

Driver Retention Strategy



The Role of a Career Path

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- Motor Carrier Service, Inc.
- Mullen Trucking, Ltd.
- Ronnie Dowdy, Inc.
- Schneider National, Inc.
- Smithway Motor Xpress, Inc.
- Watt & Stewart Commodities
- Willis Shaw Express
- Witte Brothers

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ABSTRACT

The voluntary turnover rate among truckload carriers, at 50-100 percent, is excessive when compared to other industries. The turnover rate has been known to exceed 150 percent. It is believed that are several factors are involved in this retention problem suggested by anecdotal evidence coupled with human resource management theory. One factor that contributes to such a high turnover rate is the lack of a meaningful career path for drivers. This has been identified in several studies of job satisfaction conducted at the Upper Great Plains Transportation Institute, North Dakota State University, and elsewhere.

The purpose of this study was to evaluate (1) how the motivating potential for this job compare with other industries, (2) how much drivers agree with the components of the hypothetical career path, (3) how likely a career path or developmental opportunities is to improve retention/commitment, and (4) how drivers and managers differ in terms of their perceptions of realistic career paths. From this information and analysis, truckload firms can determine what drivers' career path needs are and identify potential strategies that they can implement to meet those needs.

The initial part of the study identifies a hypothetical career path based on theories of industrial psychology. This is followed with an in-depth analysis of what drivers' perceptions are of a career path that would improve job satisfaction. A final component of the study will identify management's perceptions of what a career path should consist of. This information is evaluated and synthesized into this report with conclusions and recommendations.

DRIVER RETENTION STRATEGY — THE ROLE OF A CAREER PATH

INTRODUCTION

The for-hire truckload industry is a critical component of the U.S. economy's logistical system. It provides the transportation necessary for the economy to function in an efficient and effective manner by delivering raw materials, semi-finished goods, parts, and products for domestic consumption and international export. Everything from paper products to engine parts, and food, etc. are delivered continuously throughout the country on a 24-hour basis. The entire economy, but especially the consumer goods and service sectors, would not function without the time and place utility that the industry provides for the businesses that depend on: (1) sourcing from multiple vendors that are geographically dispersed, (2) just-in-time service to minimize inventory costs, and (3) delivery of goods to meet the ever changing demand for consumer and industrial goods.

The industry can be characterized as intensely competitive, logistically complex, and physically challenging. It is composed of several thousand firms with more than 35 billion dollars of gross revenue annually.¹ These firms operate more than 340,000 power units with a similar number of drivers. Turnover of these drivers has been a perennial industry problem for more than 10 years. Turnover initially became a problem when the trucking industry was deregulated allowing new firms to enter the industry and specialization of the truckload sector. This resulted in the growth of the number of firms in the industry, and a corresponding increase in competition. This resulted in lower wages and a more demanding work environment when compared to the job under the economically regulated environment prior to 1980. This, although not necessarily the direct cause, in turn has resulted in higher driver turnover.

¹Transport Topics, TT Publishing, American trucking Association, Alexandria, VA, January, 2000, p. 37.

Driver retention is a fundamental problem of the industry because of the degree of turnover. Driver turnover for over-the-road truckload carriers is exceedingly high in both an absolute sense and when compared to other industries. Many truckload companies experience annual turnover rates of 50-100 percent annually. Some companies have been known to have turnover rates of 150 percent or greater. This compares with average turnover rates in the single digits or teens for jobs in many different industries. The end result is that truckload companies must devote valuable management resources and expend a substantial amount of money to hire a full complement of drivers each year.

Such a high turnover rate has several negative impacts on the firm as well as the industry, and the socioeconomic system in general. The firm incurs increased costs and reduced performance as a result of turnover. It is estimated that the average cost per turnover is \$ 7,000.² Costs increase as a result of increased training, recruiting, and insurance costs. Losses increase due to decreased safety performance from new and inexperienced drivers. The total cost to the industry and the U.S. economy quickly becomes a 2.4 billion dollar issue.³ Additionally, operational inefficiencies result from drivers unfamiliar with a firm's customers, operations, and equipment. Performance also is effected by turnover. This is most apparent in the service provided to customers (shippers and receivers). New drivers are not as familiar with the service requirements necessary to remain profitable in an industry, which is intensely competitive. This is especially important for a firm which depends on repeat business.

There is one additional cost to the firm that is difficult to measure, but is none-the-less important. That is the opportunity costs for managing the turnover problem. Companies must spend a great deal of their management capacity in replacing, training, and indoctrinating new drivers into their system. That

²Julie Rodriguez, The Cost of Truckload Driver Turnover, Upper Great Plains Transportation Institute, North Dakota State University, Fargo, ND, in publication.

³340,000 drivers, 100 percent annual turnover rate, and a cost of \$7,000 per turnover.

managerial effort may be better spent growing the company and meeting company performance standards.

Impacts of driver turnover on the industry are probably more subtle, but still significant. The industry competes with other modes of transportation and different forms of motor carrier transport; e.g., rail and intermodal.⁴ Increased costs and reduced performance will have a negative impact on this competitive relationship. Additionally, it will result in reduced global competitiveness of the firms that the truckload industry serves. This will result in a loss of business for the industry in the long run.⁵

Although the results — increased costs, reduced performance, and reduced competitiveness — of a high turnover rate generally are agreed on, there is not nearly such unified thinking on the causes. Perceived causes have been debated and discussed at length by industry, government, and academe. Although there does not seem to be total agreement on the exact causes, it is fair to say that the issue is complex in its nature.

One way to examine driver turnover in the truckload sector is to suggest that it can be characterized as being subject to the Anna Karenina principle. The opening line in Tolstoy's novel by the same name is "'Happy families are all alike, every unhappy family is unhappy in its own way.'" — By that sentence, Tolstoy meant, that in order to be happy, a marriage must succeed in many respects: sexual attraction, agreement about money, child discipline, religion, in-laws, and other vital issues. Failure in any one of those essential respects can doom a marriage even if it has all the other ingredients.....⁶ Retention

⁴It is recognized that some truckload firms incorporate intermodal as part of their business strategy and thus do not compete with truckload in the sense that they have an integrated operation. Nonetheless their costs increase as a result of turnover. Additionally, some firms do not integrate intermodal and are thus at a competitive disadvantage.

⁵This obviously will only impact those firms which do business with those industries that are heavily involved in international trade. However, the argument can be made that the loss of business for any industry intensifies the internal rivalry of the existing firms competing for the remaining business and thus it effects all firms.

⁶Diamond, Jared. Guns, Germs, and Steel, W.W. Norton and Company, New York, NY, 1997, p.157.

strategy is similar in that there are no single solutions, no silver bullets. Alternatively, a good retention strategy must be multifaceted with a number of necessary conditions to be met to be successful. Thus a retention strategy that focuses only on wages and fringe benefits is likely to fail. Further, even a strategy that embraces several factors will not necessarily succeed if critical ingredients are missing. Thus, the strategy must mirror the nature of the problem, and also must be multifaceted with a focus on what the problem is to the driver, and not the perceptions of management, although management's perceptions are accurate in some cases.

There are several factors that influence driver turnover that contribute to the complexity of the problem: wages, fringe benefits, time at home, treatment by the company, quality of the routes, the carrier's home base, opportunities for advancement, recognition for achievement, opportunities for achievement, amount of responsibility, type of equipment, reputation of the firm, maintenance of the equipment, type of operation, etc. These factors each affect how a driver feels about the job and their inclination to stay or leave the company. A sufficient number of the factors must be accounted for in a

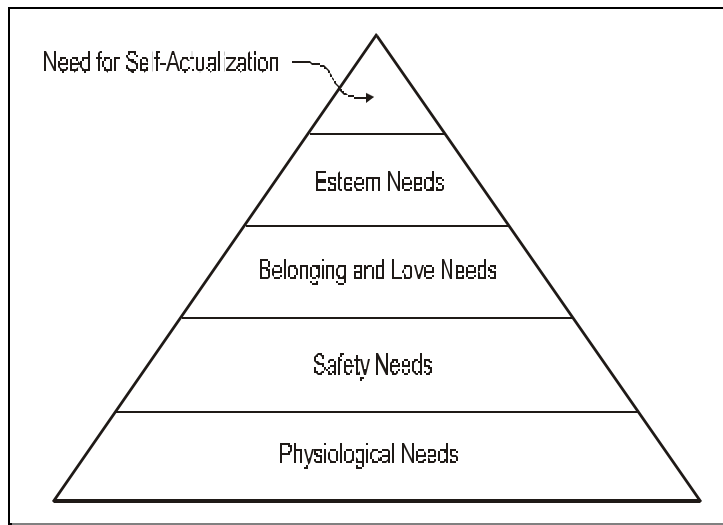


Figure 1. Maslow's Hierarchy of Human Needs

retention strategy that results in a driver feeling good about their job and thus prompts them to stay with the firm. An understanding of what drivers feel about these various factors provides the necessary knowledge base to begin to craft a successful retention strategy.

Although that knowledge base is incomplete, in a theoretical and an

empirical context, some things are known. Intuitively speaking, a driver's voluntary intention to stay with

or leave a firm is a result of two fundamental factors: (1) satisfaction with the job, and (2) personal issues. Personal issues, unless derived from the job, are assumed beyond the control of the firm for purposes of this study. Thus this study pertains only to the element related to the driver's feeling about his/her job. The focus of this study relates primarily to job satisfaction in the broadest possible context including feelings about the work environment and the company.

What constitutes job satisfaction also is a greatly debated subject. The purpose of this study is not to identify the eternal truth concerning job satisfaction. The goal is to attempt to determine what role a career path could play in improving job satisfaction, and thus, retention. Job satisfaction is rooted in Maslow's hierarchy of needs (Figure 1). Although Maslow's hierarchy explains behavior in a broad conceptual sense, and is useful in that regard. There is no empirical data to support the model, and it is short on specifics and an understanding of mechanisms.

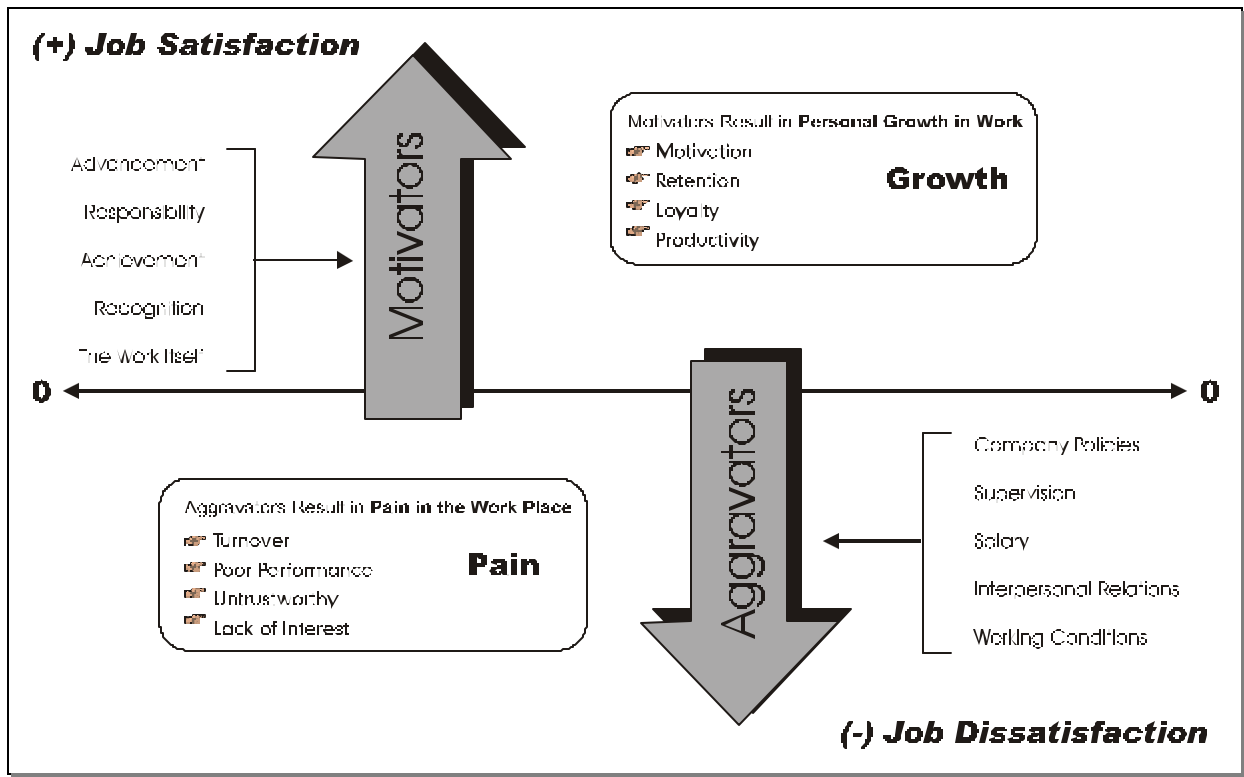


Figure 2. Herzberg's Two Factor Theory of Job Satisfaction

One of the first psychologists to address job satisfaction in detail was Herzberg, who developed a two factor theory of job satisfaction (Figure 2). Herzberg theorized that employees experience two fundamental psychological states, (1) job satisfaction and (2) job dissatisfaction. Job satisfaction results

from the motivational aspects of the job. Dissatisfaction results from the aggravational (hygiene) aspects of the job that, at their best, do little to motivate a person and at their worst cause pain in the workplace.

The best that can be hoped for with aggravators is some semblance of neutral or slightly positive impact.

Motivators, on the other hand, can result in positive outcomes for the individual and company alike.

Several additional theories have been developed by Industrial/Organizational Psychologists and Business Economists. The business theories focus on creating a competitive strategy through human capital and job satisfaction.

Several business schools' studies have developed and documented the thesis that a competitive advantage can be developed through human capital. Two notable studies are *The Service Profit Chain* by James Heskett, et. al. of Harvard and *Competitive Advantage through People* by Jeffrey Pfeffer of Stanford. Heskett and his colleagues argue that employee satisfaction results directly in customer satisfaction and indirectly in revenue growth and profitability (Figure 3).⁷ Pfeffer demonstrates that

⁷James L. Heskett, et. al., Putting the Service Profit Chain to Work, *Harvard Business Review*, March-April, 1994, pp. 164-174.

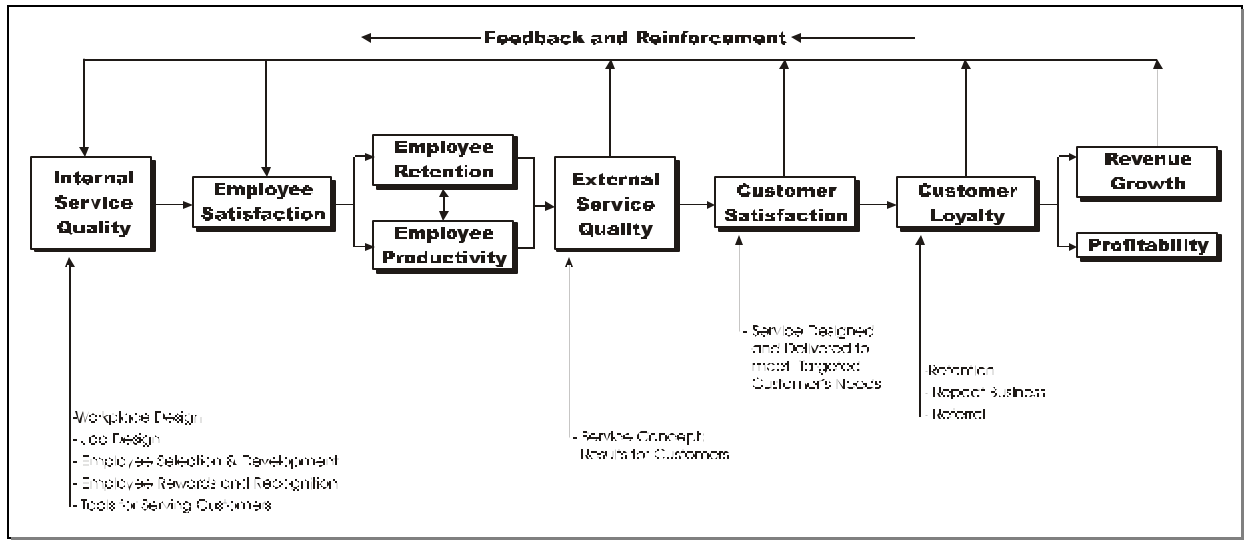


Figure 3. The Service Profit Chain.

several companies have contradicted traditional market analysis by earning unusually high rates of return in extremely competitive industries by taking advantage of the vast potential found in an organization's human capital.⁸ Although such information is useful in supporting the need to better understand the psychological aspects of job satisfaction, it does not seem to offer a significant contribution to that understanding. Several Industrial/Organizational Psychologists have conducted a large body of research in this area in the past 20 years, which has added significantly to understanding the role of psychological elements involved in creating a positive working environment.

Mobley, Horner and Hollingsworth (1978) have studied the issue of turnover as it relates to job satisfaction. They concluded that job dissatisfaction begins a process in which individuals think of quitting and eventually actually quit. Thus job satisfaction is closely related to an employee *thinking of quitting*

⁸Jeffrey Pfeffer, *Competitive Advantage Through People, Unleashing the Power of the Work Force*, Harvard Business School Press, Boston, Massachusetts, 1994.

and their *intention to search* for a new job. Both of the intentions are correlated with turnover.⁹ Several other researchers have pursued studies in this area as well.

Some studies have specifically examined job attitudes such as job satisfaction and organizational commitment as antecedents to or predictors of voluntary turnover (e.g., Hendrix, Robbins, Miller, and Summers, 1999; Lee, Ashford, Walsh, and Mowday, 1992). The results of these and other similar studies have shown that many types of job attitudes do significantly predict turnover, but the strength of the relationships vary from study to study.

Other studies also have addressed perceived alternatives to the job and other variables such as job search (e.g., Blau, 1993; Bretz, Boudreau, & Judge, 1994). The results of studies focusing on perceived alternatives and job search have indicated that these variables have only a modest impact on turnover, but do often account for additional variance beyond that accounted for by work attitudes and withdrawal cognitions.

Two other researchers, Hackman and Oldham (1980) have pursued the question of job satisfaction by outlining the relationships among the core characteristics of the job, critical psychological states, and outcomes. This model clarifies the relationship between work redesign and motivation. Their thesis is that jobs can be designed in a way that motivates individuals to be psychologically satisfied and thus improve their performance.¹⁰ The theoretical underpinning of the present study is based on their work, which is explained in more detail in the methodology section.

Irrespective of the number of theories, and the developing empirical evidence, it is thought, and there is evidence, that job satisfaction is linked to retention. A study conducted by Griffin, Rodriguez, and

⁹Frank J. Landy, *Psychology of Work Behavior*, Fourth Edition, Brook/Cole Publishing Company, Pacific Grove, CA, 1989, p. 478.

¹⁰Richard Hackman and Greg Oldham, *Work Redesign*, Addison-Wesley Publishing, 1980.

Lantz (1993) concluded that there was a correlation between turnover and job satisfaction. Additionally, drivers exhibited a strong desire for a career path in studies of job satisfaction conducted at the Upper Great Plains Transportation Institute. Eighty-three percent of the respondents indicated that career advancement was *somewhat* to *very important* to them.¹¹ However, 54 percent of the drivers perceived the opportunities for advancement in their company as *poor* or *very poor*. Similarly, 54 percent of them had the same perception about opportunities in the industry. It is interesting to note that a large majority of drivers prefer some form of advancement as a driver as opposed to moving to a different job in the company. As a result, it is probable that a lack of a career path encourages drivers to think about quitting and/or searching for different job.

Moreover, drivers expressed a strong desire for assuming additional responsibilities (Table 1).¹² The fact that drivers indicate a desire for a meaningful career path based on performance and also show a strong interest in being responsible for other aspects while continuing to drive would seem to suggest that the job of long distance driving is plausibly ripe for job enrichment. However, this does not suggest that the job does not already include some of the aspects of an enriched job. In fact, the authors are of the opinion that the job of truckload driving can be characterized as having several motivational qualities to it; e.g., responsibilities for one's actions without immediate supervision. This is because of the nature of the job itself resulting from the operational requirements of the truckload firm and the customer/client groups they serve. The question arises however, that if the job requires motivation seeking people, and the job does not offer sufficient opportunities for drivers to satisfy their psychological needs, then how can the job be enriched to allow them to meet such needs.

¹¹Gene Griffin, Julie Rodriguez and Brenda Lantz, *Job Satisfaction of US Commercial Drivers*, Upper Great Plains Transportation Institute, Publication No. 90, May 1993, p. 43.

