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Abstract
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EMPLOYEE MORALE IN THE U.S. CLASS I RAILROAD INDUSTRY

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The U.S. railroad industry has experienced a dramatic turnaround since economic regulatory reform was legislated with the Staggers Rail Act of 1980. Increased competitive pressures and reduced regulation of ratemaking, routing, and network restructuring have lead to significant improvements in operating efficiency, service quality, and financial performance.

Since the late 1950s, productivity in the railroad industry has increased at a considerably greater rate than in the private business sector generally. The difference is even more pronounced after 1980.[1] These productivity gains have largely been achieved through the widespread substitution of capital for labor. In addition to the tremendous downsizing of their labor force, the railroads have been aggressively pursuing greater labor flexibility and productivity through less restrictive work rules. For example, two key work rule issues were addressed in the last round of collective bargaining in the early 1990s, and carriers achieved a major reduction in average train crew size and an increase from 108 to 130 miles before train crews receive "overtime" pay.

Productivity improvements from the labor component will continue to be important, but will be much more difficult to achieve, as the limits of downsizing and work rule flexibility are approached. The purpose of this study is to explore another dimension of the labor factor, employee morale. A number of studies have found a strong relationship between employee morale

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[1]J. Duke, D. Litz, and L. Usher, "Multifactor Productivity in Railroad Transportation," Monthly Labor Review, August 1992, pp. 49-51.

and outcomes such as absenteeism, turnover, and organizational productivity.[2] Additionally, employee morale will affect railroad quality programs which are viewed as essential to the success of the industry.[3]

A thorough search of the literature revealed no empirical research on railroad employee morale. Thus, the primary purpose of this article is to assess employee morale in the Class I railroad industry. Toward this end, more than 4,000 employees at four of the largest Class I railroads were surveyed. Respondents were assigned to an occupational group to allow for investigation of differences in morale. The major topics include job satisfaction, work commitment and job fit and some specific work perception (climate) characteristics.

The article is organized in the following manner: (1) a brief discussion of the labor environment; (2) the research methodology is described; (3) results are presented and discussed; and (4) managerial implications are addressed.

Labor Environment

The Class I railroads are heavily unionized, and contract employees are represented by several unions.[4] Employees participating in this study were randomly selected to permit conclusions about employees in each of four occupational (union-based) groupings. Occupational groupings were utilized primarily for two reasons. One, the large number of railroad unions and the variance in their sizes (i.e., number of members) make comparisons across union groups impractical or not meaningful. Two, work environment (e.g., where the job is performed, the nature of the work itself, presence or absence of direct supervision, etc.) is a major factor influencing various aspects of employee morale and is a dimension of the workplace that management can control or influence. Many unions have similar work environments. Therefore, it is more meaningful and relevant to segment the sample on the basis of similarity of work environment than union affiliation.

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[2]For example, R.D. Hackett and R.M. Guion, "A Reevaluation of the Absenteeism-Job Satisfaction Relationship," Organizational Behavior and Human Decision Processes (Vol. 35, 1985), pp. 340-381; C. Ostroff, "The Relationship Between Satisfaction, Attitudes, and Performance: An Organizational Level Analysis," Journal of Applied Psychology (Vol. 77, 1992), pp. 963-974; and L.M. Shore and H.J. Martin, "Job Satisfaction and Organizational Commitment in Relation to Work Performance and Turnover Intentions," Human Relations (Vol. 42, 1989), pp. 625-638.

[3]L. Kaufman, "Advice to Rail Labor, Management: Don't Bash Your Own Team," Journal of Commerce (September 9, 1992), p. 2B and J.M. Carman, "Continuous Quality Improvement as a Survival Strategy: The Southern Pacific Experience," California Management Review (Vol. 35, Spring 1993).

[4]The number of collective bargaining agreements at each railroad tends to be much higher, however, as the number of union "locals" at each carrier proliferated as a result of the mergers and consolidations that have restructured the industry. For example, if two railroads merged, the collective bargaining agreements of each union often remained in effect. Thus, if there were twelve unions on each railroad, the merged carrier would have twenty-four agreements.

Four occupational groupings were thus identified: shop crafts, train crews, clerks, and maintenance of way/signalmen. Union affiliation was used to classify an employee into one of the four categories as follows:

Shop Crafts:	International Association of Machinists (IAM) International Brotherhood of Boilermakers and Blacksmiths (IBBB) International Brotherhood of Electrical Workers (IBEW) International Brotherhood of Firemen and Oilers (IBFO) Sheet Metal Workers International Association (SWIA) Transportation Communication Union (Carmen) (TCU)
Train Crews:	Brotherhood of Locomotive Engineers (BLE) United Transportation Union (UTU)
Clerks:	Transportation Communication Union (TCU)
Maintenance:	Brotherhood of Maintenance of Way Employees (BMWE) Brotherhood of Railway Signalmen (BRS)

The size of the Class I railroad labor force has decreased dramatically over the last five decades from approximately 1.36 million workers in 1946 to about 197,000 in 1992, an 85.5 percent reduction.[5] One study attributes nearly two-thirds of the employment decline between 1946 and 1983 to technology and about thirty-one percent to real wage increases (which reduce the demand for labor).[6] Virtually every railroad occupation has been greatly affected by technology. Improved technology has not only led to a reduction in the size of the labor force, but has also created a generally safer work environment.[7]

Some of the more notable technology advancements include improvements in computer technology and information systems that have resulted in a significant reduction in professional and clerical staff. Maintenance of way employment has declined over the years due to the substitution of equipment for labor (e.g., automatic tampers, rail-laying machines, automatic spikers), improvements in the track and right of way that reduce maintenance (e.g.,

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[5]Association of American Railroads, Railroad Facts (previously titled Yearbook of Railroad Facts), for selected years between 1953 and 1993.

