers, shipments, and invoices. In fact, Hamilton and Wong (1999) point out that as the transportation industry is the central force in the supply chain, how this industry reacted to and prepared for the Y2K phenomenon would have far reaching effects on everyone from manufacturers to end-users. They further contend that not all reports on transportation preparedness were encouraging. In fact, by some estimates, the

transportation industry ranked near the bottom of industries addressing the Y2K problem and it was estimated that approximately 50% of these companies would experience mission-critical failures. Brandt (1999) reported that a government survey conducted by the Special Committee on the Year 2000 Technology Problem revealed only 62% of the responding transportation companies had completed Y2K preparations. Medium sized fleets were described as facing the largest challenge in preparing for the year 2000 since they typically have fewer people on their technology staffs than do the larger companies. Further, 50% reported that they anticipated being involved in some type of litigation resulting from the Y2K phenomenon. The litigation issue was compounded by contractual agreements involving just-in-time deliveries. Leffort (1999) reported that the transportation industry in general was in a very difficult position, as they rely on every member of the supply chain.

However, it was thought that the Y2K phenomenon might have provided a profit making business opportunity for the transportation industry. For example, at least one large trucking firm postponed its annual company Christmas party in anticipation of increased demands on its ability to transport the vast volume of goods being purchased by numerous businesses prior to any possible disruption in the supply chain. This expectation of increased usage was not an isolated view. Watson (1999) noted that shippers were protecting themselves from any potential Y2K associated problems by stocking increased inventories. As a result of this increase in safety stock, shippers pre-booked shipments to assure adequate equipment availability. Watson further noted that this increase in bookings might have increased margins by 2% to 4% in the motor carrier industry. A variety of other potentially positive outcomes also existed. Hamilton and Wong (1999) suggested that by being forced to deal with the Y2K problem companies improved a variety of processes and products. These improvements included areas such as better communication, standardized bar

coding and electronic manifests, and the simplification of multi-mode shipment tracking.

While it is clear that there was a range of both positive and negative aspects to the Y2K phenomenon, the lack of specific information on how firms prepared was disconcerting. Thibodeau (1998) reported that many surveys relating to year 2000 readiness were never returned, perhaps as a result of either being unprepared or concerned about their responses being used in future litigation. In the transportation industry, adequate Y2K preparation was a critical determinant of a firm's ability to satisfy their customers, maintain sales and market share, increase profits, and ultimately ensure long-term survival. Thus, from a strategic perspective, Y2K preparedness had significant repercussions. While the majority of existing research on Y2K has focused on computer issues, the primary purpose of this study was to examine the customer base of a large truckload motor carrier to determine if their customers anticipated an increase in third and fourth quarter shipping requirements in an effort to supplement inventories. Such an examination had numerous strategic implications for this carrier, as it attempted to forecast the affect Y2K might have on its market position and profitability. Secondly, this study examined what actually transpired with regard to truckload transportation requirements as we entered the new millennium.

METHODOLOGY

During August of 1999 approximately six hundred shippers utilizing temperature controlled, flatbed, and dry van truckload transportation services were mailed a one page *Y2K Truckload Transportation Survey*. Ninety-eight or 16% of the shippers returned the survey. In the context of Y2K, each of the shippers was asked four primary questions. The first question was, does your firm anticipate an increase in truckload transportation requirements for the second half of 1999? The second question asked, if your firm anticipates the need for extra trailers during the second half of 1999 would you

be willing to rent or lease the trailers? Next the shippers were asked, does your firm anticipate any other additional truckload related services during the second half of 1999? Finally, each shipper was asked to indicate the percentage increase expected for truckload transportation requirements from the first half of 1999 to the second half of 1999.

RESULTS

The overall survey results are provided in Exhibit 1. As shown in the exhibit, forty-four percent of the respondents indicated they anticipated an increase in their truckload transportation requirements in anticipation of Y2K. An examination of the table also indicates the magnitude of the anticipated increases in transportation requirements in anticipation of Y2K. The results show that refrigerated shipments were expected to experience the greatest gain, with a 34% increase forecast for the final six months of 1999 over the first six months of 1999. Dry van truckload requirement increases were also large, with an increase of 22%. Flatbed shipments were expected to increase by only 11%.