¹²*Ibid.*, p. 22.

Table 1. Drivers' Interests in Alternative Aspects of the Business in Addition to Driving.

Business Activity	Very + Somewhat	Very	Some- what	Slightly	Not	Slightly + Not
	(Percent)					
Safety	77.4	47.8	29.6	12.1	10.4	22.5
Customer Relations	77.1	45.0	32.1	12.4	10.6	23.0
Cost Reduction Goals	73.4	32.8	40.6	15.5	11.1	26.6
Equipment Purchases	70.1	39.8	30.3	13.6	16.3	29.9
Maintenance and Repair	64.0	37.1	26.9	12.8	23.2	36.0
Training	58.8	26.3	32.5	15.3	25.9	41.2
Group Leader of Drivers	53.0	22.5	30.5	18.7	28.3	47.0
Recruiting	51.6	22.3	29.3	23.5	24.9	48.4
Sales	47.5	19.3	28.2	21.0	31.5	52.5

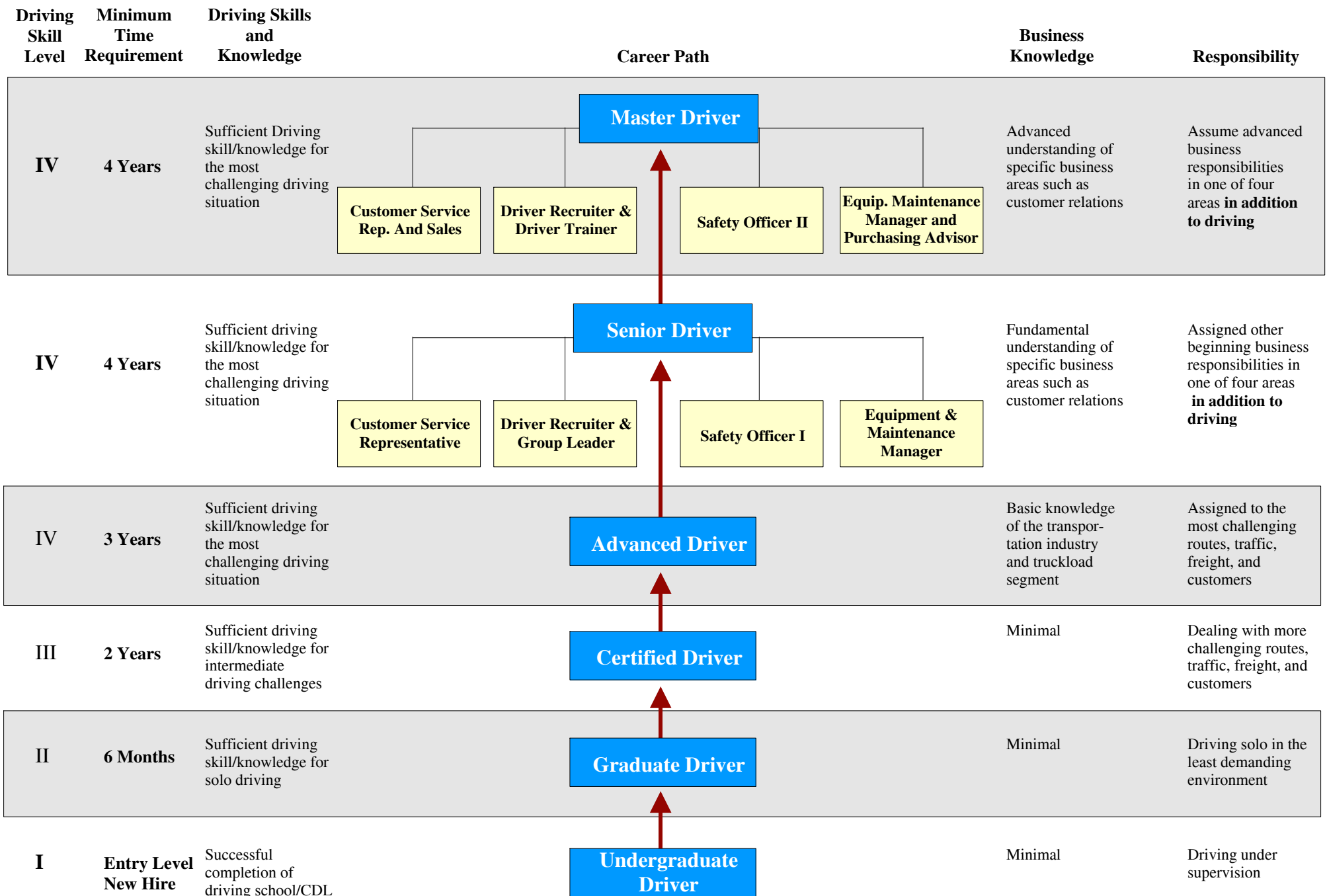
The general purpose of this study is to evaluate if the job can be developed in a manner that enriches the work, and improves retention at the same time. To do this it was necessary to develop a hypothetical career path for respondents to evaluate.¹³ The essence of the hypothetical career path is a two-stage development of skills and knowledge and a corresponding assumption of responsibility and more integral involvement with the company (Figure 4). In the first stage the driver focuses on the skills and working knowledge necessary to become extremely proficient in operating the truck, understanding the needs of the customer, and understanding the culture of the company for which they drive. This includes achieving driving skill levels I through IV as well as developing a basic understanding of transportation, the trucking industry, and the truckload segment. This stage is designated by the four driver titles of Undergraduate Driver, Graduate Driver, Certified driver, and Advanced Driver. The Advanced

¹³The other alternative would have been to conduct case studies of existing firms that have a well-developed career path. This approach was not considered a feasible method for conducting the study.

Driver is the transition between stage I and stage II. The second stage is both vertical and horizontal and identified by the titles Senior Driver and Master Driver. It allows the driver to take on additional responsibilities such as customer service and sales, driver recruiting and training, safety, and equipment maintenance, management, and purchasing in addition to driving. This would allow individuals to align their personal interests more closely with the company's needs.

Because the authors were uncertain of the minimum time requirements that would be appropriate for advancement to "certified driver" and "advanced driver" status, a series of questions were asked of the drivers and managers to attempt to ascertain this. The results from these questions are illustrated in Appendix 2. These results indicate that the time requirements proposed in the hypothetical career path are reasonable.

Based on the evidence gathered in previous job satisfaction studies, it appears that a meaningful career path would be a mechanism for enriching the job and therefore improving job satisfaction and consequently retention. The main focus of this study will be to attempt to determine if this assertion has merit.



Hypothetical Career Path Attributes

RESEARCH METHODOLOGY

The major goal of this study is to determine if an appropriately designed career path for drivers will improve retention. There are two related questions that are central to this goal. The first question is: “How can *the work of the driver* be structured so that it is performed effectively and, at the same time, jobholders find the work personally rewarding and satisfying”?¹⁴ The underpinning assumption here is that drivers that find their work rewarding and satisfying will tend to stay with the firm longer and thus improve retention. The second question is: How would drivers react to a proposed hypothetical career path? The answer to this second question will ascertain, to some degree, the validity of the stated underpinning assumption. These two questions lead to the several research objectives of the study identified immediately below.¹⁵

1. Determine the motivating potential for the job of an over-the-road truckload driver by evaluating if five core job characteristics are present that lead to critical psychological states.
2. Identify whether drivers experience the three critical psychological states that lead to affective outcomes.
3. Identify if drivers display the affective outcomes of high general satisfaction, high internal work motivation, and high growth satisfaction.
4. Determine how drivers might react to job enrichment by evaluating their growth needs strength and context satisfaction.
5. Ascertain whether drivers believe that a career path will improve retention/commitment.

¹⁴Op. Cit., Hackman and Oldham, p. 71. Italics indicates text that has been added.

¹⁵An additional research objective identifying the amount of time necessary to become proficient at certain driving skills also was developed. The results can be found in a separate Upper Great Plains Transportation Institute Report.

6. Specify to what extent drivers agree with the components of the hypothetical career path presented in the survey.
7. Identify the extent to which drivers and truckload company managers differ in terms of their perceptions regarding a career path.

The first four objectives pertain to the first central question. The next two objectives, 5 and 6, relate to the second question. A seventh objective was included to determine how well management understood drivers' perceptions on the subject of a career path.

Two hypotheses also were posed based on previous experience and work of the authors as part of this study. The first hypothesis was that drivers would report positive consequences in terms of commitment to the organization, and satisfaction with their jobs resulting from the implementation of a driver career path in their companies. The second hypothesis was that trucking company managers would report different expectations than drivers for implementation of realistic career paths in their companies.

Conceptual Model

To answer the first question posed in this study and address the first four research objectives, an analysis was designed around the Job Characteristics Model described by Hackman and Oldham (1980), (Figure 5). This model suggests that there is a cause and effect chain triggered by how the work is designed, followed by the psychological experience that drivers feel, which in turn produces positive personal outcomes, which finally results in improved employee effectiveness. This chain of events can simultaneously result in, under the right circumstances, satisfied employees and improved company performance.

The chain begins with five generic dimensions of the job, Core Job Characteristics. The five characteristics are: (1) skill variety, (2) task identity, (3) task significance, (4) autonomy, and

(5) feedback. When these five characteristics are present in a job, a worker can potentially experience three Critical Psychological States: (1) meaningfulness, (2) responsibility for outcomes, and (3) knowledge of the results. Assuming that employees are receptive, these psychological states lead to three positive personal outcomes for employees: (1) high internal work motivation, (2) high growth satisfaction, and (3) high general job satisfaction. These personal outcomes in turn lead to positive outcomes for the organization in terms of high work effectiveness of the employee. It is important to note that it is assumed that employees who experience these outcomes will have a stronger commitment to the company and retention should therefore improve.

In this study the process for establishing these conditions is identified as *job enrichment*. The validity of the model is dependent on the assumption that employees are psychologically receptive to job enrichment. Three factors will moderate or affect the degree to which drivers would react to job enrichment. One, do they have the knowledge and skills to do the job well. Two, do they have a desire/need for skill and intellectual growth. Three, how satisfied are they with other aspects of their job. These moderators will influence the degree to which job enrichment will be successful.

According to this model, positive employee outcomes, such as high productivity and satisfaction, result from jobs that involve each of five core job characteristics. Two factors influence the degree to which each of these characteristics is present in a job: (1) The nature of the job itself; e.g., what actually has to get done to achieve the mission of the firm or organization, and (2) The philosophy and attitude of the owners and/or management, in other words, the culture of the company. The first factor is heavily influenced by the nature of the business and the market environment of the firm, and therefore management's degree of control is limited by the situation (business, economic, legal, and technological environment). The second factor is the most critical to job enrichment because management has more prerogative and control. However, it may be more challenging than the first factor. The culture of the firm

will inhibit successful job enrichment if management views drivers as hands not heads. For job enrichment to be successful the culture of the firm will have to be modified. This may prove to be as difficult, or

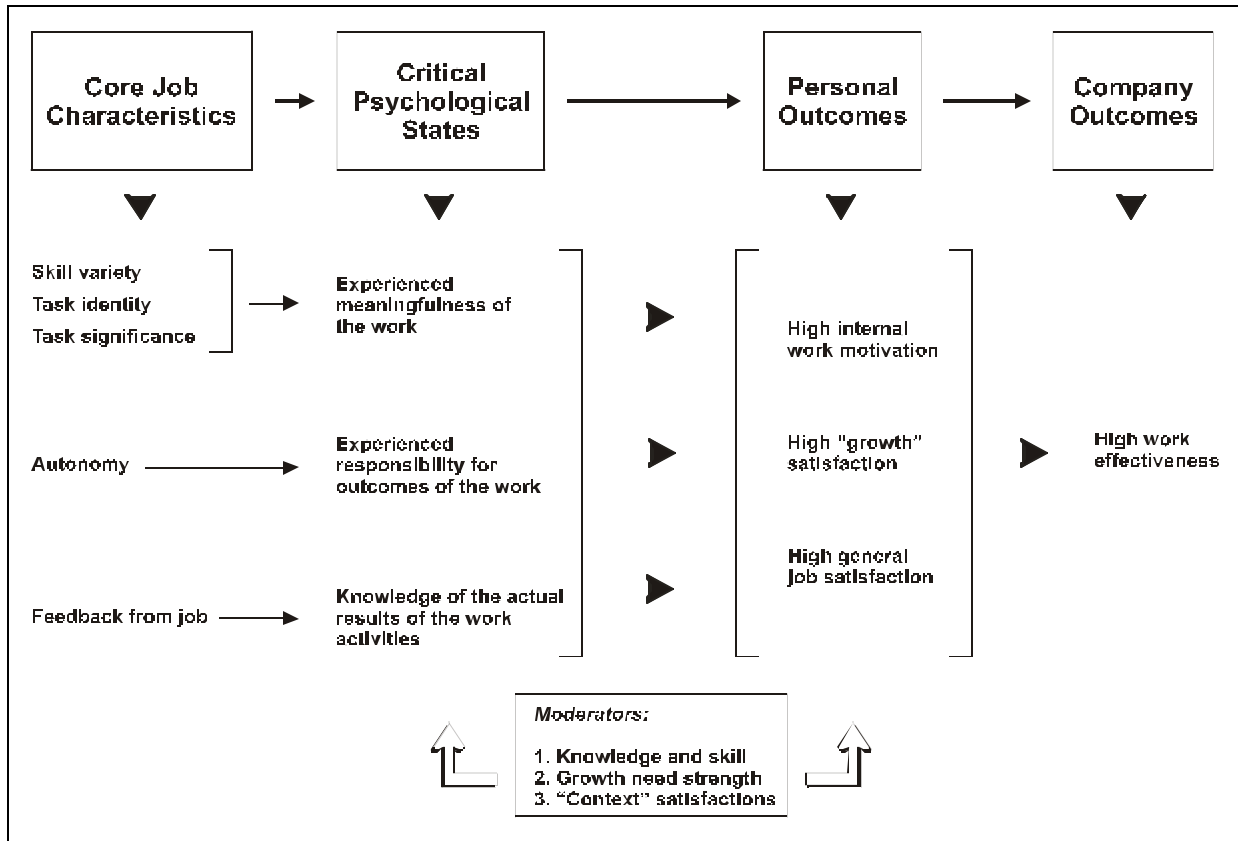


Figure 5. Hackman and Oldham's Job Characteristics Model

probably more difficult than modifying the job itself.

The ability of the trucking company to modify the first three job characteristics; skill variety, task identity, and task significance; may be limited by the nature of the job itself. This does not mean that it cannot be changed, it just means that it may be more difficult. The remaining two characteristics would seem to lend themselves to management intervention. Each characteristic is briefly defined below.

- Skill variety: refers to the number and different types of skills required to perform a job.

- Task significance: refers to the importance of the job in the organization, the lives of others, and the world in general. For example, a job may contribute to public safety.
- Task identity: represents the degree to which the job involves completing an entire identifiable piece of the work, whether it be producing a product, delivering a service, or completing a specific part of either process.
- Autonomy: refers to the degree to which the individual worker has the freedom to take responsibility for many of his or her own work decisions, such as scheduling and organizing work duties.
- Feedback: is the information workers receive about how well they conduct the work activities required for their jobs. Feedback is most effective when it is built into the job so that the workers are responsible for keeping track of how well they are doing.

As mentioned above, Hackman and Oldham maintain that these five characteristics of the job result in three critical psychological states that can result in a high internal work motivation. Once again, these states are: (1) meaningfulness; (2) responsibility for outcomes; and (3) knowledge of the results. The three critical psychological states result in four distinct outcomes: (1) high internal work motivation, (2) high growth satisfaction, (3) high general job satisfaction, and (4) high work effectiveness. It seems intuitive that these outcomes would be desirable for any company, and especially so for companies in a highly competitive industry where the performance of human capital can make the difference between success and failure.

Other important factors in the job characteristics model are the variables that moderate the relationships among the core job characteristics and the outcomes. These variables describe certain attributes of the employee that determine if they “take off” or “turn off” in a job that has high motivating

potential.¹⁶ These three variables, (1) knowledge and skill, (2) growth needs strength, and (3) context satisfaction, relate, respectively, to the driver's ability to do the job, the psychological needs of the individual driver, and the degree to which they like various aspects of their job. These factors determine to a great extent how a driver would react to a job with a high motivating potential. The first moderator, knowledge and skill, refers to the ability of the individual to do the job correctly and efficiently. Obviously, if the individual does not possess the necessary knowledge and skills, they will perform poorly and most likely react negatively to a job that has a high motivating potential requiring a significant amount of knowledge and/or skills.

The second moderator relates the psychological needs of drivers for personal accomplishment, learning, and self improvement. It refers to intellectual/skill attributes that allow the driver to perform well. The growth needs strength moderator reflects those needs. Drivers who do not exhibit a need to personally grow as part of their job also would perform poorly in a job that has a high motivating potential.

Context satisfaction refers to the extent to which individuals are satisfied with specific aspects of their work. Past studies indicate that drivers like the work that they do. This assertion is probably exemplified by the fact that the job of a truckload driver is a physically and psychologically demanding job. Hackman and Oldham indicated that their model would work well for those people who had a high growth needs strength and more context satisfaction, but would be less successful with those who had a low growth needs strength and less context satisfaction.

The three critical psychological states seem intuitively correct, however, as mentioned above, there are some individuals who would not respond positively to such a work environment. "It should be emphasized that the objective motivating potential of a job does not cause employees who work on that job to be internally motivated, to perform well, or to experience job satisfaction. Instead, a job that has a

¹⁶op. cit., Hackman and Oldham, p. 82.

high motivating potential merely creates conditions such that if the jobholder performs well he or she is likely to experience a reinforcing state of affairs as a consequence. Job characteristics, then, serve only to set the stage for internal motivation.”¹⁷ One of the objectives of this study is to determine how drivers would react to this potential.

Assuming that drivers are suitable for a job with high motivating potential, the challenge becomes one of designing the job in a way that results in the best probability of the individual worker achieving the three critical psychological states. That is, to design the job such that it is defined by the five core characteristics, (1) skill variety, (2) task identity, (3) task significance, (4) autonomy, and (5) feedback from job. Jobs designed with these attributes result in the worker experiencing meaningfulness of the work (which should lead to self esteem) experiencing responsibility, and having knowledge of the outcomes of their work. It should be noted that the job characteristics model has some of the same elements as Herzberg and Maslow’s theories.

Although the Job Characteristics Model explains the reaction of drivers conceptually, it does not offer an empirical method for measuring the factors of job enrichment or ascertaining if employees are suited for such a job. Hackman and Oldham solved this issue by developing a system to measure the extent to which each of the five core job characteristics is incorporated into a particular job. This survey instrument is known as the Job Diagnostic Survey (JDS).¹⁸ The JDS was designed to serve as one method of examining a job and highlighting the areas in which the job could be changed to increase the motivation and satisfaction of incumbents in the job. It is to be used for diagnosing jobs before initiating any type of work redesign and for planning whether and how the redesign should proceed.

¹⁷ibid., p. 82.

¹⁸ibid., pp. 275-294.

If one was committed to redesigning a job or group of jobs in an organization, the data gathering phase would not consist of only one method, such as use of a survey like the JDS, for obtaining information about the job. A more comprehensive approach would be used. In most cases, focus groups of employees in the job(s) of interest would be conducted. This would allow the people closest to the job(s) to provide input as to ways in which the job(s) could be changed to become more interesting and more efficient. However, this study was limited to the first step, which was to determine only whether the job of truck driver could benefit from job redesign and if so, in what ways.

The main indicator of whether a job can benefit from redesign is the motivating potential score (MPS) from the JDS. This score indicates whether the job has the potential to motivate and satisfy its incumbents. Additionally, the JDS also measures the degree to which drivers would be receptive to job enrichment. The survey is a set of standardized questions allowing for cross comparisons among different industries.

The second question posed in this study, how would drivers react to a proposed hypothetical career path, was evaluated by developing a hypothetical career path and asking drivers to assess the career path. Specific questions tailored to the career path were asked of drivers via the questionnaire.

Additional survey questions were developed to determine whether career paths or developmental opportunities would be perceived as leading to greater positive outcomes, such as increased employee satisfaction and reduced voluntary turnover. Perceived organizational commitment, job satisfaction, and intent to turnover also were measured in this study. A brief description of the measures will be presented in a subsequent section of this paper.

Survey Method

For this study, the decision was made to include a modified version of the JDS which did not include the items from sections 1, 5, and 7 of the original JDS. The items in these sections were excluded because they were very repetitive of the questions in other sections, and they were designed to be used with a different type of response scale than the other items in the survey had; as a result they would have substantially and unnecessarily increased the length of the survey. The main reason similar questions are often used in surveys like the JDS is to increase the reliability of the measure. However, in this case, the researchers believed there were enough items assessing each component of the Job Characteristics Model without including the other sections of the JDS.