[6]G. Yochum and G.S. Rhiel, "Employment and Changing Technology in the Postwar Railroad Industry," Industrial Relations (Vol. 30, No. 1, Winter 1991), pp. 116-127. Interestingly, the effects of economic deregulation were barely being felt by 1983 as only three percent of the labor force decrease was explained by deregulation. Furthermore, mergers were determined not to have affected the number of employees, perhaps because of the stringent labor protective conditions imposed by the Interstate Commerce Commission in merger cases.

[7]Frank N. Wilner, "The Railroads' Productivity Challenge," 59 Transp. Prac. J. 27 (Vol. 59, No. 1, Fall 1991).

welded rail, concrete crossties or chemically-treated wood cross-ties, higher quality ballast materials), and a diminished physical plant as a consequence of the rationalization of the rail network. Dieselization, the greater tonnage capacity of freight cars (which leads to fewer cars), and enhanced durability of freight cars are the primary causes for the decline in the number of shop crafts employees. Train crew employees have been affected by dieselization, automation of rail yard operations; and a number of on-train control and monitoring electronic devices (e.g., devices that maintain optimal flow of air, water and fuel; wheel sensors that provide computer-synthesized voice warnings in the event of overheating).[8]

The rate of employment decline varies across occupational groupings as indicated in Table 1. Between 1980 and 1992 the professional and clerical group experienced the greatest decrease (66.6 percent) followed by transportation, other than train crew personnel (62.5 percent), shop crafts (60.6 percent), train crew (54.1 percent), and maintenance of way employees (49.4 percent). As Table 1 also indicates, the rate of employment decline was greater after passage of the Staggers Rail Act of 1980 than during the preceding decade.

While employment levels have dropped precipitously, railroad wage and benefit packages are among the most generous in the country and continued to increase faster than the inflation rate during the 1980s. The average compensation level for rail workers in 1990 exceeded that of ninety-nine percent of the 103 million employees in sixty-two separate industries. Various studies have concluded that most classes of rail employees earn markedly more than employees with similar skills in other industries.[9] As Table 2 shows, real wages on an hourly basis were 4.4 percent higher in 1992 than in 1980.[10] Additionally, the real average annual compensation (wages only, benefits are not included in these figures) per employee increased by 7.85 percent over this time period. While rail employees experienced substantially greater increases in compensation during the decade of the 1970s, they still fared rather well during the 1980s when compared to workers in other industries. Table 3 reveals that employees in most other modes of transportation realized a

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[8]These examples and several others are provided in: J. Duke, D. Litz, and L. Usher, pp. 49-58; and S.M. Rich, "Changing Railway Technology in the United States and Its Impact Upon Railroad Employment Since 1945," Transportation Journal (Vol. 25, No. 4, Summer 1986), pp. 55-65.

[9]Frank N. Wilner, pp. 33-35.

[10]The real average hourly wage was the same in 1992 and 1989, reflecting the protracted negotiations during the last round of collective bargaining which began in 1988 and during which rail employees received no pay increase. The recommendations of Presidential Emergency Board 219 and the subsequent Special Board were imposed by Congress. They included an immediate $2,000 lump sum payment for each employee and a series of across-the-board wage increases from three percent to four percent spread over the period 1991-1994 (Emergency Board No. 219, Report to the President, Washington, DC, January 15, 1991, p. 63). Through June 1995, it has been estimated that these increases will amount to about $14,000 per employee (Wilner, p. 33).

Table 1

*Average Number of Railroad Employees by Occupational Group for Selected Years**

Year	Exec	Prof. and Clerical	Maint. of Way	Maint. Equip.	Transp. Train & Engine	Transp. Other
1992	11,272	30,952	42,739	39,236	62,285	10,937
1991	10,821	32,687	43,206	39,758	68,282	11,632
1990	10,904	34,831	44,943	41,527	71,540	12,679
1985	13,619	56,901	62,058	56,104	93,401	19,796
1980	17,328	92,780	84,390	99,614	135,741	29,141
1975	16,704	102,645	81,507	104,578	146,565	35,790
1970	16,504	121,714	87,058	123,546	164,697	52,759
Change 1980-92	-34.95%	-66.64%	-49.36%	-60.61%	-54.11%	-62.47%

* Association of American Railroads, *Railroad Facts*, 1970-1992.

Table 2

Actual[1] and Real[2] Employee Wages for Selected Years

Year	Ave. Wage per Hr. Actual $	Ave. Real Wage per Hr. 1980 $	Ave. Real Wage per Hr. 1980 = 100	Ave. Annual Wage per Employee Actual $	Ave. Annual Real Wage Per Employee (1980 $)	Ave. Annual Real Wage per Employee Index
1992	17.77	10.66	104.41	44,360	26,595	107.85
1990	15.83	10.17	99.61	39,987	25,697	104.21
1985	14.30	11.09	108.62	34,991	27,135	110.04
1980	10.21	10.21	100.00	24,659	24,659	100.00
1975	6.39	9.79	95.89	15,324	23,482	95.22
1970	4.14	8.80	86.19	10,086	21,441	86.95

[1] Association of American Railroads, *Railroad Facts*, 1970-1992.
[2] Adjusted to 1980 dollars using Consumer Price Index for Urban Wage Earners and Clerical Workers

Table 3

Change in Real[1] Average Annual Earnings of Non-Supervisory or Production Workers for Selected Industries, 1980-1992[2]

SIC#	Industry	% Change
	Transportation & Public Utilities	
4011	Class I Railroads	7.9
42	Trucking & Warehouse	-21.5
421,3	Trucking & Courier Services	-22.3
47	Transportation Services (Third Party Services)	- 8.6
46	Pipeline (Except Natural Gas)	5.0
422	Public Warehousing & Storage	- 4.3
	Mining	- 3.6
	Construction	-12.6
	Manufacturing	- 4.7

[1] Real earnings adjusted to 1980 dollars using Consumer Price Index for Urban Wage Earners and Clerical Workers.
[2] United States Bureau of Labor Statistics, *Supplement to Employment and Earnings.*

decrease in real compensation during the decade. This is true also for the other industrial sectors that are heavily unionized — construction, manufacturing, and mining.