Additionally, the results were analyzed by comparing the three service types (i.e., temperature controlled, flatbed, and dry van) for each of the survey questions. Of the respondents that indicated a primary service type, 56% indicated temperature controlled, 27% indicated flatbed, and 17% indicated dry van. Pearson chi-square values were calculated for each of the three service types with cross-tabs for each of the survey questions. No statistically significant differences were found between the service types.

While 44% of the respondents indicated that they anticipated increases in their transportation requirements in anticipation of Y2K, the respondents did not anticipate a strong demand for the use of additional truckload related services during the last six months of 1999. As the exhibit shows, only 9.5% of the respondents indicated a need for additional truckload services at the end of the year. With regard to the shippers' willingness to lease trailers, the results indicate that few of the respondents expressed an interest in leasing trailers, with only three percent indicating a desire to lease.

EXHIBIT 1 Y2K TRUCKLOAD TRANSPORTATION SURVEY RESULTS

Question	Yes	No	No Response
Does your firm anticipate an increase in truckload transportation requirements for the second half of 1999?	44%	50%	6%
If your firm anticipates the need for extra trailers during the second half of 1999, would you be willing to rent or lease the trailers?	3%	75%	22%
Does your firm anticipate any other additional truckload-related services during the second half of 1999?	9.5%	80%	11.5%
Overall percentage increase in anticipated truckload shipments from second half of 1999 over the first half of 1999	Refrigerated 34%	Flatbed 11%	Dry Van 22%

CONCLUSIONS AND MANAGERIAL IMPLICATIONS

The findings provided guidance for managers as they attempted to develop their marketing strategies in anticipation of Y2K. One implication that may be derived from the results is that most shippers did not seem to anticipate the "apocalyptic" results often discussed in the media. In fact, one might contend that the findings show that most respondents believed that Y2K would have very little impact on their shipping requirements, as fifty percent of the respondents indicated that they did not anticipate an increase in their truckload transportation requirements in the six months prior to the year 2000. Furthermore, the vast majority of respondents contended that they would not be interested in obtaining additional trailers or additional truckload related services in the second half of 1999, again supporting the perception that the impact of Y2K was expected to be minimal. The perception that Y2K would have little impact on the requirements of the majority of shippers may also be advanced by the non-respondents. It may be argued that those not responding to the survey also did not anticipate changes in their shipping requirements as they approached the new millennium. This argument may be advanced based on the premise that customers who anticipated *any* changes in their shipping requirements would be well-advised to make those changes known to facilitate their supplier's ability to meet their changing requirements. The fact that they did not respond *might* indicate that they did not anticipate changes in their shipping needs.

However, prior to dismissing the affect of Y2K on the requirements of shippers, it should be noted that forty-four percent of the respondents indicated that they anticipated an increase in their truckload transportation requirements in the second half of 1999. This forecast may have been indicative of a forecasted derived demand for their products. For example, as the media communicated the dire consequences of the Y2K, consumers could have begun acquiring an

inventory of essential products. This consumer acquisition process could have been the catalyst for additional production of these products, which in turn generates additional transportation demands for various shippers. This argument may be supported by the finding that refrigerated shipping was anticipating the greatest increase. Since refrigerated shipping may be associated with perishable items, and since one possible consequence of Y2K was a shortage of basic foodstuffs, products that require refrigerated shipping would be ones that could be expected to be in greater demand. Correspondingly, the relatively low increase in expected truckload requirements for flatbed shipping (11%) may be indicative of the fact that flatbed commodities and heavy equipment did not experience the increased demand that would result from Y2K fears. Thus, Y2K fears could have been allayed by the purchase of subsistence items such as food, generators, heaters, batteries, etc. which would likely be shipped via refrigerated or dry van shippers.