A mail survey was used to collect the data for this study. Two populations were identified: truckload drivers and truckload company upper management. The purpose of the two populations was not only to determine the drivers' perceptions, but to compare those perceptions with the perceptions of management. The underpinning reason for this was to provide insights to the industry on how complex job enrichment might be. Consider the following scenario. Assume that the job can be enriched, drivers are thought to respond in a positive way and are receptive to this enrichment, and management perceives that the job cannot be enriched and/or drivers are not suitable for job enrichment. This would be an indication that the industry has a long way to go to resolve this difference. However, if drivers and management have the same perceptions, the problem is much more of an operational challenge as opposed to a company cultural problem.

A project Technical Advisory Committee of truckload industry management and individuals from the Truckload Carriers Association was created to provide relevance and practical guidance in the development of the surveys. The committee also aided in getting companies to participate in the study and obtaining a mailing list for the management survey.

The primary questionnaire was the driver survey developed by Upper Great Plains Transportation Institute staff and an outside consultant, with additional assistance from some members of the Advisory Committee. (A complete copy of the driver survey can be found in Appendix 1). Individual truckload companies provided a list of company drivers (owner-operators were not included in the study), which served as the sample frame for the study.¹⁹ The entire complement of drivers was included in the sample for smaller companies while the driver list of larger companies was randomly sampled to identify drivers for the sample frame. A total of 3,811 drivers from 11 different trucking companies varying in size and type of haul were sent the driver questionnaire.

The driver questionnaire included most of the items from the Job Diagnostic Survey, a number of items assessing perceptions of a hypothetical career path presented in the survey, many questions assessing the time required to attain several skills related to driving, measures assessing future perceptions of organizational commitment, job satisfaction, and intent to turnover, and several demographic questions. The organizational commitment measure was modified to assess respondents' perceived loyalty and attachment to the organization in response to more developmental opportunities or if they had a particular career path to follow in their organizations. In addition, the measures of job satisfaction and intent to turnover also were modified to have a future-oriented focus. The items included in these measures were worded to assess perceptions of job satisfaction and intent to turnover in situations where the drivers would have a career path or substantial opportunities for career development.

The surveys were sent directly to potential respondents rather than relying on their parent companies for distribution. However, in one case, the parent company wanted to send surveys to their drivers to ensure privacy. Surveys were mailed to drivers' home addresses with self-addressed, stamped

¹⁹The companies who participated in the study were recruited through formal meetings of the Truckload Carrier Association (TCA) and by contacting companies that have participated in other studies conducted by the Upper Great Plains Transportation Institute.

return envelopes. Approximately two weeks after the surveys were mailed, reminder postcards were sent to all drivers in the sample. This was done to help increase the return rate for the survey. The completed surveys were mailed directly back to the Transportation Institute where the information was entered into a computer database. A total of 3,811 drivers were sent questionnaires with 736 returning them for a return rate of 19.3 percent.

The second group of respondents included the managers and decision makers of 191 trucking companies who were members of the Truckload Carrier Association. The sample for the management survey was obtained from a listing of the top truckload managers whose companies were members of TCA. In most cases, five surveys were sent to each of the companies. The surveys were accompanied by a letter instructing the recipient to distribute the remaining surveys to other relevant decision makers in the company. All surveys were mailed with self-addressed, stamped return envelopes so that completed surveys could be sent directly back to the Upper Great Plains Transportation Institute. There were 113 respondents to the manager survey.

The survey that was distributed to the managers and decision makers of various truckload carrier companies also was designed by Upper Great Plains Transportation Institute staff members and an outside consultant. Members of the Advisory Committee gave suggestions for changes to the survey.

The management questionnaire included many of the same items used in the driver survey; however, the wording was modified to reflect the managers' perceptions of drivers' attitudes. The instructions for the survey indicated that the respondents were to answer the questions about the job of a truck driver rather than their own job. In addition to items assessing perceptions of the driver's job and responses to the hypothetical career path that was presented, several demographic questions were included.

Statistical Analysis

For both the Driver and Management Surveys, descriptive statistics including means, standard deviations, and frequencies were calculated. The descriptive statistics reflect the overall perceptions of drivers and managers concerning strengths and weaknesses of the job of driver and feelings regarding a potential career path for drivers. However, to answer many of the various questions posed in this study, other statistical analyses needed to be performed as well. T-test analyses were used to determine whether there were any differences between the drivers' and the managers' responses on important key variables.

SURVEY RESULTS AND ANALYSIS

The answers provided by the driver and manager respondents form the basis for this section of the report. The analysis of drivers' responses will be presented first, immediately followed by managements' perception of driver attitudes. A total of 736 drivers from 11 companies answered the survey. The drivers from one company constituted a significant portion of the total return, 37.7 percent. The survey results of these drivers were compared to the rest of the respondents. No statistical difference was identified between the two groups allowing the use of the entire data set without weighting the results.

A number of demographic questions were included in the questionnaire. There are two main reasons for the demographic information: (1) they provide a basis for searching for key relationships among drivers' attitudes and other factors; e.g., age, education, etc., and (2) they provide a general impression of the drivers that responded to the survey.²⁰ Thus, it is appropriate to begin with a description of who the respondents are in basic demographic terms.

Demographics

Seventy-six percent of the respondents have been driving truck for three or more years and 54 percent have driven for six or more years (Table 2). It would appear that the majority of respondents have some degree of occupational maturity given that only 11 percent had less than one year of experience and only 24 percent had two years or less.

²⁰Demographic information also can be used to determine if the sample is representative of the population; however, this requires detailed information about the entire population, which is not available in this case.

Table 2. Drivers' Tenure as a Driver and Time with Their Current Company.

	Years Driving Truck		Driven for Current Company	
	n	%	n	%
Less than One Year	81	11.2	164	22.7
1 - 2 years	93	12.8	156	21.5
3 - 5 Years	160	22.1	193	26.7
6 - 10 years	154	21.3	156	21.5
More than 10 years	236	32.6	55	7.6

A majority of the drivers, 86 percent, have worked for one or two carriers in the last five years (Table 3). Twelve percent of the respondents had worked for 3-5 carriers and only slightly more than 2 percent of the drivers had worked for six or more carriers. The turnover rate of the respondents, although high for the average U.S. employee, appears somewhat low given the reported experience of truckload carriers. However, there is not enough detail in the data, nor is there any normative data for the truckload carriers, to really ascertain if the level of turnover of the respondents is typical of the industry.

Table 3. Number of Carriers that Drivers have Worked for in the Last Five Years.

Number of Carriers Driven For	Drivers	
	n	%
1 - 2	617	85.9
3 - 5	85	11.8
6 - 10	11	1.5
More than 10	5	0.7

The drivers surveyed represented three major equipment types in the truckload industry; dry van, 51 percent; refrigerated, 39 percent; and, flat bed, 21 percent. Bulk and intermodal container constituted the remaining 8 percent. The average length of haul was less than 500 miles for 19 percent of the respondents, between 500 and a 1,000 miles for 48 percent, and greater than 1,000 miles for a third of the

driver respondents. Sixty-nine percent of the drivers were on the road from 4-6 days to gone three weekends. Sixty-six percent of the drivers worked irregular routes, while the balance worked dedicated operations (same shipper/receiver). Eighty-two percent were single drivers while 18 percent drove as part of a team. The driver force was 90 percent male with the remainder being female. Drivers varied in age with the largest segment, 38 percent, being between 41 and 50. Drivers also had a broad range of educational experience and income. The respondents appeared representative of the population in general terms. However, if the respondents were skewed in any way it might be toward the older and more mature drivers in terms of tenure and age. This background information should help in evaluating the responses to the JDS questions as well as the questions unique to this study.

Further Definition of the Problem

The drivers' tenure with their company compared with their years as a driver offered an opportunity to gain additional insight into the turnover issue. Some people view turnover as a problem associated with new drivers and drivers with little tenure. Although new drivers are at a critical stage in terms of retention, it appears that more experienced drivers are even more likely to quit a company.

A cross tabulation of *years of experience driving truck* with *years driven for present company* indicated that drivers with more experience may tend to move to different firms more often than drivers with less experience (Table 4). It would seem intuitive that all, or nearly all, of the of the drivers with less than one year of experience have been with their current firm for less than one year (shaded cell). Eighty-five percent of the drivers with 1-2 years of experience have been with their current firm for 1-2 years. The same pattern of decline continues with 75 percent of drivers with 3-5 years of experience having been with their current firm for 3-5 years, and 67 percent of the drivers with 6-10 years of experience having been with their current firm the same length of time. This trend changes

drastically for drivers with 10 or more years experience. Only 23 percent of those drivers have been with their firm for 10 or more years. It also is important to note that drivers with 10 or more years of experience constituted the single largest strata in the analysis, 236 respondents out of 724, 33 percent of the sample.

Further, of drivers who have 10 plus years of experience, 16 percent of them have been with their current company for less than a year, 16 percent have been with their company for only 1-2 years, and 24 percent of them have been with their current company for only 3-5 years. This data would seem to suggest that the longer that drivers are with a firm, and the more experience they gain, the more likely they are to turnover. The operative word is suggest, since there is not enough detail to determine exactly how many firms they have worked for. To further answer the question of who is most likely to leave a firm, the issue was further analyzed by cross tabulating tenure as a driver with a company with a question regarding thoughts of quitting.

Table 4. Number of Years Driving by Years Driven for Present Company

Time Driving	Time Driven with Company					Total
	< 1 year	1-2 years	3-5 years	6-10 years	> 10 years	
< 1 year						
<i>Frequency</i>	81	0	0	0	0	81
<i>Row Percent</i>	100.0	0.0	0.0	0.0	0.0	
1-2 years						
<i>Frequency</i>	14	79	0	0	0	93
<i>Row Percent</i>	15.1	85.0	0.0	0.0	0.0	
3-5 years						
<i>Frequency</i>	14	26	120	0	0	160
<i>Row Percent</i>	8.8	16.3	75.0	0.0	0.0	
6-10 years						
<i>Frequency</i>	17	14	16	106	1	154
<i>Row Percent</i>	11.0	9.1	10.4	68.8	0.7	
> 10 years						

<i>Frequency</i>	38	37	57	50	54	236
<i>Row Percent</i>	16.1	15.7	24.2	21.2	22.9	
Total	164	156	193	156	55	724
<i>Percent of Sample</i>	22.7	21.6	26.7	21.6	7.6	100.0

Years of experience with the present company was correlated with question 21, *I frequently think of quitting this job* (Table 5). Twenty-eight percent of the drivers, 203 out of 720, indicated that they thought of quitting their job more often than other drivers (circled responses 5, 6, or 7). Additionally, another 191 drivers indicated that they thought of quitting their job more often than those drivers who

Table 5. Number of Years Driven with Present Company by “I Frequently Think of Quitting this Job.”

“I frequently think of quitting this job.”	Time Driven with Company					
	< 1 year	1-2 years	3-5 years	6-10 years	> 10 years	
1 - Strongly Disagree						158
<i>Row Percent</i>	31.7	24.7	20.9	17.7	5.1	
<i>Column Percent</i>	30.7	25	17.3	18.1	14.6	
2 - Disagree						162
<i>Row Percent</i>	23.5	19.1	26.5	22.8	8.0	
<i>Column Percent</i>	23.3	19.9	22.5	23.9	23.6	
3 - Somewhat Disagree						88
<i>Row Percent</i>	25.0	25.0	20.5	21.6	8.0	
<i>Column Percent</i>	13.5	14.1	9.4	12.3	12.7	
4 - Disagree/Agree						109
<i>Row Percent</i>	15.6	22.9	32.1	19.3	10.1	
<i>Column Percent</i>	10.4	16.0	18.3	13.6	20.0	
5 - Somewhat Agree						76
<i>Row Percent</i>	18.4	21.1	30.3	18.4	11.8	
<i>Column Percent</i>	8.6	10.3	12.0	9.0	16.4	
6 - Agree						60
<i>Row Percent</i>	11.7	23.3	31.7	31.7	1.7	
<i>Column Percent</i>	4.3	9.0	10.0	12.3	1.8	
7 - Strongly Agree						67

<i>Row Percent</i>	22.4	13.4	29.9	25.4	9.0	
<i>Column Percent</i>	9.2	5.8	10.5	11.0	10.9	
Total Respondents	163	156	191	155	55	720
<i>Percent of Sample</i>	22.6	21.7	26.5	21.5	7.6	100

indicated that they only thought about quitting somewhat or not at all. What is most interesting is that drivers with more tenure with the firm accounted for a higher percentage of the drivers that indicated that they strongly agreed with the statement that they frequently thought about quitting their job. For instance, out of 67 drivers who recorded that they strongly agreed with the statement, 64 percent had three or more years of experience. This same trend existed for drivers who denoted that they agreed with the statement to some degree (responses 4 and 5). Drivers who indicated that they somewhat agreed with the statement that they frequently think of quitting their job, (5), 59 percent had 3-10 years of experience, and 63 percent of the drivers who thought about quitting more often, (6), also had 3-10 years of experience.

In addition, the same finding was identified when comparing question 21 with their tenure as a driver, but was much more pronounced among drivers with 10 or more years of experience. This would seem to indicate that driver turnover is not exclusive to younger drivers since thinking of quitting was previously described as a precursor to quitting. This conclusion is in contradiction to the belief by some that turnover is a problem associated mainly with younger drivers with less experience. It also suggests that a company must still be concerned about turnover once they have kept a driver for a couple of years.

General Results

The first set of questions asked in the driver questionnaire were taken from section 2 of the JDS. The questions focus on generic characteristics of the job and whether drivers agree or disagree that the job of a truckload driver fits those characterizations. A significant majority of drivers (70 percent or more) described the job of a truckload driver in positive terms (Table 5).²¹ As a group, 91 percent of the

²¹The term positive as used here means that drivers indicated that most, or all of the elements of an enriched job environment as defined in the Job Characteristics Model are present in the truckload driving job.

respondents feel the job is significant and important to the company, question 13; the job is important to the well being of others, question 8, 90 percent; the job requires a lot of cooperative work with others, question 2, 88 percent; the job provides considerable opportunity for independence and freedom in how the work gets done, question 12, 82 percent; the job provides the driver to completely finish the work that they began, question 11, 75 percent; a driver is required to use a number of complex and high-level skills, question 1, 74 percent; and the job is arranged so that the driver has a chance to do an entire piece of work from beginning to end, question 3, 70 percent (Table 6).

A large majority of drivers, 70 percent or more, described the job of a truckload driver in a positive way in six out of the 13 questions, nearly half.²² A majority of drivers, 50 percent or more of the respondents, also responded in a positive way to five of the remaining seven questions. These responses would seem to suggest that the job of truckload driving has at least some of the qualities required by the conceptual model adopted for this study. The only questions which received a mixed review were related to their supervisors, questions 7 and 10.

Forty-five percent of the drivers said that they never get feedback from their supervisor, and 47 percent of the respondents indicated that supervisors do not let drivers know how they are performing the job. Based on previous work by the authors this result is not unexpected. Several studies have identified that drivers feel that they do not get enough feedback from supervisors and when they do it tends to be negative.

²²Positive in the context of job enrichment and the Job Characteristics Model.

Table 6. How Drivers Describe Their Job in Terms of Selected Job Characteristics.

Rk	Question	\bar{x}	Percentages								5+6+7
			1+2+3	Strongly Disagree					Strongly Agree		
				1	2	3	4	5	6	7	
5	1. The job of a truckload driver requires me to use a number of complex or high-level skills.	5.4	10.4	1.1	3.0	6.3	16.1	21.1	22.0	30.4	73.5
2	2. The job requires a lot of cooperative work with other people.	6.1	5.0	1.1	0.8	3.1	6.5	11.3	25.5	51.6	88.4
12	3. The job is arranged so that I do <i>not</i> have the chance to do an entire piece of work from beginning to end.**	2.8	70.4	31.4	22.3	16.7	13.4	6.2	4.1	5.9	16.3
6	4. Just doing the work required by the job provides many chances for me to figure out how well I am doing.	4.9	16.0	2.7	4.4	8.9	20.6	23.6	22.8	16.9	63.4
10	5. The job is quite simple and repetitive.**	3.2	58.1	23.8	20.2	14.1	16.7	10.5	8.2	6.4	25.2
9	6. The job can be done adequately by a person working alone — without talking or checking with others.**	3.2	58.6	30.2	15.5	12.8	11.0	9.8	12.8	7.8	30.4
7	7. The supervisors on this job almost <i>never</i> give me any “feedback” about how well I am doing in my work.**	4.1	40.3	14.0	12.0	14.3	15.1	12.9	14.9	16.8	44.6
1	8. This job is one where a lot of other people can be affected by how well the work gets done.	6.2	4.1	1.6	0.5	1.9	5.6	10.5	27.2	52.6	90.3
11	9. The job denies me the chance to use my personal initiative or judgment in carrying out the work.**	2.8	68.9	31.7	25.2	12.0	10.6	8.6	5.7	6.1	20.4
8	10. Supervisors often let me know how well they think I am performing the job.	3.7	47.3	16.0	16.8	14.4	17.7	14.1	11.6	9.3	35.1
4	11. The job provides me the chance to completely finish the pieces of work I begin.	5.5	8.1	1.5	1.8	4.8	17.3	17.7	29.3	27.5	74.6
3	12. The job gives me considerable opportunity for independence and freedom in how I do the work.	5.6	8.9	2.8	3.0	3.2	9.2	19.1	30.9	31.8	81.8
13	13. The job itself is <i>not</i> very significant or important to the company.**	1.7	90.7	71.3	16.1	3.3	2.7	1.2	2.1	3.3	6.6

** Denotes that a mean response closer to “1” is more desirable than a mean response closer to “7”.

It is interesting to note that only two questions had mixed reviews while the remaining 11 were positive. It is even more interesting that the 11 questions answered positively relate to the characteristics

that are largely determined by the job itself. On the other hand, the questions that received mixed reviews were the only questions related to issues that the company has more control over through company supervision. The mixed reviews for both could easily be related to differences in supervisory skills of different companies, different operational requirements, and different management styles. It appears from this section that the job, as described by drivers, provides skill variety, task identity, task significance, and autonomy. However, it does appear that feedback is a problem.

The next set of standardized questions asked drivers how they personally felt about their job, as opposed to describing their job as in the previous set of questions. There are two main points of significance that can be gleaned from the data: (1) no questions were answered negatively (in terms of driver retention as hypothesized in the context of the Job Characteristics Model) and (2) a significant percentage of drivers, 67 percent or greater, answered 12 of the 13 questions in a positive way, indicating that they feel positive about their job (Table 7.).

The most troubling response was to question 21. Fully 29 percent of the drivers reported that they “agreed to strongly agreed” that they frequently thought of quitting this job. As noted in the introduction, this may be related to job dissatisfaction and eventually related to actually quitting.²³ The answers to this question also would seem to confirm the problem of driver retention in the truckload industry. In addition, as pointed out earlier, this thought process is not exclusive to younger drivers, but is a more common thought among drivers with more experience and those with more tenure with their present company.

The amazing part of this data is that drivers feel extremely positive about their job, with the exception of thinking of quitting, and even in this question, 56 percent of the drivers reported that they did not frequently think of quitting (disagreed or strongly disagreed with the statement). Ninety-five percent of them experience a high degree of personal responsibility for the work they do, question 20; 90 percent

²³Page 5.

experience a great deal of personal satisfaction when they do the job well, question 18; 83 percent feel that they are personally responsible for getting the job done right, question 27; and 88 percent are generally satisfied with the work they do. The responses to the questions would indicate that the job, as they feel about it, is characterized by the five elements of the Job Characteristics Model. The data also suggests that drivers exhibit strong growth needs strength.

The results from the first two sets of questions, the job itself and how drivers feel about the job, would seem to indicate that the job of truckload driving may be conducive for job enrichment through a career path. This is not meant to prejudice the remaining results, however, a trend does appear to be developing.