Methodology

A questionnaire pertaining to current work-related attitudes and perceptions was mailed to 4,250 employees of four of the largest Class I railroads. Questionnaires were received and completed by employees prior to the beginning of the current round of collective bargaining. The following sections describe the nature of the sample and the survey instrument more fully.

Sample

The four railroads reported that there were 107,743 union employees working in the four specified occupational groupings. Table 4 provides population, target sample, and actual sample sizes. Using estimates of the population sizes of these four groups, a random stratified sampling procedure was employed. That is, the same proportions of each occupational group represented in the overall employee population were used to draw the sample (e.g., approximately 21.4 percent of the union employee population was represented by the category of shop crafts; the target sample consisted of 20.5 percent shop craft employees). Within each occupational grouping, employees were randomly selected to participate in the study. The sampling strategy resulted in a target sample size of 4,250. Any survey returned within twelve weeks was accepted for inclusion in the study.

Usable questionnaires were received from 1167 respondents for an overall response rate of 27.5 percent. Of the 1167 respondents, 126 chose not to report their specific union membership and therefore could not be classified into an occupational group. As shown in Table 4, the distribution of responses by occupational grouping was reasonably consistent with the stratification plan. More specifically, response rates from each group ranged from a low of 21.8 percent in the maintenance group to 27.8 percent in the clerks group.

Sample Characteristics

Sample characteristics are summarized in Table 5. The respondents' profile is generally representative of the population of employees. Overall, 92.9 percent of the sample employees are male. The only occupational group where concentration of males differed significantly was among the clerks, where only 66.3 percent of the employees were male. With respect to race, the four railroads are a predominately majority (white) organization. Minority representation overall was 6.3 percent. There was some percentage variation in racial composition across the four occupational groupings, but these differences were primarily a function of very small numbers and were not statistically significant.

The average age of all respondents was 44.7 years, with occupational group averages ranging from 41.9 years (maintenance) to 48.1 years (clerks). The same pattern was evident with respect to company tenure, with occupational group averages ranging from eighteen years (maintenance) to 22.6 years (clerk). Overall average company tenure at the four railroads was 19.6 years, overall average tenure working in the railroad field was 21.2 years, and overall average union membership tenure was 20.8 years. Interestingly, the clerk group exhibited significantly higher levels of organizational, railroad and union tenure than the other three groups. Taken together, these sample characteristics imply that most railroad employees are long term workers with relatively low turnover.

Table 4

Population, Target, and Actual Sample Characteristics

Occupational Grouping	Sample Carriers Population	% of Pop. Per Occ. Grp.	# in Target Sample (%)		# Returning Surveys (% of Respondents)		% Response Rate
Shop crafts	23,046	21.4	872	(20.5)	191	(16.4)	21.9
Train crews	42,949	39.9	1,722	(40.5)	451	(38.6)	26.2
Clerks	14,743	13.7	633	(14.9)	176	(15.1)	27.8
Maintenance	27,005	25.1	1,023	(24.1)	223	(19.1)	21.8
Unknown	—		—	(—)	126	(10.8)	—
TOTAL	107,743	100.1	4,250	(100)	1,167	(100)	27.5

Note: Percentages may not add exactly to 100 percent because of rounding.

Participation in union affairs as an officer was observed to be around 27.1 percent, overall. There were some differences by occupational grouping. The maintenance (seventeen percent) group reported significantly lower levels of officer experience than did the train crew (32.6 percent) and shop craft (35.3 percent) groups. Educational attainment among the respondents also exhibited some dispersion. While overall 59.1 percent of the sample had education extending beyond a high school diploma, these levels ranged from only forty-four percent among maintenance respondents to a high of 73.5 percent among the clerk respondents.

Survey Instrument

The morale within an organization can be evaluated by looking at those areas which people typically consider when they evaluate their working lives. The survey examined three such areas: job satisfaction, work commitment and job fit, and perceptions of work climate.

The survey instrument was comprised of both standardized instruments (i.e., instruments used in previous research studies and found to be reliable and valid) and measures designed expressly for this study. The sources for estab-

Table 5

Overall Sample and Occupational Groupings by Personal Characteristics

Characteristics	Overall Sample (n = 1167)	Shop Crafts (n = 191)	Train Crews (n = 451)	Clerks (n = 176)	Maintenance (n = 223)
Sex					
Males	1,056 (92.9%)	183 (98.4%)	431 (98.4%)	114 (66.3%)	217 (99.1%)
Females	81 (7.1%)	3 (1.6%)	7 (1.6%)	58 (33.7%)	2 (.9%)
Race					
Majority	1,065 (93.7%)	170 (90.4%)	424 (96.4%)	165 (95.9%)	196 (91.2%)
Minority	72 (6.3%)	18 (9.6%)	16 (3.6%)	7 (4.1%)	19 (8.8%)
Average Age	M = 44.73	M = 45.30	M = 44.96	M = 48.08	M = 41.93
Ave. Company Tenure	M = 19.58	M = 18.97	M = 20.01	M = 22.60	M = 17.97
Ave. RR Tenure	M = 21.17	M = 20.51	M = 21.79	M = 24.64	M = 18.88
Aveerage Union Tenure	M = 20.80	M = 20.54	M = 21.32	M = 24.28	M = 18.66
Union Officer					
Yes	315 (27.1%)	67 (35.3%)	147 (32.6%)	39 (22.3%)	38 (17.0%)
No	847 (72.8%)	123 (64.7%)	304 (67.4%)	136 (77.7%)	185 (83.0%)
Education					
≤ High School	472 (40.9%)	72 (38.4%)	174 (38.9%)	46 (26.5%)	125 (56.0%)
> High School	758 (59.1%)	119 (61.6%)	277 (61.1%)	130 (73.5%)	98 (44.0%)

Notes: Percentages may not add exactly to 100 percent because of rounding. Number may not add exactly to sample sizes because of missing data (*i.e.*, no responses).

lished measures, the number of items in each measure, and the Cronbach's alpha (i.e., measure of reliability) for each measure are presented in the Appendix.