In conclusion, these findings should have provided the truckload transportation industry with guidance that should have provided assistance in developing their strategies and tactics prior to the new millennium. First, strategically the firm should have recognized that those shippers anticipating an increase in their requirements represented a target market that could be extremely profitable, both in the present and in the future. By preparing to satisfy the needs of this market, the firm may have been able to gain a stronger market position in comparison with carriers who have failed to forecast, and consequently failed to prepare for increases in demand. The stronger market position may then have been used as a means of developing a competitive advantage in future relationships with this market. However, to gain a stronger competitive position with this market, the firm may be required to maintain or enhance its normal level of service, maintain its value-oriented pricing policies, and take significant steps toward ensuring customer satisfaction in order to create a long-term gain from a short-term sales opportunity. Second, the

results also indicated that the firm's efforts in optimizing the opportunities presented by Y2K might have been well targeted to specific types of businesses. This targeting may have been facilitated by an evaluation of the "type" of shipper anticipating increases in demand. If, as argued, shippers anticipating increases in their shipping requirements were those involved with "subsistence" items, then targeting firms producing and marketing such items may have provided the catalyst for the development of a new customer base.

The majority of shippers participating in this study did not expect changes in their shipping requirements, thus arguing against any dire results from the advent of the new century. Further, even those who anticipated changes did not seem to be forecasting major changes in their requirements as indicated by the relatively few respondents who were willing to lease trailers or who expected to use any additional truckload services during the second half of 1999. Thus, the basic conclusion that was advanced is that well-targeted preparations may provide a long-term market advantage to the carriers prepared for changes in shipping requirements associated with Y2K, but that the preparations should be well-targeted and not designed for the majority of shippers.

EPILOGUE

With the exception of some of the world's most spectacular celebrations, the start of the third millennium appears to have been a non-event. The doomsday forecasts have come and gone with the Y2K bug, which, to this point in time, has been little more than a common cold. Levy (2000) reports that the United States spent around \$100 billion and the world outlay was closer to \$500 billion. Did we over spend? No one yet knows, as some "experts" predict that only about 1% of the problems would occur on the rollover date, with others appearing later in the year. However, what we do know is that very few problems have actually occurred to date and those that did are seen as being very minor in nature. Kisiel (2000) for example, reports that

the automobile industry was well prepared for the problem and has experienced little more than a few robots not working correctly and other very minor problems, such as incorrect dates, that were fixed very quickly.

The motor carrier for whom the research reported in this study was conducted was not surprised when the year ended. Just as the results of the study conducted in August of 1999 indicated, a surge in truckload shipping requirements as the result of inventory hedging by their shippers did not occur. The postponed Christmas party should have been held during December, just as in prior years. The fourth quarter results indicated no more than the normal seasonal increase in traffic and no sign of buyers hoarding raw materials or finished goods. Furthermore, demand for truckload transportation services in the first quarter of the new millennium was stable for this motor carrier. This stability indicates that inventory levels were not significantly increased in anticipation of Y2K or first quarter demand would have almost certainly declined.

Additionally, when asked if the costs associated with Y2K preparation had paid off. The firm's management responded with a definite yes. They stated, "clearly the minimal cost associated with the shipper survey, along with a little more time spent coordinating with the few shippers that were identified in the survey as potential Y2K problem shippers, paid off. We had a smooth, problem-free transition into the new millennium." In short, the bug may not have bitten, but it did force businesses to examine their communication links to supply chain members with whom computer contact is essential. As a result, many companies are probably better off than prior to the Y2K event.

In retrospect, it appears that the disasters associated with Y2K were more hype than real. The results of the hype, however, may be perceived in different ways. From a negative perspective, the hype resulted in some cases in the change of business strategies and tactics. These changes resulted in an improper

deployment of human, technical, and financial resources.

Conversely, the Y2K hype also resulted in some potentially positive activities. As stated, transportation firms not only increased communications with their markets customers, they also were "forced" to reassess their

strategies. The hype actually may have resulted in motivating many transportation companies to audit their current strategies, resources and tactics and develop contingency plans. These audits and reassessments probably created more long-term planning activity, which should in-turn result in improved asset utilization in the future.

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