Table 7. How Drivers Personally Feel about Certain Characteristics of Their Jobs

Rk	Question	Mean	Percentages								5+6+7
			1+2+3	Strongly Disagree				Strongly Agree			
				1	2	3	4	5	6	7	
14	14. It's hard, on this job, for me to care very much about whether or not the work gets done right.**	1.89	88.5	55.1	26.0	7.5	4.4	3.3	1.4	2.5	7.1
9	15. Generally speaking, I am very satisfied with this job.	5.35	10.5	2.2	3.3	5.1	13.1	21.7	32.4	22.3	76.4
13	16. Most of the things I have to do on this job seem useless or trivial.**	2.21	82.6	40.9	29.8	11.9	7.9	4.9	2.9	1.6	9.4
8	17. I usually know whether or not my work is satisfactory on this job.	5.39	12.2	4.2	4.5	3.4	11.7	16.4	31.3	28.4	76.1
2	18. I feel a great sense of personal satisfaction when I do this job well.	6.17	3.4	1.4	0.5	1.5	7.0	8.9	27.5	53.3	89.6
5	19. The work I do on this job is very meaningful to me.	5.66	7.4	2.6	2.3	2.5	12.4	15.7	27.9	36.6	80.2
1	20. I feel a very high degree of <i>personal</i> responsibility for the work I do on this job.	6.41	2.3	0.8	0.5	1.0	2.7	6.6	26.5	61.9	94.9
10	21. I frequently think of quitting this job.**	3.34	56.3	21.6	22.3	12.3	15.2	10.8	8.4	9.3	28.5
7	22. I feel bad and unhappy when I discover that I have performed poorly on this job.	5.56	11.9	3.6	3.7	4.6	10.8	12.4	28.3	36.6	77.3
11	23. I often have trouble figuring out whether I am doing well or poorly on this job.**	2.80	67.0	30.1	25.9	11.1	14.6	8.3	5.2	4.8	18.3
6	24. I feel I should personally take the credit or blame for the results of my work on this job.	5.59	9.3	3.7	2.6	3.0	13.0	13.0	28.9	35.7	77.6
4	25. I am generally satisfied with the kind of work I do in this job.	5.86	3.6	1.0	1.2	1.4	8.2	15.0	41.8	31.4	88.3
12	26. My own feelings generally are <i>not</i> affected much one way or the other by how well I do on this job.**	2.41	79.2	36.7	29.9	12.6	8.5	4.5	4.7	3.2	12.3
3	27. Whether or not this job gets done right is clearly my responsibility.	5.87	9.2	2.7	2.9	3.6	7.9	9.2	26.0	47.8	82.9

** Denotes that a mean response closer to "1" is more desirable than a mean response closer to "7".

A third set of questions from the JDS pertained to how satisfied drivers were with several aspects of their job (Table 8). The results from this set of questions is somewhat more mixed than the first two sections. Although the results were mixed, there were several elements of their job that drivers

expressed significant to some (more than 70 percent, six out of 18 questions, or more than 50 percent, 11 out of 18) degree of satisfaction with. Sixty-eighty percent were satisfied with the feeling of accomplishment they got from doing their job, 77 percent were satisfied with the amount of independent action they could exercise in their job, 73 percent were satisfied with the amount of challenge in their job, 70 percent were satisfied with the opportunities to get to know other people on the job, 71 percent were satisfied with the job security, and 72 percent were satisfied with how things looked for them in the future with their existing firm.

Table 8. How Satisfied Drivers Are with Certain Aspects of Their Job.

Rk	Question	\bar{X}	Percentages								
			1+2+3	Very Unsatisfied					Very Satisfied		5+6+7
				1	2	3	4	5	6	7	
5	28. The amount of job security I have.	5.21	15.3	4.8	4.5	6.0	13.2	18.6	26.9	26.1	71.5
15	29. The amount of pay and fringe benefits I receive.	4.09	36.0	10.1	13.2	12.7	17.7	22.1	16.9	7.4	46.3
13	30. The amount of personal growth and development I get in doing my job.	4.17	30.1	8.6	9.7	11.9	27.4	19.9	13.5	9.1	42.5
9	31. The people I talk to and work with on my job.	5.02	14.6	2.7	3.8	8.0	20.1	22.0	26.6	16.8	65.3
7	32. The degree of respect and fair treatment I receive from my supervisor.	5.11	17.4	6.1	5.2	6.1	13.4	17.6	26.7	24.9	69.2
1	33. The feeling of accomplishment I get from doing my job.	5.69	5.6	1.1	2.5	2.0	13.9	13.9	34.5	32.2	80.5
4	34. The chance to get to know other people while on the job.	5.22	13.5	2.9	4.8	5.9	16.3	18.7	27.2	24.3	70.2
14	35. The degree of respect and fair treatment I receive from law enforcement officials.	4.14	33.3	12.6	10.0	10.8	21.3	18.6	16.1	10.7	45.4
10	36. The amount of support and guidance I receive from my supervisor.	4.81	21.1	6.4	5.5	9.3	16.8	20.7	24.6	16.8	62.1
16	37. The degree to which I am fairly paid for what I contribute to this organization.	4.01	37.8	10.4	13.4	14.1	19.3	20.1	15.8	7.0	42.9
12	38. The degree of respect and fair treatment I receive from truck stop operators.	4.47	25.8	5.7	9.0	11.1	19.8	23.9	22.1	8.5	54.4
2	39. The amount of independent thought and action I can exercise in my job.	5.40	10.2	1.9	2.6	5.7	12.3	21.5	33.2	22.8	77.5
6	40. How secure things look for me in the future in this organization.	5.19	15.7	4.1	4.6	6.9	12.8	19.5	28.5	23.6	71.5
17	41. The degree of respect and fair treatment I receive from shipping dock personnel.	3.62	45.8	15.0	15.0	15.7	20.9	17.9	11.7	3.7	33.3
8	42. The chance to help other people while at work.	5.04	9.5	1.6	3.0	4.9	24.9	26.3	23.8	15.4	65.5

Table 8. How Satisfied Drivers Are with Certain Aspects of Their Job.

Rk	Question	\bar{x}	Percentages								5+6+7
			1+2+3	Very Unsatisfied					Very Satisfied		
				1	2	3	4	5	6	7	
3	43. The amount of challenge in my job.	5.24	11.2	2.2	3.7	5.3	15.9	24.5	26.0	22.3	72.9
18	44. The degree of respect and fair treatment I receive from receiving dock personnel.	3.49	47.2	18.8	15.1	13.2	22.0	17.3	9.1	4.4	30.8
11	45. The overall quality of supervision I receive in my work.	4.78	17.4	6.7	4.8	5.9	23.4	20.7	22.7	15.8	59.2

There was one general aspect of the job that drivers indicated a significant lack of satisfaction with, respect and fair treatment from dock workers of both shippers and receivers. The responses were nearly identical for both groups, questions 41 and 44. Another bone of contention was the respect and fair treatment that they received from law enforcement officials. Although these factors are important, they are beyond the control of the company for the most part, particularly in the short run. It is difficult to determine the amount of influence that these factors would have on retention. One theory might be the treatment that drivers receive from dock workers or law enforcement has little to do with movement of drivers among companies, but may influence the number of drivers that leave driving as a career altogether. It should be emphasized that both factors would tend to encourage drivers to think about quitting and thus likely influence retention.

The final set of JDS questions relates to how much drivers desire certain attributes of the job. There were some negative attitudes expressed about the level of pay and fringe benefits as well as the fairness of what they are paid relative to the contribution they make to the organization. One other job characteristic that drivers registered a lack of satisfaction with was the amount of personal growth and development they get in their job, question 30. Thirty percent of the respondents indicated a lack of opportunities in this area, while 42 percent indicated that they were “somewhat to very satisfied.” Additionally, 59 percent of the drivers were in the middle, responses 3 to 5. This would seem to indicate a

need/opportunity for job enrichment. This assertion is further buttressed by the additional data collected in the last JDS section of the study (Table 9).

Table 9 provides insights into what selected job characteristics drivers like or dislike in a job. All the characteristics identified in this set of questions were desired by a strong majority of drivers. There were the usual characteristics that one would presume that a normal person would desire in a job such as respect and fair treatment, job security, friendly co-workers, high salary and good fringe benefits, quick promotions, and supervisors that value the driver's opinion and deal with problems brought to their attention. More than 70 percent of the drivers, and as many as 91 percent, ranked these characteristics in the five to seven range indicating that they liked or strongly liked each of these characteristics. This outcome is not surprising since these are characteristics of a job that any normal person would want in a job. The remaining characteristics do offer some insights into the driver's desire for a career path and a corresponding enriched job.

Questions 47, 48, 51, 53, 55, 56, 57, and 58, (in italics) relate to the character of the drivers as opposed to the job environment, which was addressed in the previous set of questions in the survey. Ninety-two percent of the drivers indicated that they "liked to strongly liked" a sense of worthwhile accomplishment in their work, and also wanted chances to exercise independent thought and action in their job. Nearly 90 percent indicated that they would like opportunities to learn new things from their work. Eighty-nine percent liked stimulating and challenging work. Opportunities for personal growth and development in their job and opportunities to be creative and imaginative in their work were cited as desirable by 83 percent of the drivers. Sixty-two percent of the drivers would like opportunities to be involved with other types of work in addition to driving. One response is somewhat puzzling, 61 percent of the drivers indicated that they would like to remain in their specialized area rather than be promoted out. This is positive if they also desire a career path in the system. However, it could be interpreted to mean

that they do not want to grow in their job. The past evidence would seem to indicate that this is not the case. This is good news for trucking firms that cannot possibly absorb all of the drivers wishing to grow in the management side of the business. This would seem to support the development of a career path as a driver in which the driver improved their skills, gained additional knowledge, and took on more responsibility over time.

Table 9. The Degree to Which Drivers Would Desire Each Characteristic Present in Their Job.

Rk	Question	\bar{x}	Percentages									
			1+2+3	Strongly Dislike						Strongly Like		5+6+7
				1	2	3	4	5	6	7		
4	46. High respect and fair treatment from my supervisor.	6.20	3.8	0.8	1.0	2.0	5.0	11.0	24.8	55.3	91.1	
10	47. Stimulating and challenging work.	5.96	3.1	0.1	0.7	2.3	8.3	16.2	32.7	39.6	88.6	
6	48. Chances to exercise independent thought and action in my job.	6.17	3.7	0.7	0.8	2.2	4.4	10.5	32.2	49.3	92.0	
1	49. Job security.	6.30	3.7	1.0	1.4	1.4	4.9	7.1	23.5	60.8	91.4	
9	50. Very friendly co-workers.	6.02	3.4	0.4	1.0	2.0	9.5	12.7	28.7	45.6	87.1	
7	51. Opportunities to learn new things from my work.	6.14	3.1	0.4	1.5	1.2	6.9	10.2	30.2	49.5	89.9	
5	52. High salary and good fringe benefits.	6.19	6.8	2.7	2.5	1.6	4.6	7.8	16.2	64.5	88.5	
12	53. Opportunities to be creative and imaginative in my work.	5.80	6.3	1.4	1.8	3.1	11.2	14.2	28.9	39.4	82.5	
13	54. Quick promotions.	5.37	12.3	3.8	4.2	4.2	13.8	19.9	20.4	33.6	73.9	
11	55. Opportunities for personal growth and development in my job.	5.80	8.2	2.3	2.7	3.1	8.8	13.0	27.9	42.1	83.0	
2	56. A sense of worthwhile accomplishment in my work.	6.26	3.4	0.7	1.1	1.6	4.4	9.7	25.9	56.6	92.2	
14	57. Remaining in my specialized area as opposed to being promoted out of my area of expertise.	4.98	18.8	5.3	4.9	8.6	20.2	16.1	18.1	26.7	61.0	
15	58. Opportunities to be involved with other types of work in addition to my main duties (driving).	4.88	19.3	6.0	5.5	7.8	18.8	20.0	20.6	21.3	61.9	
8	59. Supervisors that value my opinion.	6.04	5.9	1.9	2.2	1.8	4.8	11.5	28.7	49.1	89.3	
3	60. Supervisors that deal with the problems I bring to them.	6.22	4.3	2.1	1.2	1.0	5.5	7.0	24.9	58.4	90.2	

The empirical evidence from this section of the report would seem to further support the notion that drivers desire a career path, and are psychologically suited for job enrichment. This question is addressed more specifically in the next section.

The general picture that is generated by the previous discussion of the general/overall results is lacking in a quantitative methodology to more accurately interpret what the results of the survey mean, and also is deficient in a mechanism for comparing drivers' perceptions with those of employees in other job families. The subsequent sections will attempt to address these shortcomings of the raw data.

Core Job Characteristics

The first research objective was based on drivers' perceptions, to determine the motivating potential of the job of a truckload driver. In other words, did the job exhibit the five core job characteristics in sufficient strength to qualify as a job with high motivating potential. This is accomplished by evaluating a combination of questions in the survey that reflect the five desirable characteristics of a job described in the Job Characteristics Model. Combined means for selected survey questions and the actual mean and distribution of each question are included in the analysis (Table 10). Further, a set of four criteria have been adopted to help determine if the job of a truckload driver has the required core job characteristics in sufficient strengths to qualify as a motivating job:

- (1) A preponderance of the respondents indicate that the job characteristics do exist.²⁴
- (2) The combined mean of the questions compares favorably with the means of other job families.
- (3) The combined mean of the questions compares favorably with normative data developed from previous studies.
- (4) The job has a high Motivating Potential Score (MPS) relative to other job families and national norms.

You will note from Table 9 that one of the five core job characteristics, feedback, has been subdivided into two separate types of feedback: (1) feedback from the job itself, and (2) feedback from agents; i.e., supervisors. This was done to allow for a differentiation between the automatic feedback that one receives from the job itself; e.g., was the load delivered on time, at the right place, in acceptable condition; versus feedback resulting from supervisors, which management has control over.

²⁴That is, a majority of drivers report 5 to 7 in the selected questions (1 to 3 in the reverse scored questions).

Drivers indicated that they perceived a substantial amount of skill variety in the job of a truckload driver. The average response for the two questions that related to skill variety was 5.1 out of a range of one to seven.²⁵ They also had a positive view of task identity (completing an entire identifiable piece of the work). Drivers had an average mean response to questions three and 11 of 5.3 indicating that a majority believe that they can identify with a complete distinguishable part of the work they can be judged on.²⁶ Ninety-one percent of drivers thought there was some to a great deal of task identity associated with the job in question 11, and 84 percent in question 3. Drivers were even more positive about the significance of the work indicated by an average mean of 6.2 for questions eight and 13. More than 90 percent of the drivers thought there was some to a great deal of task significance associated with their job.

Table 10. Statistical Measures for Core Job Characteristics for OTR Truckload Driving, Comparisons with Other Occupations, and Normative Data.

Occupation	Skill Variety	Task Identity	Task Significance	Autonomy	Feedback		Motivating Potential Score
					From Job	From Agents	
	Mean Value (Range = 1 to 7)						(MPS)
OTR Truckload Driver	5.1 (1.3)*	5.3 (1.3)*	6.2 (1.0)*	5.4 (1.4)*	4.9 (1.5)*	3.8 (1.7)*	156
Professional/Technical	5.4	5.1	5.6	5.4	5.1	4.2	154
Managerial	5.6	4.7	5.8	5.4	5.2	4.4	156
Clerical	4.0	4.7	5.3	4.5	4.6	4.0	106
Sales	4.8	4.4	5.5	4.8	5.4	3.6	146
Service	5.0	4.7	5.7	5.0	5.1	3.8	152
Processing	4.2	4.3	5.3	4.5	4.7	3.6	105
Machine Trades	5.1	4.9	5.6	4.9	4.9	3.8	136

²⁵Questions one and five in section 1 of the driver survey.

²⁶It needs to be pointed out that certain questions are reversed scored to provide appropriate comparisons among all the questions; e.g., questions 3, 5, 6, 7, 9, and 13.

Bench Work	4.2	4.5	5.8	4.6	4.4	4.2	110
Structural Work	5.2	5.1	5.5	5.0	4.9	4.5	141
Normative Data	4.7	4.7	5.5	4.9	4.9	4.1	128

*Standard Deviation

Source: Hackman and Oldham, Work redesign, Addison-Wesley, 1980, p. 317.

Autonomy also was perceived by drivers as having presence in the job, questions nine and 13. Eighty percent of the drivers indicated that their job gave them a chance to use some or a great deal of personal initiative or judgement, and 90 percent of the drivers felt that they had independence and freedom in how they do their work. The average mean of these two questions of 5.4 also is a good indicator that autonomy is present in the job.

The feedback job characteristic was much more mixed than the other four characteristics cited. As mentioned earlier, feedback was subdivided into two categories, *feedback from the job* and *feedback from agents*. A majority of drivers, 84 percent, sensed that doing the job provided many chances for them to figure out how they were doing. The mean score for this question, number four, was 4.9. However, the reverse was true for feedback from agents. The average mean for the two questions (7 and 10) related to this job characteristic was 3.8 in a range of one to seven. Forty-five percent of the respondents agreed or strongly agreed that supervisors almost never give them feedback on how they are doing their job. Additionally, 47 percent of the drivers similarly perceived that they do not think that supervisors tell them how well they are doing their job. The good news is that feedback from agents (supervisors) can be affected by company culture and corresponding policy. Thus, even though it ranked poorly, it should be able to be corrected if the corporate will is there. It appears that a majority of the drivers surveyed felt that the five core job characteristics were present in the job of a truckload driver.

Additionally, driver responses compared favorably with the normative data, combined responses from other studies (Figure 6). The means expressed by drivers exceeded the normative means from 876 different jobs in all but one area — feedback.²⁷ Drivers perceived that their jobs had a greater degree of skill variety, task identity, task significance, and autonomy than the average of the jobs included in the normative data. In the remaining category, feedback from the job, drivers believed they had the same amount as the average of other jobs. The only area where truckload driving did not exceed the national norms was in the area of feedback from agents. As stated earlier, this should not pose a problem because it is within the power of the company to address this issue.

A comparison with the individual mean values of the other job families also is elucidating. Standardized data from previous work by Hackman and Oldham were used to make this assessment.²⁸ A comparison of the drivers' mean values of the first four job characteristics with the means of other job families would seem to indicate that the job of driving compared favorably with or exceeded those in the other job families. The job of driving had more skill variety than clerical, sales, service, processing, and bench work. Only professional/technical and managerial jobs had greater skill variety. Similarly, the truckload driving job had greater task identity and significance than any of the other job families. Also, truckload driving exhibited job autonomy equal to professional/technical and managerial and exceeded the autonomy in all the other job categories. It should be pointed out that since not all of the questions from the JDS were included in this study, as was mentioned earlier, that there may be some concern regarding validity, with comparisons with other job families. However, recognizing this possible limitation, it does appear that the truckload job compares favorably with other jobs.

²⁷op. cit., Hackman and Oldham, pp. 104-105.

²⁸ibid., p. 317.

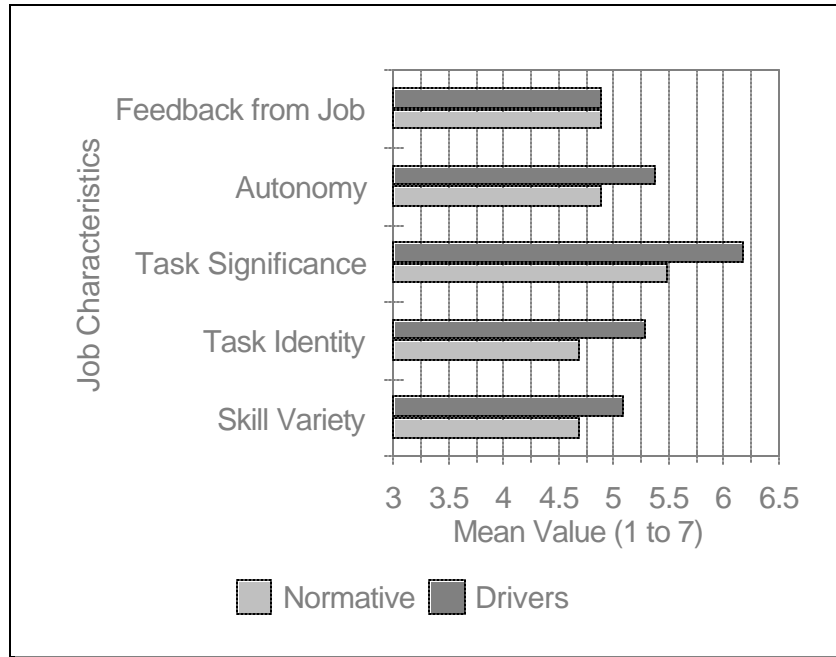


Figure 6. Drivers' Perceptions of Job Characteristics Present in their Job Compared to Normative Data

The feedback characteristic from the job was similar to that in other jobs. However, feedback from agents was lower than other jobs in a number of instances. This would suggest that this might also be an industry problem as well as a characteristic of normal human behavior, an industry problem.