Results

The results for each of the three areas of morale are presented below. The statistical method used in all of the comparisons across groups was analysis of variance (ANOVA), with the Tukey-HSD test of mean differences. Only differences at $p \leq .05$ are reported as statistically significant.

Job Satisfaction

Respondents were asked to describe their level of job satisfaction both in absolute and relative terms (i.e., to rank order six common areas of satisfaction/dissatisfaction). The absolute areas of job satisfaction were: (1) satisfaction with the work itself (i.e., does it provide a sense of accomplishment, is it respected), (2) satisfaction with promotions (i.e., are there opportunities for advancement and upward mobility), (3) satisfaction with supervision (i.e., do supervisors exhibit tact and fairness, do they provide needed information), (4) satisfaction with coworkers (i.e., are coworkers stimulating, responsible, and intelligent), and (5) satisfaction with pay (i.e., is pay adequate and fair). Each of these dimensions was measured by 8 to 18 items which were then averaged to yield a single scale score for each dimension (see Table 6). The measure employs unequal weights for responses (i.e., No = 0, Uncertain = 1, and Yes = 3). Since the scale could range from 0 (very dissatisfied) to 3 (very satisfied), one can regard a score around 1.5 as neutral (i.e., neither very satisfied nor dissatisfied).

Satisfaction with the work itself was observed to be slightly lower than this hypothetical neutral score for the overall sample (M=1.31). There was also some noteworthy variation in satisfaction with work by occupational grouping. Employees working in the shop craft group (M=1.45) and the maintenance group (M=1.37) were significantly more satisfied than employees in the train crew group (M=1.23).

Satisfaction with promotions was very low with an overall mean of 0.53. In a heavily unionized organization, however, this is somewhat to be expected. Despite these very low levels of satisfaction, some group differences were still evident. The clerk group (M=0.39) was significantly less satisfied with promotions than were the train crew (M=0.55) and maintenance (M=0.67) groups. Additionally, the shop craft group (M=0.46) was significantly less satisfied with promotions than the maintenance group (M=.67). Rather than focusing on groups differences here, however, the emphasis should probably be placed on the low magnitude of the scores observed. These data clearly indicate that opportunities for advancement within the four railroads are perceived to be quite low.

Table 6

Overall Sample and Occupational Groupings by Average (M) Job Satisfaction Scores

Job Satisfaction Dimension	Overall Sample	Shop Crafts	Train Crews	Clerks	Maintenance
Absolute Satisfaction[1]					
Work itself	1.31	1.45	1.23[a]	1.33	1.37
Promotions	.53	.46[c]	.55	.39[b]	.67
Supervision	1.51	1.62	1.33[d]	1.67	1.64
Coworkers	1.75	1.72	1.77	1.75	1.78
Pay	1.21	1.13	1.34[e]	1.13	.95
Relative Importance[2]					
Pay	2.07	2.19	2.00	1.94	2.22
Safety	2.50	2.29	2.36	3.68[h]	2.07[i]
Work itself	2.97	3.07	3.04	2.40	3.35
Coworkers	3.63	3.71	3.41	4.08[f]	3.63
Supervision	4.67	4.59	5.01[j]	4.46	4.40
Advancement	4.86	4.87	5.06	4.40[g]	5.10

[1] Scores range from 0 (very dissatisfied) to 3 (very satisfied).
[2] Rank order scores range from 1 (most important) to 6 (least important).
[a] The Train Crews group is significantly different from the Shop Crafts and the Maintenance groups ($p \leq .05$).
[b] The Clerks group is significantly different from the Train Crews and the Maintenance groups ($p \leq .05$).
[c] The Shop Crafts group is significantly different from the Maintenance group ($p \leq .05$).
[d] The Train Crews group is significantly different from all three other groups ($p \leq .05$).
[e] The Train Crews group is significantly different from all three other groups ($p \leq .05$).
[f] The Clerks group is significantly different from the Train Crews group and the Maintenance group ($p \leq .05$).
[g] The Clerks group is significantly different from all three other groups ($p \leq .05$).
[h] The Clerks group is significantly different from all three other groups ($p \leq .05$).
[i] The Maintenance group is significantly different from the Train Crews group and the Clerks group ($p \leq .05$).
[j] The Train Crews group is significantly different from all three other groups ($p \leq .05$).

The overall satisfaction with supervision mean score (M=1.51) positions the sample carriers' employees as neither highly satisfied nor dissatisfied with supervision. In this case, the more interesting results surround the opinions of the train crew group. This group (M=1.33) was significantly less satisfied with supervision when compared with the three other groups (i.e., Ms=1.62, 1.64, and 1.67). Such a finding suggests that further investigation of

supervisory practices among the train crew group is warranted.

Satisfaction with coworkers demonstrated the highest overall satisfaction (M=1.75). This assessment was virtually universal, as none of the groups reported significantly different levels of satisfaction. This aspect of morale, although certainly not perfect, does not seem to be nearly as troublesome as some of the others.

Satisfaction with pay received the next to lowest overall rating of satisfaction (M=1.21). The train crew group (M=1.34) was significantly more satisfied than the other groups (i.e., Ms=.95, 1.13, 1.13). The observation of higher satisfaction with pay among the train crew group makes an interesting comparison with the satisfaction with supervision findings, wherein train crew respondents were the least satisfied. The train crew group was also less satisfied with the work itself than the shop craft group and the maintenance group. Thus, the train crew group appears to be more "volatile" than other groups, expressing levels of satisfaction and dissatisfaction in ways different from other occupational groups working at the four railroads. With respect to issues related to job satisfaction, it would not be a good idea to view train crew employees as representative of the sample carriers' employees.

Respondents' perceptions of the last dimension, safety, were not evaluated in terms of absolute satisfaction, but were instead assessed in the section pertaining to work environment. These results are presented later.

Relative Importance of Job Satisfaction Facets

Because it is difficult for any organization to maximize job satisfaction in all areas simultaneously, it is often worthwhile to ask employees about their relative preferences. The respondents were asked to rank order six factors related to job satisfaction, presented to them in alphabetical order, using "1" to signify most important to "6" for least important. Those six factors are presented in the bottom half of Table 6 and are arrayed from most important to least important for the overall sample.

Pay received the most important ranking with a mean of 2.07. All groups ranked pay as the most important factor except for the maintenance group, which ranked safety first (M=2.07) and pay a close second (M=2.22). Safety was the second highest ranking choice overall (M=2.50) and for all groups except the clerks. The clerk group (M=3.68) ranked safety third and was significantly different from all three other groups. The work itself was ranked third overall (M=2.97), with the clerk group again deviating significantly and rating this factor as the second most important (M=2.40). The overall findings (M=3.63) and group findings agreed that coworkers was the fourth most important factor. Clerks (M=4.08), however, ranked coworkers as significantly less important than did the train crew group (M=3.41) and the maintenance group (M=3.63). Supervision was seen as the fifth most important factor overall (M=4.67) and in all groups, except for the clerk group which rated this

factor as least important (M=4.46). The train crew group (M=5.01), while ranking this factor fifth, was significantly different from the other three groups. Finally, advancement was ranked last overall (M=4.86), except in the clerk group, as just noted. Moreover, the clerk group (M=4.40), rated this factor as significantly more important than the other groups (i.e., Ms=4.87, 5.06, and 5.10).

Just as in the absolute analysis where one occupational group, train crews, demonstrated a noticeably different pattern of responses, the relative importance analysis indicated that the clerk group holds somewhat different opinions. The clerk group differed significantly from other occupational groups in three of the six ranking areas. These findings suggest that the relative importance of factors contributing to the job satisfaction of the clerk group is different from those of other groups working at the four railroads.

In summary, the job satisfaction levels reported by these respondents cannot be characterized as high. Satisfaction with coworkers seems acceptable, as perhaps does satisfaction with supervision, as both assessments are close to or above the hypothetical midpoint of the evaluation range. Satisfaction with the work itself and with pay are moderately low, and satisfaction with promotions is very low. This latter finding can be tempered, however, with the finding that respondents judged advancement to be the least important factor. Indeed, taking the absolute and relative importance findings together, it would seem that the most logical areas to work toward improving would be satisfaction with pay and with the work itself. Both these two factors were rated relatively low in absolute satisfaction, but were among the top three in relative importance.

Work Commitment and Job Fit

Other good indicators of morale are the levels of work commitment exhibited by organizational members and whether employees feel that their skills and abilities are well matched to their present job assignment (i.e., they are experiencing a good "person/job fit"). In this section, these components of morale are evaluated for the sample carriers' employees.

Work commitment. Feelings of loyalty about work can emanate from a wide range of sources. Some people feel a great sense of commitment, and identification with their job and are said to be highly "job involved." Others may express equally high levels of commitment, but their feelings are attached more to the organization itself (i.e., their railroad carrier) rather than the job per se. This form of loyalty is aptly termed organizational commitment and can also be indirectly assessed by asking employees their intention to remain with their current employers. Finally, in unionized organizations, satisfaction with union membership can serve as a significant determinant of overall morale. Strong feelings of union loyalty or commitment would thus be viewed as reliable indicators of good morale. As shown in Table 7, the sample

carriers' employees reported their levels of work commitment in each of these areas. Specifically, they rated their job involvement, organizational commitment, intent to stay, and union loyalty.

Table 7

Overall Sample and Occupational Groupings by Average (M) Work Commitment and Overqualification Scores

Source	Overall Sample	Shop Crafts	Train Crews	Clerks	Maintenance
Work Commitment					
Job involvement[1]	2.66	2.74	2.61[b]	2.55[a]	2.80
Org. commitment[2]	4.17	4.47	3.92[f]	4.16	4.37
Intent to stay[3]	5.28	5.30	5.23	5.36	5.32
Union loyalty[1]	3.02	2.95	3.19[g]	2.95	3.03
Overqualification[1]					
Per overqual.	3.17	3.12	3.14	3.45[c]	3.01
Lack of growth	3.41	3.24	3.57[d]	3.47[e]	3.11

[1] Responses range from (1) strongly disagree to (5) strongly agree.
[2] Responses range from (1) strongly disagree to (7) strongly agree.
[3] Responses range from (1) 95-100% certain of leaving or trying to leave to (7) 95-100% certain of staying or trying to stay.
[a] The Clerks group is significantly different from the Shop Craft and Maintenance groups ($p \leq .05$).
[b] The Train Crews group is significantly different from the Maintenance group ($p \leq .05$).
[c] The Clerks group is significantly different from all three other groups ($p \leq .05$).
[d] The Train Crews group is significantly different from the Shop Crafts and Maintenance groups ($p \leq .05$).
[e] The Clerks group is significantly different from the Maintenance group ($p \leq .05$).
[f] The Train Crews group is significantly different from the Shop Crafts and Maintenance groups ($p \leq .05$).
[g] The Train Crews group is significantly different from the Shop Crafts and Clerks groups ($p \leq .05$).