The driver means also were compared with normative data collected from 876 jobs in 56 organizations. The means of drivers compared more than favorably with the normative data (Figure 6). The drivers identified their jobs as having greater skill variety, task identity, task significance, and autonomy than the norm. Additionally, feedback from the job was ranked equal with the national norm.

The preponderance of positive responses indicating that their job has the necessary characteristics to qualify as a potential for job enrichment in combination with the comparison with the normative data would seem to strongly indicate that the job of a truckload has the five core job

characteristics necessary for job enrichment. This conclusion is further buttressed by the general evaluation of the drivers' responses from questions 12 through 13.

The driver survey data and analysis relative to the five job characteristics as well as the comparison with other job families and the normative data would seem to indicate that the motivating potential of a truckload driving job might be quite high. The next step is to apply a quantitative method for scoring the motivating potential of the job that can be compared with other job families and normative data. This is accomplished by developing a method for calculating an index number that would reflect the motivating potential of the job. This method is prescribed in Hackman and Oldham and is identified as the Motivating Potential Score (MPS).²⁹ The quantitative method for determining the MPS of a specific job is calculated using those respondents that receive a value for each of the skill variety, task identification, task significance, autonomy, and feedback from the job variables. These variables are then combined according to the following formula:

$$MPS = \frac{Skill\ Variety + Task\ ID + Task\ Sig.}{3} \bullet Autonomy \bullet Feedback\ Job$$

The motivating potential score (MPS) for the job of OTR driving for the respondents in this study is 156 (Table 9). This in itself is of little value, but does take on significant meaning when compared to the average MPS for other job families. The MPS of the job of a truckload driver was equal to that of management and slightly exceeded that of professional/technical. Further, the motivating potential score exceeds that in the remaining seven job families, and by significant amounts in three of the job families; clerical, processing, and bench work. In addition, the MPS for driving exceeded that of the normative MPS by a substantial amount, 156 compared to 128 (Table 10).

²⁹ibid., p. 306.

The MPS analysis along with the comparison of the means of different occupations would indicate that the truckload driving job has the five core job characteristics necessary for a job with the potential to motivate the individual worker. In fact, it appears that the OTR driving job has greater motivating potential relative to many other occupations, and significantly greater motivating potential than a number of other job families. It is interesting to note that the motivating potential for truckload driving job is very similar to that of professional/technical and management.

It appears that one could safely conclude from the data and analysis that the job of a truckload driver satisfies the necessary conditions of a job that has high motivating potential. The next challenge is to determine how drivers would react, positively or negatively, to potential job enrichment, objective 2.

Critical Psychological States

Determining how drivers would react to potential job enrichment was accomplished by assessing whether or not the job characteristics lead to the three critical psychological states for drivers and eventually result in affective outcomes. Additionally, the drivers' context satisfaction with the job and the individual growth needs strength will be evaluated. Three criteria were used to determine if the job resulted in drivers experiencing meaningfulness in their work. The first three criteria, as listed below, used in the previous evaluation were also used to evaluate if the drivers did experience the critical psychological states.

- (1) A preponderance of the respondents indicate that the job characteristics do exist.³⁰
- (2) The combined mean of the questions compares favorably with the means of other job families.

³⁰That is, a majority of drivers report 5 to 7 in the selected questions (1 to 3 in the reverse scored questions).

- (3) The combined mean of the questions compares favorably with normative data developed from previous studies.

Drivers indicated that they experienced all three of the critical psychological states: they experience meaningfulness of the work, experienced responsibility for the outcomes, and have knowledge of the results, but to varying degrees. According to the model, meaningfulness comes from the three job characteristics of skill variety, task identity, and task significance. Drivers, as was concluded earlier, feel that their job embodies these three characteristics. Questions 16 and 19 were evaluated to determine if drivers actually experience meaningfulness that would normally result from the three characteristics of the job itself.³¹ Eighty-three percent of the drivers believed that the things that they do are important, only 9 percent thought they were meaningless (question 16). Further, 80 percent of the drivers feel that the work they do is meaningful to them. This data would meet the first criteria for whether or not drivers experience the critical psychological states.

The combined mean of questions 16 and 19 was 5.7 within the possible range of 1 to 7, with 7 indicating the maximum degree of meaningfulness experienced (Table 11). This in itself would be a strong indicator that drivers experience meaningfulness in their jobs. In addition, this value compares favorably with other job families. Drivers experience more meaningfulness in their jobs than any of the nine other job families, including management and professional. This further supports the contention that drivers do indeed experience meaningfulness in their job.

Finally, the mean value of experiencing meaningfulness by drivers exceeds that found in the normative data, 5.7 compared to 5.0. All three criteria that were proposed were met. It seems almost certain that drivers do experience meaningfulness resulting from the three related core job characteristics.

³¹Q 16: Most of the things I have to do on this job seem useless or trivial. (reverse scored), Q 19: The work I do on this job is very meaningful to me.

The second psychological state, experiencing responsibility for the outcomes of the work, was evaluated by analyzing the data from questions 14, 20, 24, and 27.³² A small percent of the drivers, 7 percent, thought it was hard to care about how the job was done, 95 percent experienced a high degree of personal responsibility, 78 percent felt that they should take the credit or blame for how the job was done, and 83 percent thought that whether or not the job got done was clearly their responsibility. This data clearly indicates that a preponderance of the drivers do experience the second state of responsibility.

The second and third criteria were evaluated, as was in the previous section, by calculating the combined mean of the questions identified previously. The combined mean value from the responses to these questions was calculated as 6.0. Driver experience of responsibility, on average, was greater than any of the other nine job families whose mean value ranged from 5.1 to 5.8. Additionally, drivers experience greater responsibility than the average of the people in the jobs reflected in the normative data. It seems quite clear that drivers do experience responsibility in their jobs.

Table 11. Statistical Measures of Critical Psychological States and Affective Outcomes for OTR Truckload Driving and Comparisons with Other Occupations.

Occupation	Critical Psychological States		
	Experienced Meaningfulness	Experienced Responsibility	Knowledge of Results of Work
Mean Value (Range = 1 to 7)			
OTR Truckload Driver	5.7 (1.2)*	6.0 (1.0)*	5.3 (1.4)*
Professional/Technical	5.4	5.8	5.0
Managerial	5.5	5.7	5.0
Clerical	4.9	5.3	4.9
Sales	4.9	5.5	5.0

³² Q 14: It's hard, on this job, for me to care very much about whether or not the work gets done right. (Reverse Scored), Q 20: I feel a very high degree of **personal** responsibility for the work I do on this job., Q 24: I feel I should personally take the credit or blame for the results of my work on this job., Q 27: Whether or not this job gets done right is clearly my responsibility.

Service	5.2	5.6	5.0
Processing	5.0	5.2	5.1
Machine Trades	5.3	5.4	5.3
Bench Work	5.3	5.4	4.9
Structural Work	5.2	5.1	5.2
Normative Data	5.2	5.5	5.0

*Standard Deviation

Source: Hackman and Oldham, Work redesign, Addison-Wesley, 1980, p. 317.

The third psychological state evaluated was whether or not drivers experienced knowledge of the results of their work. To answer this, the responses from question 17, “I usually know whether or not my work is satisfactory on this job” and question 23, “I often have trouble figuring out whether I am doing well or poorly on this job” were evaluated using the same three criteria.

Seventy-six percent of the respondents indicated that they knew if their work was satisfactory or not, and only 18 percent thought that it was difficult to figure out how they were doing. Although this is not as strong as the other two states, it certainly qualifies as a preponderance of the drivers. One possible reason for fewer drivers indicating that they did not experience this state as much as the other two might be that younger drivers with less experience weren’t quite sure of how to self evaluate themselves. This could be evaluated from the existing data in future work.

Additionally, the combined mean of questions 17 and 23 compared favorably with the means from other job families as well as with the means from the normative data. The mean value for drivers was 5.3 in a range of 1 to 7. This compared with a mean of the normative data of 5.0. In addition, the driver mean exceeded that of eight out of the nine other job families and was equal to the ninth. It seems quite certain from this analysis that drivers do experience the knowledge of the results of their work.

The research objective evaluated in this section was whether drivers would react positively or negatively to the core job characteristics. The data indicates that they do experience all three of the

critical psychological states and thus are presumed to react positively to job enrichment. Thus far we know that the core job characteristics exist and drivers experience the three critical psychological states. However, we do not know if these two conditions lead to the affective outcomes. This is critical, for it would be disastrous if an enriched job was filled by people who had neither the desire nor the capability of performing in an enriched job environment. The next step then is to determine if drivers experience outcomes predicted by the presence of the psychological states.

Affective Outcomes

Evaluating the outcomes was accomplished by using the same criteria that was used for evaluating the psychological states. The specific outcomes assessed consisted of general satisfaction with their job, internal work motivation, and growth satisfaction. General satisfaction refers to the degree to which they are predominately satisfied in combination with thoughts of quitting. Growth satisfaction refers to drivers' opportunities for personal learning and growth at work. Internal work motivation is a measure of how much personal satisfaction a driver receives from performing a job.

General satisfaction was based on the responses to question 15, *Generally speaking I am very satisfied with this job*; question 25, *I am generally satisfied with the kind of work I do in this job* and; question 21, *I frequently think of quitting this job*. Seventy-six percent of the drivers reported that they were somewhat to very satisfied with their job (Table 7). This compared to only 12 percent who indicated dissatisfaction (12 percent were neutral). Further, 88 percent of the drivers indicated they were somewhat to very much generally satisfied with the kind of work they do. Only 4 percent reported dissatisfaction with the kind of work they do. However, this pattern did not continue for the question regarding thinking of quitting. Although 56 percent of the drivers do not think of quitting too often, 28 percent did. Additionally,

15 percent thought about quitting often enough to rate it in the middle (4). This raises an interesting question, if drivers are satisfied with their job and the work it entails, why do so many of them have thoughts of quitting?

The combined means of the three questions regarding general satisfaction were also compared with other job families and also the normative data. The mean value for drivers, 5.3, compared favorably with both sets of data (Table 12). On the average, drivers' general satisfaction exceeded the average level of satisfaction in each of the other nine job families. In addition, it also exceeded the average level of satisfaction observed in the normative data.

One could conclude, from the relevant data, that drivers are generally satisfied with the work. However, if this is true, why are so many of them thinking of quitting, and why is turnover so high? There appears to be an unexplained contradiction. The conclusion is accepted for the moment that drivers do experience general satisfaction in their job, and an attempt will be made in the remainder of this report to explain this contradiction.

The second outcome evaluated, growth satisfaction, was based on question 30, *The amount of personal growth and development I get in doing my job*; question 33, *The feeling of accomplishment I get from doing my job*; question 39, *The amount of independent thought and action I can exercise in my job*; and question 43, *The amount of challenge in my job*. Drivers were mixed on whether or not they were satisfied with the amount of personal growth they got from doing their job. Forty-two percent indicated that they were somewhat to very satisfied with growth from their job, while 30 percent reported just the opposite. Further, 27 percent of the drivers indicated they were somewhere in-between being satisfied and unsatisfied with this aspect of their job. Of all the questions analyzed in this section thus far, this question exhibited the greater degree of balance between like and dislike. It may indicate that a lack of opportunity for growth is a problem.

A preponderance of the drivers reported positive levels of satisfaction from the other factors defined in the remaining three questions. Likewise, the combined means of the four questions compared quite well with the other nine job families and the normative data (Table 12). It could be concluded that drivers are satisfied with the amount of growth they experience from their job except for the issue raised from question 30. A more appropriate conclusion might be that drivers do experience a degree of satisfaction, however, this outcome is somewhat deficient because of the lack of opportunity for personal growth.

The final outcome assessed was internal work motivation. This was evaluated by analyzing the responses to question 18, *I feel a great sense of personal satisfaction when I do this job well*; question 22, *I feel bad or unhappy when I discover that I have performed poorly on this job*; and question 26, *My own feelings generally are not affected much one way or the other by how well I do on this job*. A significant majority of drivers experienced a sense of personal satisfaction from doing the job well, 90 percent, experienced unhappiness and felt bad when then performed poorly, 77 percent, and indicated that their feelings were affected by how well they do their job, 79 percent.

Again, the preponderance of drivers reported positive feelings. These results also were compared with other job families and the normative data. The combined mean for drivers was equal to or greater than the nine job families. The mean for internal work exceeded the norm, 5.8 compared to 5.6. One would conclude from this evidence that drivers do exhibit a high degree of internal work motivation.

Table 12. Statistical Measures of Affective Outcomes for OTR Truckload Driving and Comparisons with Other Occupations.

Occupation	Outcomes		
	General Satisfaction	Growth Satisfaction	Internal Work Motivation
	Mean Value (Range = 1 to 7)		
OTR Truckload Driver	5.3 (1.2)*	5.1 (1.2)*	5.8 (1.1)*
Professional/Technical	4.9	5.1	5.8
Managerial	4.9	5.3	5.8
Clerical	4.5	4.6	5.4
Sales	4.4	4.5	5.7
Service	4.6	4.9	5.7
Processing	4.6	4.7	5.3
Machine Trades	4.9	4.8	5.6
Bench Work	4.7	4.4	5.5
Structural Work	4.9	5.0	5.6
Normative Data	4.7	4.8	5.6

*Standard Deviation

Source: Hackman and Oldham, Work redesign, Addison-Wesley, 1980, p. 317.

Moderators

The fourth and last major component of the conceptual Job Characteristics Model, Moderators, also was evaluated. The moderators influence how a driver will react to attempts to enrich their job. This specific analysis determined if drivers would react positively to further enrichment of their job. Two of the three moderators identified in the model were assessed, (1) growth needs strength, and (2) context satisfaction.

The growth needs strength measured the need for drivers to continue to personally develop new skills and grow intellectually as part of their job. The growth needs strength was assessed by analyzing questions 47, 48, 51, 53, 55, and 56 (Table 8). These questions focused on what drivers would like. A

separate section of the JDS which focused on alternative choices among job characteristics; e.g., between pay and responsibility, was not used in this study. Eighty-nine percent of the drivers would like the stimulating and challenging work of a truckload driver, 92 percent would like the chance to exercise independent thought and action, 90 percent would enjoy opportunities to learn new things from their job, 82 percent desire opportunities to be creative and imaginative, 83 percent want opportunities for personal growth, and 92 percent of the drivers desire a worthwhile sense of accomplishment in their work. Not only do the majority of drivers reflect a need for growth to some or a great degree, no less than 40 percent, and as many as 57 percent of the drivers indicated a strong desire for these growth characteristics.

The assessment was further augmented by comparing the mean of the growth needs strength of drivers with other job families. The mean value of the growth needs strength of drivers was exceeded only by three other job families in this analysis, professional/technical, sales, and service (Figure 8). Even

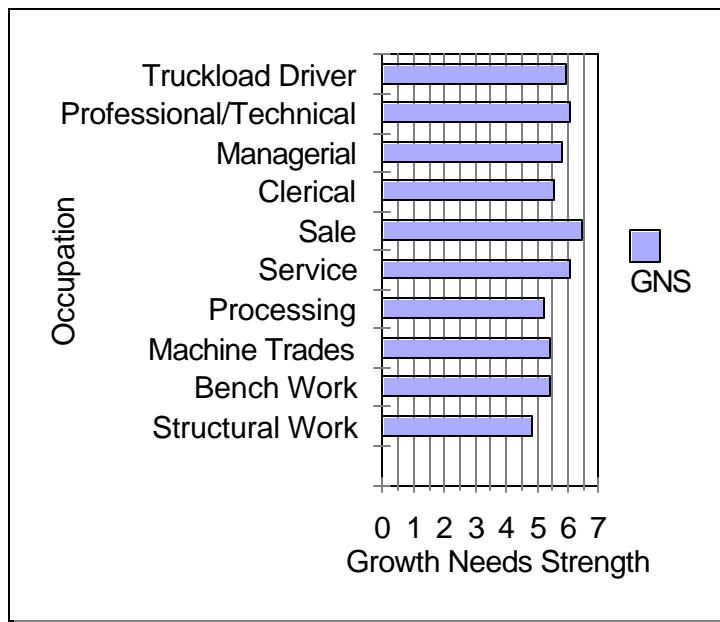


Figure 8. Growth Needs Strength of Drivers Compared with Other Occupations.

at that, two of the occupations mean value exceeded drivers by only 0.10, professional/technical and service (Table 13). Sales was the only category that appeared significantly higher. Both the review of the frequencies and the comparison with other job families would strongly suggest that drivers exhibit strong growth needs that are on par with managerial/professional/sales jobs.

Context satisfaction was the other moderator evaluated. As was noted earlier, context satisfaction, which Herzberg identified as hygiene factors, will influence how drivers would react to job enrichment. Context satisfaction deals with how satisfied drivers are with job security, compensation, co-workers, and supervisors (Table 13).

Job security was analyzed by examining the frequencies of questions 28 and 40, and comparing the combined mean of the responses to these two questions with the standardized data from the job families as well as the normative data. Seventy-two percent of the drivers were “somewhat to very satisfied” with their job security, and the same percentage thought things looked secure for them in the future. Further, the drivers’ mean value of 5.2 for the job security variable exceeded or equaled all nine comparative job families. Additionally it exceeded the mean from the normative data. With a mean value of 5.2 out of a possible range of 1 to 7 in combination with the ranking among the other data, it would appear that drivers do have a positive perception of job security.

The second factor considered in context satisfaction was compensation. Compensation was evaluated by analyzing the responses to question 29, *The amount of pay and fringe benefits I receive*, and question 37, *The degree to which I am fairly paid for what I contribute to this organization*. The greatest amount of dissatisfaction observed was with this variable. Thirty-six percent of the drivers were “somewhat to very unsatisfied” with the amount of pay and 38 percent were unsatisfied with what they were paid in comparison with what they contribute. Less than half, in each instance, indicated some degree of satisfaction with either of these.

An additional reinforcing component is the comparison with other job families and the norm which showed that drivers' satisfaction ranked with clerical, the lowest of the other nine job families.

Additionally, satisfaction with pay was lower than the norm, 4.0 versus 4.3. This would indicate that compensation is a problem and might possibly interfere with job enrichment. One way to resolve this problem, if indeed it is one, would be to increase compensation for additional responsibility. It also should be pointed out that compensation generally was ranked low in all job families compared to other categories. However, drivers not only ranked satisfaction lower than other job families, they ranked it significantly lower relative to the other factors evaluated.

Satisfaction with co-workers was evaluated by analyzing questions 31, 34, and 42. Although the responses were more positive than for compensation, they were still lower than the responses received for the other factors considered in this study. Sixty-five percent of the drivers were satisfied, to a greater or lesser degree, with the people that they talk to and work with; 70 percent liked getting to know other people on the job, and 66 percent of them were satisfied with the opportunity to help other people while at work.

Even though the responses to these questions were more positive than those related to compensation, the drivers' mean value still ranked low compared to other job families and the norm. This again would seem to indicate that there is some problem with context satisfaction both in an absolute sense as well as a relative sense.

The final factor considered was supervision. This was evaluated by analyzing questions 32, 36, and 45. The same pattern existed for this factor as for the others. Although a majority of the drivers thought they received respect and fair treatment, and support and guidance from supervisors, it was not overwhelming, 69 percent and 62 percent respectively. Further, 59 percent of the drivers were satisfied with the overall quality of supervision to some degree.

Even though drivers did not report great satisfaction with supervision, they appeared to be more satisfied with it when compared to other job families and equal to the normative data. Reviewing the data from this section on context satisfaction leads to a couple of possible conclusions. One, employees in many occupations seem to have some problems with pay, supervision, co-workers, and job security. This might indicate a cultural or economic problem, or problem inherent in the nature of human beings. Two, there is more driver dissatisfaction about compensation than any other single issue evaluated throughout this study. The question remains, can this problem be creatively resolved through the development of a career path, or will it inhibit the successful development of one.

Table 13. Statistical Measures of Drivers’ Satisfaction with their Job Context and Growth Needs Strength for OTR Truckload Driving and Comparisons with Other Occupations.

Occupation	Elements of Job Context Satisfaction				Growth Needs Strength
	Job Security	Compensation	Co-workers	Supervision	
	Mean Value (Range = 1 to 7)				
OTR Truckload Driver	5.2 (1.5)*	4.0 (1.6)*	5.1 (1.2)*	4.9 (1.5)*	6.0 (1.2)*
Professional/Technical	5.0	4.4	5.5	4.9	6.1
Managerial	5.2	4.6	5.6	5.2	5.9
Clerical	4.8	4.0	5.2	4.9	5.6
Sales	4.0	4.2	5.4	4.6	6.5
Service	4.9	4.1	5.4	4.7	6.1
Processing	4.6	4.5	5.3	4.6	5.3
Machine Trades	5.0	4.2	5.5	4.6	5.5
Bench Work	4.7	4.4	5.1	4.5	5.5
Structural Work	5.0	4.5	5.1	4.9	4.9
Normative Data	4.9	4.3	5.4	4.9	NA

Impact of Career Path on Retention/Commitment

The cumulation of data and analysis up to this point would seem to indicate that the truckload driving job has the elements of a motivating type of job, and that drivers would respond positively to these elements. The next research objective was to determine what impact a career path would have on retention and commitment to the organization. This objective was pursued by evaluating two fundamental questions: (1) would a career path have a positive effect on their behavior, and (2) did drivers feel that they were capable of assuming other business responsibilities of the truckload firm in addition to driving.