Job involvement was measured by asking respondents to report their level of agreement with ten statements, on a 1 (strongly disagree) to 5 (strongly agree) scale (e.g., "Most of my personal life goals are job-oriented"). The overall mean score for job involvement was 2.66, suggesting that sample carriers' employees are slightly below the 3.00 midpoint of this measure. The clerk group (M=2.55) demonstrated significantly less job involvement compared to the shop craft group (M=2.74) and the maintenance group (M=2.80). Furthermore, the train crew group (M=2.61) demonstrated significantly less job involvement compared to the maintenance group (M=2.80).

Organizational commitment was measured in a similar manner, using nine

evaluative statements and a 1 (strongly disagree) to 7 (strongly agree) response framework. Sample items included, "I find my values and the railroad's values are very similar" and "I really care about the fate of the railroad." Organizational commitment for the overall sample (M=4.17) was higher than the theoretical midpoint of 4.00, indicating that the respondents were moderately committed to their respective railroads. A closer inspection of the various occupational groups revealed that one group, train crews (M=3.92), was significantly less committed than the shop craft (M=4.47) and maintenance (M=4.37) groups. This further suggests that organizational commitment is higher than the theoretical midpoint for three out of four groups of employees. Stated differently, these findings suggest that the train crew group be studied more intensely to learn why their organizational commitment is significantly lower than that of the other employee groups.

Although there was variation in employees' organizational commitment levels by occupation, no significant differences appeared among the occupational groups in intention to stay with the four railroads (see Table 7). This morale indicator was assessed by asking respondents to estimate the probability that they would be remaining with their current railroad employer in the near future on a scale of 1 (very low, I am ninety-five to 100 percent sure I will leave or try to leave) to 7 (very high, I am ninety-five to 100 percent sure I will stay or try to stay). The overall mean was 5.28, reflecting a strong (seventy-five to ninety-five percent) intention of staying with the current employer. While this is a strong sign of behavioral loyalty, it should be tempered with the observation that railroad employees operate under norms of seniority, serving to diminish changes in organizational membership, and that railroad skills may not be readily transferable to other employment situations.

The last form of work commitment to be evaluated was union loyalty. It was measured by again asking respondents to indicate their level of agreement or disagreement with nine statements, including "I feel a sense of pride being a part of the union" and "It's easy 'to be yourself' and still be a member of the union." Response options ranged from (1) strongly disagree to (5) strongly agree. The mean for the overall sample was 3.02, suggesting that respondents were more inclined to express feelings of loyalty than disloyalty toward the union. With respect to occupational differences, the train crew group (M=3.19) reported significantly stronger feelings of union loyalty than the shop craft group (M=2.95) and the clerk group (M=2.95).

To summarize the overall findings with respect to work commitment, the sample carriers' employees seemed to cluster near the midpoint on the purely attitudinal scales of job involvement, organizational commitment, and union loyalty. The more behavioral intention-to-stay measure exhibited stronger evidence of organizational commitment. Thus, it could be concluded that the sample carriers' employees are moderately committed. Relatively few occupational differences were observed. It does appear, however, that the train crew employees may be less committed to their respective railroads than to

their respective unions, as evidenced by data showing this group to have both the lowest organizational commitment and highest union loyalty scores. Similarly, the shop craft group may be more committed to the railroads than to their respective unions, as indicated by the data showing that this group had both the highest organizational commitment and the lowest union loyalty scores.

Job fit. One of the questions organizational leaders frequently consider is the extent to which they are fully utilizing the talents and abilities of their human resources. Where employees work without on-site supervision, the optimal use of the human component is particularly important in that assigning employees to appropriate jobs has a direct bearing on organizational performance, including customer satisfaction and public image. Perceiving that an employee is assigned to a job that does not fit the employee's talents and abilities also has adverse impact on morale. Two types of job fit are considered here: perceived overqualification and perceived lack of growth opportunities within one's job.

Perceived overqualification was assessed using four items measuring the extent to which employees felt underemployed or overqualified because of the education or experience they brought to the job (e.g., "Frankly, I am overqualified for the job I hold"). A perceived lack of growth opportunities was evaluated using five items reflecting the extent to which employees felt that their jobs do not change and provide limited opportunities for learning new things (e.g., "My job frequently provides me with new challenges"). In both instances, respondents were asked to report their level of agreement or disagreement with each statement using a (1) strongly disagree to (5) strongly agree format. It should be noted that, in this case, high scores are evidence of less than optimal job fit. Results are reported in Table 7.

The findings connected with perceived overqualification indicated that overqualification is somewhat of a problem in that the overall mean (M=3.17) exceeded the theoretical midpoint of 3.00. The clerk group (M=3.45) reported significantly higher perceptions of overqualification than the other three occupational groups (i.e., Ms=3.01, 3.12, 3.14). An even higher level of perceived lack of growth opportunities was noted. The mean for the overall sample was 3.41, and several occupational differences were observed. The train crew group (M=3.57) held significantly higher perceptions of no growth than the shop craft (M=3.24) and maintenance (M=3.11) groups. In addition, the clerk group (M=3.47) held significantly higher perceptions than the maintenance group (M=3.11).

Taken together, these two sets of findings suggest that railroad work may not be fully challenging the skills and abilities of railroad employees, particularly after the employee has gained some job experience. Developing different career paths and/or job rotation systems which would allow employees to engage in a wider variety of tasks might help ameliorate these perceptions. Such changes are admittedly difficult in a unionized work environment.

Perceptions of Work Environment

Several individual factors known to affect motivation and work behavior have been identified. A final class of determinants affecting morale are perceptions about the "climate" or work environment within an organization. Respondents were asked to describe their perceptions of their work environment. More specifically, they were asked to rate the work environment at the four railroads with respect to (1) structure (i.e., how logically structured and clearly defined their jobs were), (2) warmth (i.e., the atmosphere at the work place with respect to how relaxed and easy going the work climate was), (3) support (i.e., the perceived helpfulness of people within the organization), (4) identity (i.e., the level of personal identification with and pride in the work place), (5) safety (i.e., the importance of safety as a concern of management, levels of safety training, etc.), (6) stress (i.e., the level of strain, tension, and anxiety associated with working at the four railroads), and (7) grievance effectiveness (i.e., the effectiveness of the complaint handling process at the four railroads, satisfaction with procedures for resolving disputes, etc.). Response options could range from 1 (definitely disagree) to 4 (definitely agree) for the first six measures, with 2.50 representing a neutral score (i.e., neither agree nor disagree). For grievance effectiveness, the seventh measure, response options could range from 1 (strongly disagree) to 5 (strongly agree), with 3 representing the neutral score (i.e., neither agree nor disagree). All of the findings connected with perceptions of the work environment are presented in Table 8.

Structure. Overall perceptions of structure in the work environment (M=2.17) were low vis-a-vis the theoretical midpoint of the response option range. This finding suggests that the sample carriers' employees are inclined to disagree that the four railroads have achieved an optimal structure. For example, an item within this measure receiving the lowest average score was, "Our productivity sometimes suffers from lack of organization and planning" (M=1.79). Additionally, the train crew group (M=2.10) was observed to have significantly lower perceptions of the work environment than the maintenance group (M=2.26).

Warmth. The sample carriers' employees generally perceive a lack of warmth in the work environment (M=2.25). Furthermore, there were no significant differences observed between occupational groups in their ratings of warmth in the work environment. There is considerable room for improvement in this dimension of the work environment.

Support. The data associated with the presence of support in the work environment across the overall sample (M=1.63) indicated that the employees tended to disagree with the notion that a spirit of helpfulness and cooperation exists in the sample carriers' work environment. This was the lowest score obtained among all the measures considered in this section. Across occupational groups, the train crew group (M=1.53) disagreed more strongly with the notion of support than the shop craft group (M=1.71) and the maintenance group (M=1.76).

Table 8

Overall Sample and Occupational Groupings by Average (M) Work Climate Characteristics

Climate Dimension	Overall Sample	Shop Crafts	Train Crews	Clerks	Maintenance
Structure[1]	2.17	2.20	2.10[a]	2.13	2.26
Warmth[1]	2.25	2.44	2.14	2.38	2.28
Support[1]	1.63	1.71	1.53[b]	1.61	1.76
Identity[1]	2.21	2.33	2.10[b]	2.13[c]	2.34
Safety[1]	2.70	2.81	2.52[d]	2.86	2.69[e]
Stress[1]	2.61	2.24	2.90[f]	2.36	2.57[g]
Grievance effectiveness[2]	2.87	2.86	2.92	2.95	2.86

[1] Scores range from 1 (definitely disagree) to 4 (definitely agree).
[2] Scores range from 1 (strongly disagree) to 5 (strongly agree).
[a] The Train Crews group is significantly different from the Maintenance group ($p \leq .05$).
[b] The Train Crews group is significantly different from the Shop Crafts and Maintenance groups ($p \leq .05$).
[c] The Clerks group is significantly different from the Shop Crafts and Maintenance groups ($p \leq .05$).
[d] The Train Crews group is significantly different from all three other groups ($p \leq .05$).
[e] The Maintenance group is significantly different from the Clerks group ($p \leq .05$).
[f] The Train Crews group is significantly different from all three other groups ($p \leq .05$).
[g] The Maintenance group is significantly different from the Shop Crafts and Clerks groups ($p \leq .05$).

Identity. The sample carriers' employees tended to disagree with the claim that there was a feeling of identity in the work environment. The overall average rating obtained (M=2.21) positioned the sample carriers' employees as noticeably below the midpoint of the theoretical range. Across occupational groupings, the train crew group (M=2.10) and the clerk group (M=2.13) were found to be significantly less inclined to agree with the perception that employees personally identified with and took pride in their work at the four railroads, when compared to the shop craft (M=2.33) and the maintenance (M=2.34) groups.

Safety. The overall perception of safety (M=2.70) indicated that the sample carriers' employees were more inclined to agree than disagree with the

claim that there is high safety awareness in the work environment. Moreover, this item was the only climate dimension to exceed the theoretical midpoint, implying that safety was the most favorably perceived aspect of the work environment. Across occupational groupings, the train crew (M=2.52) group was significantly less inclined to agree with assessments regarding the importance of safety, as compared to the other occupational groups (i.e., Ms= 2.69, 2.81, 2.86). Also, the maintenance group (M=2.69) rated safety significantly lower than the clerk group (M=2.86).

Stress. When perceptions of stress in the work environment were considered, the sample carriers' employees, overall, were inclined to agree with the notion that stress was present in the work environment (M=2.61), with higher scores indicating higher perceptions of stress. Individual stress items exhibiting the highest scores, thereby identifying the most problematic areas, entailed time spent away from one's family and feelings of the job making one nervous, fidgety, or frustrated. Across occupational groupings, the train crew group (M=2.90) reported significantly higher stress levels than all three other groups. Moreover, the maintenance group (M=2.57) reported significantly higher stress levels than the shop craft group (M=2.24) and the clerk group (M=2.36). While working away from home may be integral to some railroad work, investigation into factors which make employees feel nervous or frustrated may merit consideration.

Grievance effectiveness. The data associated with the grievance effectiveness system positions the sample carriers' employees (M=2.87) as slightly less than neutral with respect to satisfaction with the grievance resolution process. Individual scale items indicating areas of high satisfaction with the grievance system included the thoroughness of the union in representing members (M=3.10) and how the system would protect employees if they were pressured by a supervisor to falsify a report (M=3.25). Areas of relative dissatisfaction included the time it takes to settle a grievance (M=2.12) and the level of neutrality demonstrated by arbitrators (M=2.32). There were no significant differences observed across occupational groupings, underscoring a fundamental level of agreement in opinion.