This section of the study was based on questions designed specifically for this study and not standardized questions which were used, for the most part, for analyzing the previous objectives. Thus, there is much less analytical rigor employed in determining if in fact drivers think that a career path will improve retention and commitment to the company. A simple review of the frequencies was used to evaluate this objective.

Drivers were asked several generic questions regarding how they thought a career path would influence their attitudes towards their job and company. A significant majority of respondents, 60 percent or more, reported that a career path would make them more satisfied with their job, less likely to quit, put more effort into their job, be more loyal, tell others about their company, and feel more committed to a future with their company (Table 14). A majority of drivers responded positively to all eight questions in this section of the survey. Only 10 to 20 percent responded negatively.

Table 14. Attitudes about Including Greater Developmental Opportunities and a Realistic Career Path for Drivers to Follow.

Rk	Question	\bar{x}	Percentages								5+6+7
			1+2+3	Strongly Disagree				Strongly Agree			
				1	2	3	4	5	6	7	
4	44. In general, I would be more satisfied with my job.	4.98	14.5	5.3	3.5	5.7	19.9	22.4	24.9	18.3	65.6
5	45. I would be less likely to quit my job.	4.79	20.5	7.3	5.9	7.3	19.5	18.4	23.4	18.2	60.0

Table 14. Attitudes about Including Greater Developmental Opportunities and a Realistic Career Path for Drivers to Follow.

Rk	Question	\bar{x}	Percentages								5+6+7
			1+2+3	Strongly Disagree				Strongly Agree			
				1	2	3	4	5	6	7	
6	46. I would be <i>less likely</i> to put extra effort into my job beyond what is required.**	2.77	70.4	29.0	23.9	17.5	14.2	5.9	4.4	5.1	15.4
7	47. I would be more likely to leave the organization for which I work.**	2.69	70.7	29.3	26.6	14.9	16.0	5.6	3.8	3.8	13.2
3	48. I would be more willing to put in a great deal of effort beyond that normally expected in order to help my organization be successful.	5.11	11.9	4.2	3.4	4.4	20.4	22.3	23.7	21.6	67.7
8	49. I would feel very little loyalty to the organization.**	2.57	74.0	35.6	26.2	12.2	12.4	4.1	4.4	5.2	13.6
1	50. I would be more likely to tell others that I am proud to be a part of the organization.	5.42	10.8	3.5	2.3	5.1	15.0	14.8	30.7	28.7	74.1
2	51. I would feel more committed to my job and future developmental opportunities within the organization.	5.33	10.8	3.6	3.4	3.8	16.8	18.1	26.9	27.3	72.4

A second set of questions addressed whether drivers thought they could assume other business responsibilities in addition to driving (Table 15). Drivers indicated that they were capable of assuming other business responsibilities. Drivers also personally indicated a varied and significant interest in a variety of different job responsibilities in addition to driving. Among them customer service, 60 to 68 percent, driver trainer, 40 percent, cost reduction team, 56 percent, and driver supervisor, 43 percent. In addition, three quarters of the drivers would like to learn more about the industry, 76 percent thought a career path would be good for drivers, and 80 percent thought it would be good for the company.

The evidence from these two sets of questions would indicate that drivers would react positively to job enrichment through a career path. Further, they show that drivers are capable of assuming other responsibilities in addition to driving and many of them are personally interested in a variety of different job activities. Finally, drivers feel that a career path would be good for both the company and themselves.

One could conclude from this evidence that drivers have a great deal of confidence that a career path would have positive consequences for them and the company.

Table 15. Attitudes Towards Assuming Different Business Responsibilities That Might Be Incorporated into a Career Path in Addition to Driving.

Rk	Question	\bar{x}	Percentages								5+6+7
			1+2+3	Strongly Disagree				Strongly Agree			
			1	2	3	4	5	6	7		
6	31. I believe that I could meet with customers to determine how our company is doing in customer service.	5.19	14.0	4.6	3.0	6.4	17.5	18.0	25.0	25.6	68.5
7	32. Acting as a customer service agent for my company is something I would like to do in addition to driving when I pick up and deliver loads.	4.75	22.5	10.0	6.1	6.4	16.8	19.1	20.7	20.9	60.7
1	33. Drivers could be utilized effectively in the company as trainers of new drivers and training drivers in specialized areas requiring advanced knowledge and skills.	5.77	5.7	2.2	2.1	1.4	10.8	16.7	27.7	39.1	83.4
11	34. I would like to become a driver trainer, while continuing to drive, as part of my job as a truckload driver.	3.80	45.2	25.3	10.9	8.9	15.2	10.2	11.1	18.3	39.6
2	35. Drivers could collect information valuable to the company regarding certain customers and potential customers as part of their job.	5.70	6.8	2.5	1.1	3.2	12.4	15.6	28.5	36.7	80.8
8	36. I would like to be part of a cost-reduction team that evaluated ways to reduce costs while maintaining the same level of service to customers.	4.70	22.7	9.0	6.5	7.2	21.0	15.7	20.7	19.9	56.4
9	37. Supervising other drivers, overseeing the development and performance of a small group of drivers, while continuing to drive would be a positive way of adding additional responsibilities for drivers.	4.34	31.8	15.1	7.8	8.9	16.6	16.4	17.9	17.3	51.6
10	38. I personally would be interested in becoming a driver supervisor and still drive.	3.94	42.3	22.2	10.6	9.4	14.8	11.5	14.1	17.4	43.0
5	39. I would be interested in learning about several different business aspects of the truckload carrier industry.	5.42	14.4	5.1	4.0	5.2	11.0	14.6	23.9	36.0	74.6
4	40. Overall, I believe the idea of a career path would be very good for drivers.	5.50	10.5	3.7	2.6	4.2	13.4	17.6	22.2	36.3	76.0
3	41. Overall, I believe the idea of a career path would be very good for the company.	5.65	7.5	2.9	2.5	2.1	12.4	17.7	23.8	38.6	80.1

Drivers' Attitudes about the Hypothetical Career Path

The final set of questions evaluated what drivers thought of the hypothetical career path posed in the questionnaire. The answers to this set of questions were much the same as the responses to the previous questions regarding a career path (Table 16) it is interesting to note that 81 percent of the drivers

think that not all drivers would want to move through the entire career path. This may be good since there may not be enough room at the top of the career path for the segment of drivers with enough experience and skill to qualify for the top echelon.

Table 16. Drivers' Attitudes Towards General Aspects of the Proposed Career Path and Its Influence on Behavior.

Rk	Question	\bar{x}	Percentages								5+6+7
			1+2+3	Strongly Disagree			Strongly Agree				
			1	2	3	4	5	6	7		
8	1. A career path similar to the one suggested in the diagram would make me feel better about my job as a truckload driver.	4.84	19.6	7.0	7.0	5.6	20.7	17.1	20.3	22.4	59.7
9	2. I think the time periods for advancement are about right given the skills and knowledge required to become very good at the profession of truckload driving.	4.72	22.9	7.1	6.6	9.2	16.2	21.4	23.9	15.5	60.8
3	3. Not all drivers would like to move through the entire career path. Some would be satisfied with only moving part way through.	5.72	6.2	1.8	1.5	2.8	12.9	17.1	25.8	38.1	81.0
6	4. A career path, as mentioned, would make me more interested in staying with the same company for a much longer period of time.	5.04	18.2	7.0	3.8	7.4	16.1	17.1	22.4	26.1	65.6
7	5. I believe that a career path could reduce driver turnover in the truckload carrier industry.	4.87	22.3	8.3	5.5	8.5	15.7	16.5	21.4	24.1	62.0
1	6. Promotion through such a career path should be based on performance, achievement of additional knowledge and skills, and additional responsibility; not just time with the company.	6.01	4.9	1.7	1.1	2.1	8.4	10.8	27.7	48.2	86.7
4	7. Cross-training in the various business responsibilities would be desirable.	5.51	11.6	3.1	4.1	4.5	11.2	15.3	27.6	34.2	77.1
5	8. I like the idea of integrating the driver into other aspects of the business.	5.44	12.9	3.6	3.4	5.9	13.2	14.4	25.4	34.1	73.9
2	9. I am capable of making a much greater contribution to the success of the company if given the chance and proper training.	5.88	5.9	2.4	1.4	2.1	10.7	11.8	27.0	44.7	83.4

Another interesting point is that 87 percent of the drivers agreed that a career path should be performance based, question 6. This is consistent with the earlier evidence that drivers have a high growth needs strength. Drivers also were receptive to cross training, integrating them into other aspects of the business, thought that they could contribute much more to the company, and thought a career path would make them more interested in staying with the company.

Finally, they were quite specific about the hypothetical career path described in the questionnaire. Seventy percent of the drivers indicated that it would make them feel better about their job as a truckload driver, question 1. Only 20 percent disagreed with that statement. It should be noted that does not necessarily mean that 20 percent would feel worse about their job as a driver.

It appears from the evidence provided to address the last two objectives that drivers would react quite positively toward development of a career path. Additionally, it seems that the hypothetical career path proposed would be suitable in some form.

Managers' Perceptions of Drivers' Attitudes

The last research objective was to ascertain if managers' perceptions of a career path were similar to those of drivers. Managers were asked to indicate how they thought drivers felt about certain aspects of the job. Thus drivers' attitudes were compared with managers' perceptions of drivers' attitudes. The essence of this exercise was to determine how well managers understood drivers and their job. Two basic areas were evaluated: (1) the characteristics of the job of a truckload driver, and (2) the desire by drivers for specific characteristics in their job. Managers' and drivers' perceptions of the characteristics of the job were very similar with one important difference—the same was not true for what drivers perceived as important in their job.

Managers were asked the same questions as drivers regarding the presence of the selected job characteristics of skill variety, task identity, task significance, autonomy, and feedback from the job, in the job of a truckload driver. Managers nearly mirrored drivers' perceptions of the existence of these qualities in the truckload driving job (Figure 9.)

Additionally, feedback from agents or supervisors and dealing with others also were compared. Feedback from agents refers to the degree to which the driver received clear information about their

performance from supervisors. Dealing with others refers to the degree to which the driver has to work with other people to get the job done. Managers perceived the nature of the job nearly the same as drivers

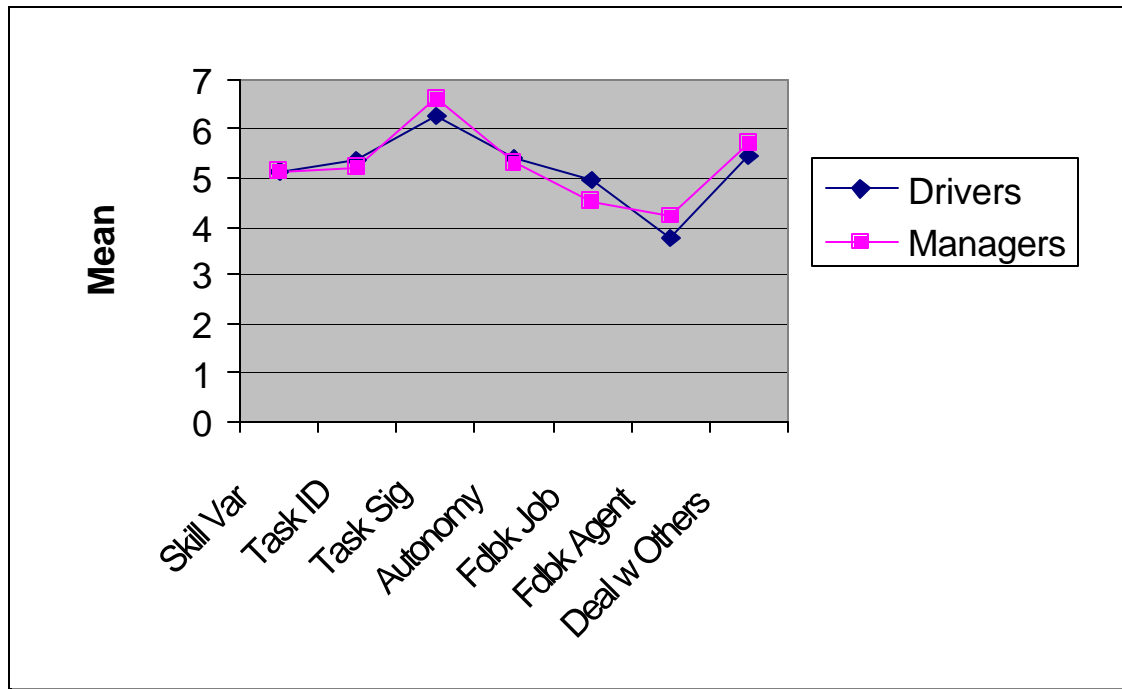


Figure 9. Drivers' and Managers' Perceptions of the Characteristics of a Truckload Driving Job

in these two areas. However it should be noted that managers perceived the presence of these characteristics slightly less than drivers, except in the instance of feedback from supervisors. In this case, managers thought that there was more feedback than drivers perceived.

However, there was a difference in how managers and drivers perceived the motivating potential of the job. The MPS (Motivating Potential Score) for the job as perceived by managers was somewhat less than that perceived by drivers, 138 compared to 156 respectively. This does raise the question of

whether managers underestimate the motivational aspects of the job. If this is true to any great extent, it would have implications for enriching the job of truckload driving.

The second factor evaluated how drivers felt about certain selected attributes in a job. Managers underrated drivers' perceptions in a number of the attributes in this section. For example, 72 percent of the managers thought that drivers would like stimulating and challenging work, whereas 89 percent of the drivers indicated a preference for such a characteristic in their job. The difference in the means also was significant, 5.12 versus 5.96 respectively (Table 17). This same pattern of underrating the drivers' desire for positive job attributes also was observed for: (1) chances to exercise independent judgement, (2) opportunities to learn new things, (3) opportunities to be creative and imaginative, (4) opportunities for personal growth, and (5) opportunities to be involved with other types of work in addition to driving among other things.

Although there were some similarities in areas such as sense of worthwhileness and high salary and fringe benefits, which one would normally expect, the differences should be somewhat disturbing for the industry. For instance, only 38 percent of the managers thought drivers would be interested in working in other areas in addition to driving, while 62 percent of drivers indicated they were. Sixty-four percent of the managers thought drivers would be interested in opportunities for personal growth compared to 83 percent of the drivers. This would seem to indicate that managers do not have a good appreciation for the desires of drivers to grow in their job and to make an increased contribution to the company. This may not be unique to the trucking industry. No data are available to make any such comparisons.

Table 17. Comparison of Managers' Perceptions of Drivers' Attitudes

Drivers: Indicate the degree to which you would like to have each characteristic below present in your job. (Scale: 1=Strongly Dislike to 7=Strongly Like)

Managers: Indicate the degree to which you believe each characteristic is important in the truckload driving job. (Scale: 1=Not Important to 7=Very Important)

Question	Drivers			Managers			Difference in Means	p-value
	Rank	5+6+7	Mean	Rank	5+6+7	Mean		
46. High respect and fair treatment from my [the driver's] supervisor.	3	91.1	6.20	1	98.2	6.42	-0.22	0.0080
47. Stimulating and challenging work.	8	88.6	5.96	7	71.7	5.12	0.84	0.0001
48. Chances to exercise independent thought and action in my [his/her] job.	5	92.0	6.17	4	87.6	5.46	0.71	0.0001
49. [Great] job security.	1	91.4	6.30	6	70.8	5.17	1.13	0.0001
50. Very friendly co-workers.	7	87.1	6.02	5	73.5	5.25	0.77	0.0001
51. Opportunities to learn new things from my [his/her] work.	6	89.9	6.14	8	69.9	5.00	1.14	0.0001
52. High salary and good fringe benefits.	4	88.5	6.19	3	93.8	5.88	0.31	0.0030
53. Opportunities to be creative and imaginative in my [his/her] work.	10	82.5	5.80	9	67.3	4.85	0.95	0.0001
54. Quick promotions.	11	73.9	5.37	13	31.9	4.12	1.25	0.0001
55. Opportunities for personal growth and development in my [his/her] job.	9	83.0	5.80	10	63.7	4.81	0.99	0.0001
56. A sense of worthwhile accomplishment in my [his/her] work.	2	92.2	6.26	2	95.6	6.04	0.22	0.0228
57. Remaining in my [his/her] specialized area as opposed to being promoted out of my [his/her] area of expertise.	12	61.0	4.98	11	45.1	4.44	0.54	0.0001
58. Opportunities to be involved with other types of work in addition to my [his/her] main duties (driving).	13	61.9	4.88	12	38.4	4.15	0.73	0.0001

The evidence assembled in this study is comprehensive and intensive. And although the quantitative rigor is limited by the nature of the study, the results seem to point in the same general direction. That direction is discussed in detail in the following section.

CONCLUSIONS

As stated initially, the major goal of this study was to determine if an appropriately designed career path for drivers will improve retention. There were two related questions that are central to this goal. The first question was: “How can *the work of the driver* be structured so that it is performed effectively and, at the same time, jobholders find the work personally rewarding and satisfying?”³³ The underpinning assumption was that drivers that find their work rewarding and satisfying will tend to stay with the firm longer and thus improve retention. The second question was: How would drivers react to a career path? The answer to this second question will ascertain, to some degree, the validity of the stated underpinning assumption. These two questions lead to the several research objectives stated earlier, which were individually analyzed and are identified below for the convenience of the reader.

1. Determine the motivating potential for the job of an OTR truckload driver by evaluating if five core job characteristics are present that lead to critical psychological states.
2. Identify whether drivers experience the three critical psychological states that lead to affective outcomes.
3. Identify if drivers display the affective outcomes of high general satisfaction, high internal work motivation, and high growth satisfaction.
4. Determine how drivers might react to job enrichment by evaluating their growth needs strength and context satisfaction.
5. Ascertain whether drivers believe that a career path will improve retention/commitment.
6. Specify to what extent drivers agree with the components of the hypothetical career path presented in the survey.

³³Op. Cit., Hackman and Oldham, p. 71. Italics indicates text that has been added.

7. Identify the extent to which drivers and truckload company managers differ in terms of their perceptions of a career path.

The first four objectives pertain to the first central question. The next two objectives, 5 and 6, relate to the second question.

The methodology that was used to answer these questions was distribution of a survey that included most of the items from Hackman and Oldham's Job Diagnostic Survey (JDS) as well as a set of separate questions designed specifically for this study.

The JDS was designed to be used for diagnosing jobs before initiating any type of work redesign, and in planning whether and how the redesign should proceed. In deciding to use this survey for this study, project investigators were trying to determine whether the motivating potential of the job was perceived to be high by individuals currently in the job of driver. Using the JDS also allowed some crude comparisons of this job to jobs in other industries. The findings of this study showed that not only were the core characteristics of this job perceived favorably, but also on average, levels of autonomy, task significance, task identity, and skill variety were perceived to be higher than in jobs from other industries. Findings also suggested that drivers in this sample that experienced the three critical psychological states resulting from the presence of the core job characteristics. Additionally, the drivers' responses did show the predicted effective outcomes of general satisfaction, high internal work motivation, and high growth satisfaction. Finally, the JDS analysis indicated that drivers were satisfied with their job context (work environment), with the exception of compensation, and are imbued with strong growth needs.

Another question addressed in the study was whether the career path that was presented as a possibility in the survey would be enough of an incentive for people to stay with the organization and be committed to the organization. The results of the study indicated that, in general, respondents would have lower intentions to leave their organizations and higher commitment to their organizations if their job of

driver was changed to include greater developmental opportunities. In addition, they reported strong agreement with the statement that a career path would be beneficial for both drivers and companies.

Finally, the last objective indicated that managers understood the nature of the job of a truckload driver in terms of the JDS. However, managers were not as perceptive when it came to understanding the growth needs of drivers.

The collective evidence would strongly suggest that the first hypothesis, that drivers would report positive consequences in terms of commitment to the organization and satisfaction with their jobs resulting from the implementation of driver a career path in their companies, should be accepted. However, the evidence related to the second hypothesis, that trucking company managers would report different expectations than drivers for the implementation of realistic career paths in their companies, was less conclusive. Managers do understand the psychological nature of the job, nevertheless, some managers do not have a good appreciation of the growth needs of drivers.