Conclusions and Implications

The results of this study clearly indicate that railroad employees are not a homogeneous group. Significant differences in attitudes and satisfaction among the work environment groups were observed. Thus, management needs to consider each work environment group differently when identifying and addressing specific problem areas. Having said that, however, there are two general problem areas that need to be addressed. Across all groups, employees expressed rather low satisfaction with pay and with the work itself while rating each of these factors among the top three in relative importance.

The dissatisfaction with pay seems surprising given the level of railroad

wages relative to comparable industries (i.e., manufacturing and other transportation sectors) in the United States. However, the average real wage per hour has declined for rail employees since 1985, and employees went three years without a pay raise during the last prolonged collective bargaining process (though they received a retroactive boost in pay after settlement). The implication is that management needs to be more effective in communicating how good railroad pay is relative to other industries and how well rail wages have held up relative to other industries (as indicated in Table 3).

The reported low level of satisfaction with the work itself is surprising, particularly when compared to the employees' commitment to the organization. The authors interviewed railroad labor relations personnel prior to conducting the survey. Their perception was that railroad workers feel a strong commitment to their craft, but a low commitment to the railroad company. The overall survey results indicate otherwise. Attitudes toward the work itself need to be explored further to determine why employees are not satisfied before potential solutions (e.g., job redesign, job expansion) can be identified.

The other factor that was ranked in the top three in terms of importance was safety. Railroad safety is certainly a timely topic since Congress is presently considering new legislation dealing with a number of safety issues. The railroad unions have been very critical of the railroads' safety performance records and are actively lobbying for new safety legislation.[11] The survey results, however, reveal that safety was the most favorably perceived aspect of the work environment by employees and the only one with a mean score above the scale midpoint (and each group's mean score was above the mid-point as well). The survey questions in this section dealt with the importance and emphasis on safety by the railroad, the openness of discussions about safety between management and labor, and the adequacy of safety training. While there is, of course, always room for improvement in the area of safety, the overall positive perception of the safety environment by surveyed employees suggests that rank-and-file union members feel management is performing reasonably well with respect to safety concerns. Also, it may be beneficial for management to review the processes and programs that were used to improve the safety climate to see if they can provide insights for improving employee attitudes about other dimensions of the work environment.

With respect to the various work groups, the train crew group is the most frequent outlier, expressing levels of satisfaction and dissatisfaction in ways different from the other occupational groups. For example, train crew employees display the least commitment to the organization and the highest loyalty to their union. They are also least satisfied with the work itself, their supervisors, and several aspects of the work environment (i.e., structure, support, identity, safety, and stress). Regardless of the causes for their greater

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[11]David Barnes, "Molinari Unveils Railroad Safety Bill; Oberstar, Unions Drafting Separate Bills," Traffic World, April 29, 1996, pp. 9-10.

overall dissatisfaction (e.g., work away from home, more uncertain schedule of work, perceived danger of work, the crew size and 108-mile day results from the last round of collective bargaining), this group merits special attention.

Finally, the long average tenure and the expression of strong intent to stay with the railroad are noteworthy. Usually, one would expect to find highly satisfied employees in such a situation. This is not the case in the railroad industry. However, management should view this as an opportunity. Long-term employees who intend to stay with the company form an excellent foundation for the quality efforts and employee commitment required to be service competitive in today's transportation markets. Railroads that have a true quality orientation attempt to satisfy their internal customers (i.e., employees) as well as their external customers. This article identifies areas where more effort is required.

APPENDIX

Sections of Survey Pertaining to Employee Morale

Dimension of Morale	Number of Items	Cronbach's alpha*
Satisfaction		
Job Satisfaction[12]		
with work	18	0.83
with promotions	9	0.83
with supervisor	18	0.92
with coworkers	18	0.91
with pay	8	0.82
Relative Importance (i.e., rank ordering) of Satisfaction Factors**	6	NA
Commitment and Job Fit		
Job Involvement[13]	10	0.84
Organizational Commitment[14]	9	0.91
Intention to Remain with the Company**	1	NA
Union Commitment[15]	9	0.94
Feelings of Overqualification***	10	0.74

[12]P.C. Smith, M. Kendall, and C.L. Hulin, The Measurement of Satisfaction in Work and Retirement (Chicago: Rand McNally, 1969).

[13]R.N. Kanungo, "Measurement of Job and Work Involvement," Journal of Applied Psychology, 67, 1982, pp. 341-349.

[14]R.T. Mowday, R.M. Steers, and L.W. Porter, "The Measurement of Organizational Commitment," Journal of Vocational Behavior, 14, 1979, pp. 224-247.

[15]L.E. Tetrick, J.W. Thacker, and M.W. Fields, "Evidence for the Stability of the Four Dimensions of the Commitment to the Union Scale," Journal of Applied Psychology, 74, 1989, pp. 819-822.

Dimension of Morale (cont.)	Number of Items	Cronbach's alpha*
Perceptions of Work Climate		
Organizational Climate[16]		
structure	8	0.76
warmth	5	0.72
support	5	0.61
identity	4	0.74
safety**	9	0.86
job stress[17]	13	0.91
Grievance System Effectiveness[18]	18	0.88

* Cronbach's alpha is a statistical test of the reliability of the scale measure. Generally, alpha values of 0.7 or greater indicate an acceptable level of reliability.

** Sections developed by authors for this study.

*** Sections taken from unpublished sources.

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[16]G.A. Litwin and R.A. Stringer, Jr. Motivation and Organizational Climate (Boston: Harvard University, 1968).

[17]D.F. Parker and T.A. DeCotiis, "Organizational Determinants of Job Stress," Organizational Behavior and Human Performance, 32, 1983, pp. 160-177.

[18]A.E. Eaton, M.E. Gordon, and J.H. Keefe, "The Impact of Quality of Work Life Programs and Grievance System Effectiveness on Union Commitment," Industrial and Labor Relations Review, 45, 1992, pp. 591-604.