The overall conclusion of this study is that there is definite opportunity for truckload companies and their drivers to both gain through some form of work redesign that enriches the job. However, there are several challenges and corresponding questions that must be addressed before such an initiative should be undertaken.

OPPORTUNITIES AND CHALLENGES

There are two major opportunities that result from the inherent characteristics of the truckload driving job and the type of people currently employed in that job. The first, and most important from the perspective of the company, is the chance to substantively improve retention and thereby improve the company's competitive position. This will presumably lead to increased profitability. The second opportunity is to improve the overall satisfaction of the driver. To the extent that this results in increased self-esteem, this will benefit the individual and society in general. However two fundamental questions remain to be answered.

The first question that is still unanswered by this study concerns how career paths and developmental opportunities for drivers should be managed by companies in the commercial vehicle industry. With findings from this study suggesting benefits to both drivers and organizations resulting from job redesign and increased developmental opportunities for drivers, some individuals may be wondering what the next steps should be and how much responsibility the organization should bear.

The overwhelming consensus in the current literature is that the old conceptualization of career paths involving rigid career ladders and limited employee involvement has disappeared. In its place, more flexible development opportunities largely influenced by individual employees' specific interests and ambition have become the norm. The responsibility for employee development has shifted from belonging solely to the organization and its management to belonging jointly to the organization and the individual employees.

According to the current literature on career development, the organization and its management have the following responsibilities:

1. Developing a clear strategic plan that includes employee development
2. Training managers on how to assist in the career development process

3. Examining the company's policies on hiring, benefits, and compensation to ensure they are consistent with career development goals and programs
4. Identifying employees' areas for improvement
5. Communicating the needs and expectations of the organization
6. Development of the necessary promotion criteria and corresponding evaluation mechanisms.
7. Assisting employees in selecting appropriate career goals (there is no consensus on this)

According to the same body of literature, the individual employees have the following responsibilities for their career development:

1. Developing a clear understanding of career planning and development
2. Conducting self-analyses to determine personality characteristics and values associated with a particular career, organization, or industry
3. Distinguishing between what the individuals can do and what they want to do
4. Recognizing individuals' current status in their careers
5. Determining what individuals must do to enhance their career prospects (education, training, etc.)

Organizations who are interested in developing a career path for their drivers must keep all of this information in mind and focus on long-term changes. Organizations considering career paths and developmental opportunities for drivers also must remember that not every driver they employ will be interested in taking on greater responsibilities that are part of the career path. Furthermore, the management personnel in companies interested in implementing career paths should be aware that the organization needs to adapt in practices and processes to support changes made in the way people perform their jobs. Changing the job of driver by allowing more opportunities for independent decisions

and more responsibility for the work will not be sufficient to produce the desired changes in employee retention and commitment.

The last question is probably the most important. Will such a system pay for itself? Given the competitive nature of the industry it would be difficult to pass any increased costs resulting from implementation of a career path system on to the customer. Therefore, increases in productivity and savings resulting in a partial reduction of existing employees in existing areas that drivers would move into would have to at least cover any increased costs. These questions should be thoroughly evaluated before undertaking any effort to implement a career path for drivers. Nevertheless, the benefits seem certain enough that it should be thoroughly evaluated.

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Appendix 1
Driver Survey

Driver Survey About Career Paths

**Upper Great Plains Transportation Institute
North Dakota State University**

July 1998

INSTRUCTIONS

- (1) You will find several different kinds of questions about the job of a truckload driver on the following pages. Specific instructions are given at the start of each section. Please read carefully, and move through the questionnaire quickly.
- (2) **DO NOT** put your name on this survey to ensure confidentiality.
- (3) When you have finished, place this survey in the Business-Reply envelope (no postage is required).
- (4) Please **return this survey as soon as possible**.
- (5) Feel free to use the back of the survey, as well as any white space, for any comments you may have.

ALL RESPONSES AND COMMENTS ARE CONFIDENTIAL

THANK YOU FOR YOUR HELP

This survey is being conducted by the Upper Great Plains Transportation Institute at North Dakota State University in cooperation with the Truckload Carriers Association. If you have any questions or concerns regarding this survey, please contact Gene Griffin at (701) 231-8343.



Section 1.

The first section of this survey is to obtain important information from you as a truckload driver. You will find several different kinds of questions about your job on the following pages. Specific instructions are given at the start of each section. Please read them carefully.

Listed below are several statements which could be used to describe a job. Indicate whether you *agree or disagree* with each statement as it related to *your* job. Please try to be as objective as you can in deciding how accurately each statement describes your job — regardless of whether you like or dislike your job. (circle number)

		Strongly Disagree					Strongly Agree	
1.	The job of a truckload driver requires me to use a number of complex or high-level skills.	1	2	3	4	5	6	7
2.	The job requires a lot of cooperative work with other people.	1	2	3	4	5	6	7
3.	The job is arranged so that I do <i>not</i> have the chance to do an entire piece of work from beginning to end.	1	2	3	4	5	6	7
4.	Just doing the work required by the job provides many chances for me to figure out how well I am doing.	1	2	3	4	5	6	7
5.	The job is quite simple and repetitive	1	2	3	4	5	6	7
6.	The job can be done adequately by a person working alone — without talking or checking with others.	1	2	3	4	5	6	7
7.	The supervisors on this job almost <i>never</i> give me any “feedback” about how well I am doing in my work.	1	2	3	4	5	6	7
8.	This job is one where a lot of other people can be affected by how well the work gets done.	1	2	3	4	5	6	7
9.	The job denies me the chance to use my personal initiative or judgment in carrying out the work.	1	2	3	4	5	6	7
10.	Supervisors often let me know how well they think I am performing the job.	1	2	3	4	5	6	7
11.	The job provides me the chance to completely finish the pieces of work I begin.	1	2	3	4	5	6	7
12.	The job gives me considerable opportunity for independence and freedom in how I do the work.	1	2	3	4	5	6	7

13. The job itself is *not* very significant or important to the company. 1 2 3 4 5 6 7

Please indicate how *you personally feel about your job*. Each of the statements below is something that a person might say about his or her job. You are to indicate your own personal feelings about your job by marking how much you agree or disagree with each of the statements. (circle number)

		Strongly Disagree					Strongly Agree	
14.	It's hard, on this job, for me to care very much about whether or not the work gets done right.	1	2	3	4	5	6	7
15.	Generally speaking, I am very satisfied with this job.	1	2	3	4	5	6	7
16.	Most of the things I have to do on this job seem useless or trivial.	1	2	3	4	5	6	7
17.	I usually know whether or not my work is satisfactory on this job.	1	2	3	4	5	6	7
18.	I feel a great sense of personal satisfaction when I do this job well.	1	2	3	4	5	6	7
19.	The work I do on this job is very meaningful to me.	1	2	3	4	5	6	7
20.	I feel a very high degree of <i>personal</i> responsibility for the work I do on this job.	1	2	3	4	5	6	7
21.	I frequently think of quitting this job.	1	2	3	4	5	6	7
22.	I feel bad and unhappy when I discover that I have performed poorly on this job.	1	2	3	4	5	6	7
23.	I often have trouble figuring out whether I am doing well or poorly on this job.	1	2	3	4	5	6	7
24.	I feel I should personally take the credit or blame for the results of my work on this job.	1	2	3	4	5	6	7
25.	I am generally satisfied with the kind of work I do in this job.	1	2	3	4	5	6	7
26.	My own feelings generally are <i>not</i> affected much one way or the other by how well I do on this job.	1	2	3	4	5	6	7
27.	Whether or not this job gets done right is clearly my responsibility.	1	2	3	4	5	6	7

Please indicate how *satisfied* you are with each aspect of your job listed below. (circle number)

		Very Unsatisfied					Very Satisfied	
		1	2	3	4	5	6	7
28.	The amount of job security I have.	1	2	3	4	5	6	7
29.	The amount of pay and fringe benefits I receive.	1	2	3	4	5	6	7
30.	The amount of personal growth and development I get in doing my job.	1	2	3	4	5	6	7
31.	The people I talk to and work with on my job.	1	2	3	4	5	6	7
32.	The degree of respect and fair treatment I receive from my supervisor.	1	2	3	4	5	6	7
33.	The feeling of accomplishment I get from doing my job.	1	2	3	4	5	6	7
34.	The chance to get to know other people while on the job.	1	2	3	4	5	6	7
35.	The degree of respect and fair treatment I receive from law enforcement officials.	1	2	3	4	5	6	7
36.	The amount of support and guidance I receive from my supervisor.	1	2	3	4	5	6	7
37.	The degree to which I am fairly paid for what I contribute to this organization.	1	2	3	4	5	6	7
38.	The degree of respect and fair treatment I receive from truck stop operators.	1	2	3	4	5	6	7
39.	The amount of independent thought and action I can exercise in my job.	1	2	3	4	5	6	7
40.	How secure things look for me in the future in this organization.	1	2	3	4	5	6	7
41.	The degree of respect and fair treatment I receive from shipping dock personnel.	1	2	3	4	5	6	7
42.	The chance to help other people while at work.	1	2	3	4	5	6	7
43.	The amount of challenge in my job.	1	2	3	4	5	6	7
44.	The degree of respect and fair treatment I receive from receiving dock personnel.	1	2	3	4	5	6	7
45.	The overall quality of supervision I receive in my work.	1	2	3	4	5	6	7

Listed below are a number of characteristics which could be present on any job. We are interested in learning **how much you personally would like** to have each one present in your job. Please indicate the degree to which you **would like** to have each characteristic present in your job. (circle number)

		Strongly Dislike					Strongly Like	
46.	High respect and fair treatment from my supervisor.	1	2	3	4	5	6	7
47.	Stimulating and challenging work.	1	2	3	4	5	6	7
48.	Chances to exercise independent thought and action in my job.	1	2	3	4	5	6	7
49.	Job security.	1	2	3	4	5	6	7
50.	Very friendly co-workers.	1	2	3	4	5	6	7
51.	Opportunities to learn new things from my work.	1	2	3	4	5	6	7
52.	High salary and good fringe benefits.	1	2	3	4	5	6	7
53.	Opportunities to be creative and imaginative in my work.	1	2	3	4	5	6	7
54.	Quick promotions.	1	2	3	4	5	6	7
55.	Opportunities for personal growth and development in my job.	1	2	3	4	5	6	7
56.	A sense of worthwhile accomplishment in my work.	1	2	3	4	5	6	7
57.	Remaining in my specialized area as opposed to being promoted out of my area of expertise.	1	2	3	4	5	6	7
58.	Opportunities to be involved with other types of work in addition to my main duties (driving).	1	2	3	4	5	6	7
59.	Supervisors that value my opinion.	1	2	3	4	5	6	7
60.	Supervisors that deal with the problems I bring to them.	1	2	3	4	5	6	7

61. What do you perceive as a realistic career path for your job?

62. How would you develop a career path that involves increased skills and knowledge of driving?

63. How long do you think it would take to move through such a career path?

64. Do you think it would be possible to include other business responsibilities in addition to driving as part of a career path for drivers? Yes No

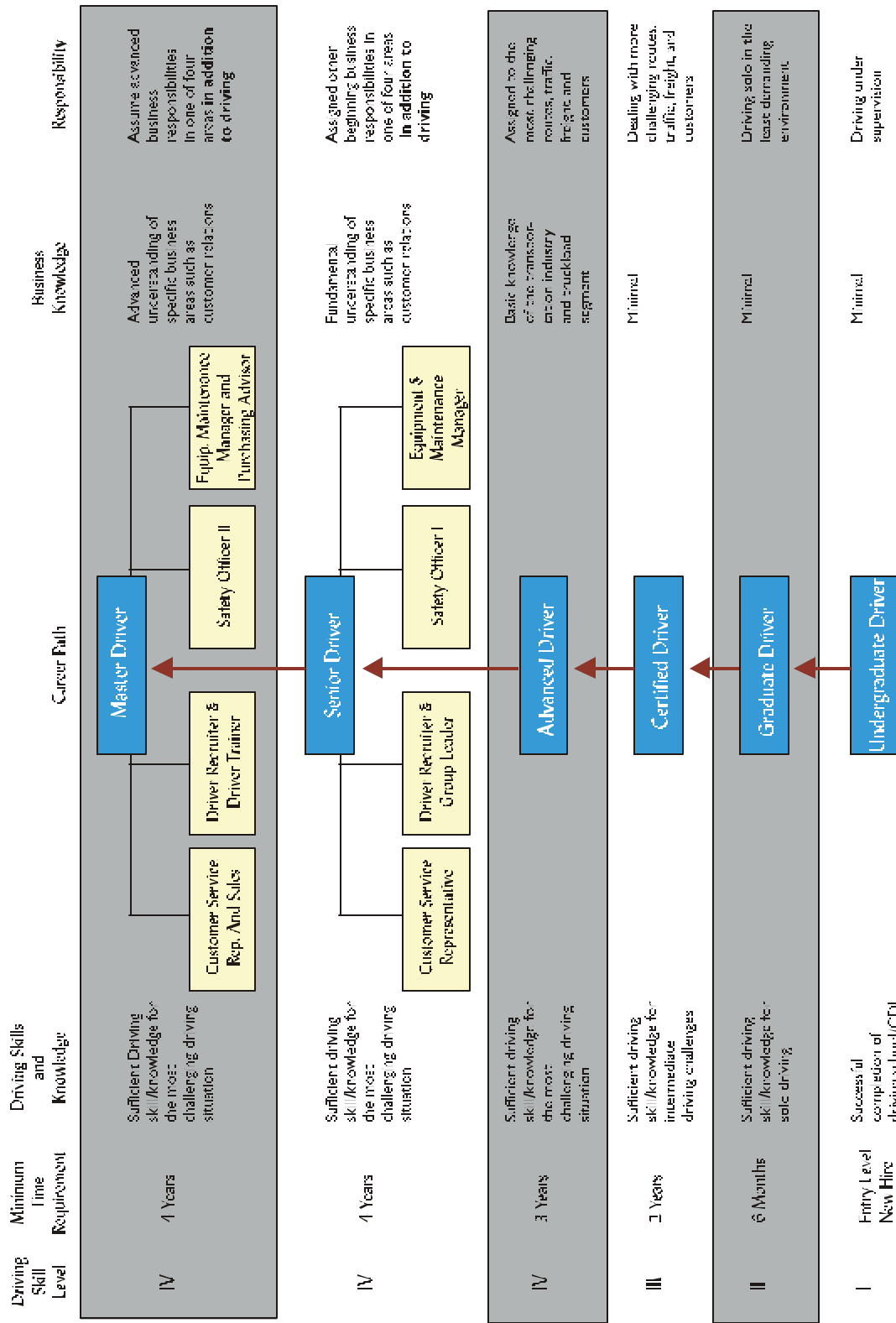
If yes, how would you accomplish this?

Section 2.

The purpose of this section is to develop an understanding of the importance of a career path to drivers and how a career path could possibly be implemented in a truckload company. It should be emphasized that a career path for this study consists of continuing to drive, not moving into the front office. Although moving into the front office is a possibility, it is not the purpose of this survey. The career path that is suggested here consists of developing additional skills, and knowledge about driving that are normally, and informally, developed on-the-job. Additionally, the career path suggested here involves drivers assuming other business activities of the company in addition to driving.

It needs to be emphasized that a career path is defined as **continuing to drive**, but increasing your skills as a truckload driver and assuming other business responsibilities for your company. Drivers would be compensated according to where they are in their career path. Additionally, drivers would have to successfully complete additional training at all levels of the career path. At the upper two levels of the career path the driver would assume other business responsibilities for the company such as a customer service representative. Also, cross-training among the other business responsibilities could be considered.

Please study the diagram on the following page before answering the remaining questions.



Hypothetical Career Path Attributes

If you have not already done so, please take the time to study the diagram and answer this questionnaire as objectively as possible. It is in your best interest as well as your company's. Assume that additional training would be provided to make you proficient in the different skills and responsibility required of you. (circle number)

		Strongly Disagree					Strongly Agree	
		1	2	3	4	5	6	7
1.	A career path similar to the one suggested in the diagram would make me feel better about my job as a truckload driver.	1	2	3	4	5	6	7
2.	I think the time periods for advancement are about right given the skills and knowledge required to become very good at the profession of truckload driving.	1	2	3	4	5	6	7
3.	Not all drivers would like to move through the entire career path. Some would be satisfied with only moving part way through.	1	2	3	4	5	6	7
4.	A career path, as mentioned, would make me more interested in staying with the same company for a much longer period of time.	1	2	3	4	5	6	7
5.	I believe that a career path could reduce driver turnover in the truckload carrier industry.	1	2	3	4	5	6	7
6.	Promotion through such a career path should be based on performance, achievement of additional knowledge and skills, and additional responsibility; not just time with the company.	1	2	3	4	5	6	7
7.	Cross-training in the various business responsibilities would be desirable.	1	2	3	4	5	6	7
8.	I like the idea of integrating the driver into other aspects of the business.	1	2	3	4	5	6	7
9.	I am capable of making a much greater contribution to the success of the company if given the chance and proper training.	1	2	3	4	5	6	7

The following skills could be used in developing a career path as a driver. As a driver became more proficient at each of these skills, and acquired the associated knowledge, the driver would advance. Training and testing would be a necessary part of this process. Please let us know how long you think it would take to acquire sufficient skill and knowledge to become moderately proficient, above entry level requirements, at the skills listed below. Additionally, how long do you think it would take to become truly proficient and excel in each of these areas. Be as objective as possible in selecting your answer. (circle number)

	←	Years Required			→
	Less than one year	1-2	2-3	3-4	5 or more years
10a. How much driving experience would be required to become MODERATELY PROFICIENT at reading and interpreting control systems — identify, locate, read, and interpret the typical vehicle instruments and controls of a tractor-trailer rig?	1	2	3	4	5
b. How much driving experience would be required to EXCEL in reading and interpreting control systems — identify, locate, read, and interpret the typical vehicle instruments and controls of a tractor-trailer rig?	1	2	3	4	5
11a. How much driving experience would be required to become MODERATELY PROFICIENT at performing vehicle inspections — conduct pre-trip, en route, and post trip inspections?	1	2	3	4	5
b. How much driving experience would be required to EXCEL in performing vehicle inspections — conduct pre-trip, en route, and post trip inspections?	1	2	3	4	5
12a. How much driving experience would be required to become MODERATELY PROFICIENT at basic control — start, drive, and steer the tractor-trailer?	1	2	3	4	5
b. How much driving experience would be required to EXCEL in performing basic control — start, drive, and steer the tractor-trailer?	1	2	3	4	5
13a. How much driving experience would be required to become MODERATELY PROFICIENT at shifting — execute proper up and down shifting in all types of terrain and traffic?	1	2	3	4	5
b. How much driving experience would be required to EXCEL in shifting — execute proper up and down shifting in all types of terrain and traffic?	1	2	3	4	5

	←	Years Required			→
	Less than one year	1-2	2-3	3-4	5 or more years
14a. How much driving experience would be required to become <i>MODERATELY PROFICIENT</i> at backing and docking a typical loaded tractor-trailer?	1	2	3	4	5
b. How much driving experience would be required to <i>EXCEL</i> in backing and docking a typical loaded tractor-trailer?	1	2	3	4	5

		←	Years Required			→
		Less than one year	1-2	2-3	3-4	5 or more years
15a.	How much driving experience would be required to become MODERATELY PROFICIENT at coupling a typical trailer with the tractor?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in coupling a typical trailer with the tractor?	1	2	3	4	5
16a.	How much driving experience would be required to become MODERATELY PROFICIENT at uncoupling a typical trailer from a tractor, safely, efficiently, and ensuring that the trailer is secured?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in uncoupling a typical trailer from a tractor, safely, efficiently, and ensuring that the trailer is secured?	1	2	3	4	5
17a.	How much driving experience would be required to become MODERATELY PROFICIENT at safely performing a visual search of the road for potential hazards and critical objects in various types of traffic?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in safely performing a visual search of the road for potential hazards and critical objects in various types of traffic?	1	2	3	4	5
18a.	How much driving experience would be required to become MODERATELY PROFICIENT at managing and adjusting vehicle speed effectively in response to various road, weather, and traffic conditions?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in managing and adjusting vehicle speed effectively in response to various road, weather, and traffic conditions?	1	2	3	4	5
19a.	How much driving experience would be required to become MODERATELY PROFICIENT at managing and adjusting vehicle space relations required for safe vehicle operations, minimizing interference with other vehicles, assuring a safe gap, positioning the trailer for a safe turn, etc.?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in managing and adjusting vehicle space relations required for safe vehicle operations, minimizing interference with other vehicles, assuring a safe gap, positioning the trailer for a safe turn, etc.?	1	2	3	4	5

		←	Years Required			→
		Less than one year	1-2	2-3	3-4	5 or more years
20a.	How much driving experience would be required to become MODERATELY PROFICIENT at checking, maintaining, and fixing when authorized, vehicle systems and components including engine, steering, cooling, electrical, tires, fuel, air intake and exhaust, brakes, drive train, coupling systems, and suspension?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in checking, maintaining, and fixing when authorized, vehicle systems and components including engine, steering, cooling, electrical, tires, fuel, air intake and exhaust, brakes, drive train, coupling systems, and suspension?	1	2	3	4	5
21a.	How much driving experience would be required to become MODERATELY PROFICIENT at diagnosing/troubleshooting, identifying and reporting tractor-trailer malfunctions?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in diagnosing/troubleshooting, identifying and reporting tractor-trailer malfunctions?	1	2	3	4	5
22a.	How much driving experience would be required to become MODERATELY PROFICIENT at identifying potential driving hazards and performing emergency maneuvers — recognize potential dangers in the driving environment and take appropriate actions and respond appropriately in an emergency?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in identifying potential driving hazards and performing emergency maneuvers — recognize potential dangers in the driving environment and take appropriate actions and respond appropriately in an emergency?	1	2	3	4	5
23a.	How much driving experience would be required to become MODERATELY PROFICIENT at identifying and adjusting to difficult and extreme driving conditions such as night driving, cold weather operations, mountainous terrain, and wet and windy conditions?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in identifying and adjusting to difficult and extreme driving conditions such as night driving, cold weather operations, mountainous terrain, and wet and windy conditions?	1	2	3	4	5
24a.	How much driving experience would be required to become MODERATELY PROFICIENT at handling cargo safely without injury and documenting cargo accurately?	1	2	3	4	5
b.	How much driving experience would be required to EXCEL in handling cargo safely without injury and documenting cargo accurately?	1	2	3	4	5

25a. How much driving experience would be required to become **MODERATELY PROFICIENT** at **dealing with accident scenes** safely and legally, and proper accident reporting procedures?

b. How much driving experience would be required to **EXCEL** in **dealing with accident scenes** safely and legally, and proper accident reporting procedures?

←	Years Required			→
Less than one year	1-2	2-3	3-4	5 or more years

1	2	3	4	5
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

	← Years Required →				
	Less than one year	1-2	2-3	3-4	5 or more years
26a. How much driving experience would be required to become MODERATELY PROFICIENT at dealing with environmental issues by recognizing environmental hazards, knowing how to act, and what responsibilities must be met?	1	2	3	4	5
b. How much driving experience would be required to EXCEL in dealing with environmental issues by recognizing environmental hazards, knowing how to act, and what responsibilities must be met?	1	2	3	4	5
27a. How much driving experience would be required to become MODERATELY PROFICIENT at planning trips and making appropriate decisions including necessary permits, estimating time of arrival, identifying fuel stops, budgeting money, selecting the most effective route for time, conditions, and load?	1	2	3	4	5
b. How much driving experience would be required to EXCEL in planning trips and making appropriate decisions including necessary permits, estimating time of arrival, identifying fuel stops, budgeting money, selecting the most effective route for time, conditions, and load?	1	2	3	4	5
28a. How much driving experience would be required to become MODERATELY PROFICIENT at using effective communication and public relations skills with customers, co-workers, dispatch, and the general public?	1	2	3	4	5
b. How much driving experience would be required to EXCEL in using effective communication and public relations skills with customers, co-workers, dispatch, and the general public?	1	2	3	4	5
29a. How much driving experience would be required to become MODERATELY PROFICIENT at managing personal resources and dealing with life on the road — fatigue, diet, exercise, personal hygiene, family issues, and stress?	1	2	3	4	5
b. How much driving experience would be required to EXCEL in managing personal resources and dealing with life on the road — fatigue, diet, exercise, personal hygiene and stress?	1	2	3	4	5
30a. How much driving experience would be required to become MODERATELY PROFICIENT at understanding, recording, and maintaining hours of service requirements?	1	2	3	4	5
b. How much driving experience would be required to EXCEL in understanding, recording, and maintaining hours of service requirements?	1	2	3	4	5

This section of the survey deals with how you feel about assuming other business responsibilities *in addition to driving, if given the appropriate training*, as part of defining a career path for you *as a driver*. Several statements are listed below that describe how different business responsibilities might be incorporated into a career path. Please indicate whether you agree or disagree with the statement by circling the appropriate response. Be as objective as possible in selecting your answer. (circle number)

		Strongly Disagree					Strongly Agree	
		1	2	3	4	5	6	7
31.	I believe that I could meet with customers to determine how our company is doing in customer service.	1	2	3	4	5	6	7
32.	Acting as a customer service agent for my company is something I would like to do in addition to driving when I pick up and deliver loads.	1	2	3	4	5	6	7
33.	Drivers could be utilized effectively in the company as trainers of new drivers and training drivers in specialized areas requiring advanced knowledge and skills.	1	2	3	4	5	6	7
34.	I would like to become a driver trainer, while continuing to drive, as part of my job as a truckload driver.	1	2	3	4	5	6	7
35.	Drivers could collect information valuable to the company regarding certain customers and potential customers as part of their job.	1	2	3	4	5	6	7
36.	I would like to be part of a cost-reduction team that evaluated ways to reduce costs while maintaining the same level of service to customers.	1	2	3	4	5	6	7
37.	Supervising other drivers, overseeing the development and performance of a small group of drivers, while continuing to drive would be a positive way of adding additional responsibilities for drivers.	1	2	3	4	5	6	7
38.	I personally would be interested in becoming a driver supervisor and still drive.	1	2	3	4	5	6	7
39.	I would be interested in learning about several different business aspects of the truckload carrier industry.	1	2	3	4	5	6	7
40.	Overall, I believe the idea of a career path would be very good for drivers.	1	2	3	4	5	6	7
41.	Overall, I believe the idea of a career path would be very good for the company.	1	2	3	4	5	6	7

42. Are you getting adequate and appropriate training for your job? yes no

43. Where do you receive training?

Please indicate *how you would feel if your job was changed to include greater developmental opportunities and a realistic career path* for you to follow. Respond to each of the items as if your job was changed to include greater career growth opportunities. Please read the questions carefully. (circle number)

		Strongly Disagree					Strongly Agree
44.	In general, I would be more satisfied with my job.	1	2	3	4	5	6 7
45.	I would be less likely to quit my job.	1	2	3	4	5	6 7
46.	I would be <i>less likely</i> to put extra effort into my job beyond what is required.	1	2	3	4	5	6 7
47.	I would be more likely to leave the organization for which I work.	1	2	3	4	5	6 7
48.	I would be more willing to put in a great deal of effort beyond that normally expected in order to help my organization be successful.	1	2	3	4	5	6 7
49.	I would feel very little loyalty to the organization.	1	2	3	4	5	6 7
50.	I would be more likely to tell others that I am proud to be a part of the organization.	1	2	3	4	5	6 7
51.	I would feel more committed to my job and future developmental opportunities within the organization.	1	2	3	4	5	6 7

DEMOGRAPHIC QUESTIONS

Please check all appropriate responses. For those questions where more than one answer is appropriate, please check all that apply.

52. How long have you been a truckload driver?

- Less than a year 1-2 years 3-5 years
 6-10 years More than 10 years

53. How long have you driven for your current company?

- Less than a year 1-2 years 3-5 years
 6-10 years More than 10 years

54. How many carriers have you worked for in the last 5 years?

- 1-2 3-5 6-10 More than 10

55. What type of equipment do you usually drive?

- Refrigerated Bulk (dry or liquid) Flat bed Inter-modal containers
 Dry Van

56. What is your average length of haul?

- Less than 500 miles 500-1000 miles Over 1000 miles

57. On average, how long are you out on the road at a time?

- Days only 1-3 days 4-6 days Gone 1 weekend
 Gone 2 weekends Gone 3 weekends Gone a month or more

58. Are you assigned primarily to a dedicated operation (same customer or shipper)?

- Yes No

59. Which are you?

- Single operator Team driver

60. Sex:

- Male Female

61. Age:

- Under age 25 31-40 51-60
 25-30 41-50 Over age 60

62. What is the highest level of education you have received?

- Less than high school High school degree Technical school
 Some college College degree Graduate school

63. What is your approximate annual gross income from driving?

- \$25,000 or less \$30,001-\$35,000 \$40,001-\$45,000
 \$25,001-\$30,000 \$35,001-\$40,000 \$45,001-\$50,000
 Over \$50,000

64. Who is your present employer?

- Willis Shaw Express CR England Mullen Trucking, Ltd.
 O & S Trucking, Inc. Crete Witte Brothers
 Ronnie Dowdy, Inc. Watt & Stewart Commodities
 Smithway Motor Xpress, Inc. Schneider National, Inc.
 Coast Midwest Transport, Inc. Motor Carrier Service, Inc.
 Can-Am Express, Inc.

		Very Unsatisfied			Very Satisfied			
65.	Overall, how much job satisfaction do you derive from being a truckload driver?	1	2	3	4	5	6	7

Appendix 2

Driving Skill Proficiency

The Experience Necessary to Increase Proficiency and Excel in Commercial Vehicle Driver Skills

Introduction

The Professional Truck Driver Institute (PTDI) has developed a set of minimum curriculum standards they have judged to be necessary in order to operate a tractor-trailer. These standards were developed using the knowledge and expertise of more than 250 experts in the motor carrier field (i.e., drivers, educators, and safety personnel). In addition, these standards incorporate recommendations made by the Department of Transportation's Federal Motor Carrier Safety Administration (formerly the Office of Motor Carriers).³⁴

Specifically, the 21 standards are to:

1. Read and interpret control systems,
2. Perform vehicle inspections,
3. Exercise basic control,
4. Execute shifting,
5. Back and dock trailer,
6. Couple trailer,
7. Uncouple trailer,
8. Perform visual search,
9. Manage and adjust vehicle speed,
10. Manage and adjust vehicle space relations,
11. Check and maintain vehicle systems/components,
12. Diagnose and report malfunctions,
13. Identify potential driving hazards and perform emergency maneuvers,
14. Identify and adjust to difficult and extreme driving conditions,
15. Handle and document cargo,
16. Deal with accident scenes and reporting procedures,
17. Deal with environmental issues,
18. Plan trips/make appropriate decisions,
19. Use effective communication and public relations skills,
20. Manage personal resources/deal with life on the road, and
21. Record and maintain hours of service requirements.

³⁴ <http://www.ptdi.org/>

The above standards represent the minimum skills and knowledge required to become a “second seat” driver. The individual still needs to acquire experience under direct supervision in order to become a “solo driver.”

The research question of interest is, once an individual has achieved the “solo driver” status, how much more experience is required for them to increase their proficiency to certain levels (i.e., to the “certified driver” and “advanced driver” levels identified in the hypothetical career path)?

Results

Table 18 illustrates the results of the career path study pertaining to the driver standards. For each of the 21 standards described in the introduction, respondents were asked to rate on a 1 to 5 scale (where 1=less than one year and 5=more than five years) how long it would take to become *moderately proficient*, beyond entry level requirements, and how long it would take to become *truly proficient and excel* in each area.

The first column of Table 18 displays the actual question asked of the respondents. The second column displays the mean responses from all 736 drivers who responded to the survey. The third column displays the mean responses from experienced drivers who indicated that they had been a truckload driver for more than five (5) years, this was 390 out of the 736 drivers. The final column displays the mean responses from all 113 managers who responded to the survey.

As a general rule, the mean response of managers for each item was higher than the mean response of experienced drivers, who in turn, had higher mean responses than all drivers together. Obviously, managers and drivers with more experience have a better knowledge of the time that is required to increase proficiency and to excel at each skill

The range of mean responses from experienced drivers regarding the time to become moderately proficient in each of the areas was 1.12 to 2.57. This translates roughly to a time frame of less than one year to two years. Regarding the time frame to become truly proficient and excel in each of the skills, the range of mean responses from experienced drivers was 1.40 to 3.41. This roughly translates to a time frame of one to three years. Obviously, there is a significant difference in the time frames believed to be required for proficiency in different skills.

Table 18. Drivers' and Managers' Mean Responses to the Questions:

How long do you think it would take to acquire sufficient skill and knowledge to become moderately proficient, above entry level requirements, at the skills listed below? Additionally, how long do you think it would take to become truly proficient and excel in each of these areas?

(Scale: 1 = < 1 year, 2 = 1-2 years, 3 = 2-3 years, 4 = 3-4 years, 5 = > 5 years)

Question	Mean Response		
	All Drivers	Experienced Drivers	All Managers
1a. How much driving experience would be required to become <i>moderately proficient</i> at reading and interpreting control systems — identify, locate, read, and interpret the typical vehicle instruments and controls of a tractor-trailer rig?	1.29	1.37	1.34
1b. How much driving experience would be required to <i>excel</i> in reading and interpreting control systems — identify, locate, read, and interpret the typical vehicle instruments and controls of a tractor-trailer rig?	1.81	1.88	2.19
2a. How much driving experience would be required to become <i>moderately proficient</i> at performing vehicle inspections — conduct pre-trip, en route, and post trip inspections?	1.21	1.28	1.29
2b. How much driving experience would be required to <i>excel</i> in performing vehicle inspections — conduct pre-trip, en route, and post trip inspections?	1.69	1.74	2.07
3a. How much driving experience would be required to become <i>moderately proficient</i> at basic control — start, drive, and steer the tractor-trailer?	1.20	1.26	1.37
3b. How much driving experience would be required to <i>excel</i> in performing basic control — start, drive, and steer the tractor-trailer?	2.00	2.12	2.19
4a. How much driving experience would be required to become <i>moderately proficient</i> at shifting — execute proper up and down shifting in all types of terrain and traffic?	1.34	1.44	1.49
4b. How much driving experience would be required to <i>excel</i> in shifting — execute proper up and down shifting in all types of terrain and traffic?	2.05	2.13	2.38
5a. How much driving experience would be required to become <i>moderately proficient</i> at backing and docking a typical loaded tractor-trailer?	1.36	1.44	1.65
5b. How much driving experience would be required to <i>excel</i> in backing and docking a typical loaded tractor-trailer?	2.24	2.26	2.59
6a. How much driving experience would be required to become <i>moderately proficient</i> at coupling a typical trailer with the tractor?	1.08	1.12	1.18

Question	Mean Response		
	All Drivers	Experienced Drivers	All Managers
6b. How much driving experience would be required to <i>excel</i> in coupling a typical trailer with the tractor?	1.34	1.40	1.75
7a. How much driving experience would be required to become <i>moderately proficient</i> at uncoupling a typical trailer from a tractor, safely, efficiently, and ensuring that the trailer is secured?	1.10	1.15	1.19
7b. How much driving experience would be required to <i>excel</i> in uncoupling a typical trailer from a tractor, safely, efficiently, and ensuring that the trailer is secured?	1.36	1.41	1.74
8a. How much driving experience would be required to become <i>moderately proficient</i> at safely performing a visual search of the road for potential hazards and critical objects in various types of traffic?	1.44	1.60	1.61
8b. How much driving experience would be required to <i>excel</i> in safely performing a visual search of the road for potential hazards and critical objects in various types of traffic?	2.24	2.39	2.60
9a. How much driving experience would be required to become <i>moderately proficient</i> at managing and adjusting vehicle speed effectively in response to various road, weather, and traffic conditions?	1.55	1.72	1.72
9b. How much driving experience would be required to <i>excel</i> in managing and adjusting vehicle speed effectively in response to various road, weather, and traffic conditions?	2.42	2.62	2.81
10a. How much driving experience would be required to become <i>moderately proficient</i> at managing and adjusting vehicle space relations required for safe vehicle operations, minimizing interference with other vehicles, assuring a safe gap, positioning the trailer for a safe turn, etc.?	1.51	1.67	1.70
10b. How much driving experience would be required to <i>excel</i> in managing and adjusting vehicle space relations required for safe vehicle operations, minimizing interference with other vehicles, assuring a safe gap, positioning the trailer for a safe turn, etc.?	2.32	2.50	2.75
11a. How much driving experience would be required to become <i>moderately proficient</i> at checking, maintaining, and fixing when authorized, vehicle systems and components including engine, steering, cooling, electrical, tires, fuel, air intake and exhaust, brakes, drive train, coupling systems, and suspension?	2.36	2.57	2.54
11b. How much driving experience would be required to <i>excel</i> in checking, maintaining, and fixing when authorized, vehicle systems and components including engine, steering, cooling, electrical, tires, fuel, air intake and exhaust, brakes, drive train, coupling systems, and suspension?	3.28	3.41	3.68

Question	Mean Response		
	All Drivers	Experienced Drivers	All Managers
12a. How much driving experience would be required to become <i>moderately proficient</i> at diagnosing/troubleshooting, identifying and reporting tractor-trailer malfunctions?	2.17	2.39	2.44
12b. How much driving experience would be required to <i>excel</i> in diagnosing/troubleshooting, identifying and reporting tractor-trailer malfunctions?	3.09	3.25	3.64
13a. How much driving experience would be required to become <i>moderately proficient</i> at identifying potential driving hazards and performing emergency maneuvers — recognize potential dangers in the driving environment and take appropriate actions and respond appropriately in an emergency?	1.87	2.09	2.12
13b. How much driving experience would be required to <i>excel</i> in identifying potential driving hazards and performing emergency maneuvers — recognize potential dangers in the driving environment and take appropriate actions and respond appropriately in an emergency?	2.90	3.08	3.38
14a. How much driving experience would be required to become <i>moderately proficient</i> at identifying and adjusting to difficult and extreme driving conditions such as night driving, cold weather operations, mountainous terrain, and wet and windy conditions?	1.98	2.24	2.28
14b. How much driving experience would be required to <i>excel</i> in identifying and adjusting to difficult and extreme driving conditions such as night driving, cold weather operations, mountainous terrain, and wet and windy conditions?	3.07	3.28	3.50
15a. How much driving experience would be required to become <i>moderately proficient</i> at handling cargo safely without injury and documenting cargo accurately?	1.44	1.58	1.65
15b. How much driving experience would be required to <i>excel</i> in handling cargo safely without injury and documenting cargo accurately?	2.13	2.30	2.59
16a. How much driving experience would be required to become <i>moderately proficient</i> at dealing with accident scenes safely and legally, and proper accident reporting procedures?	1.77	1.92	2.07
16b. How much driving experience would be required to <i>excel</i> in dealing with accident scenes safely and legally, and proper accident reporting procedures?	2.62	2.73	3.18
17a. How much driving experience would be required to become <i>moderately proficient</i> at dealing with environmental issues by recognizing environmental hazards, knowing how to act, and what responsibilities must be met?	1.91	2.06	2.21

Question	Mean Response		
	All Drivers	Experienced Drivers	All Managers
17b. How much driving experience would be required to <i>excel</i> in dealing with environmental issues by recognizing environmental hazards, knowing how to act, and what responsibilities must be met?	2.85	2.98	3.41
18a. How much driving experience would be required to become <i>moderately proficient</i> at planning trips and making appropriate decisions including necessary permits, estimating time of arrival, identifying fuel stops, budgeting money, selecting the most effective route for time, conditions, and load?	1.59	1.72	1.90
18b. How much driving experience would be required to <i>excel</i> in planning trips and making appropriate decisions including necessary permits, estimating time of arrival, identifying fuel stops, budgeting money, selecting the most effective route for time, conditions, and load?	2.52	2.66	3.01
19a. How much driving experience would be required to become <i>moderately proficient</i> at using effective communication and public relations skills with customers, co-workers, dispatch, and the general public?	1.56	1.72	1.91
19b. How much driving experience would be required to <i>excel</i> in using effective communication and public relations skills with customers, co-workers, dispatch, and the general public?	2.48	2.65	3.02
20a. How much driving experience would be required to become <i>moderately proficient</i> at managing personal resources and dealing with life on the road — fatigue, diet, exercise, personal hygiene, family issues, and stress?	1.87	2.07	2.21
20b. How much driving experience would be required to <i>excel</i> in managing personal resources and dealing with life on the road — fatigue, diet, exercise, personal hygiene and stress?	2.80	3.01	3.52
21a. How much driving experience would be required to become <i>moderately proficient</i> at understanding, recording, and maintaining hours of service requirements?	1.32	1.41	1.48
21b. How much driving experience would be required to <i>excel</i> in understanding, recording, and maintaining hours of service requirements?	2.01	2.12	2.43