

Strategic choices, their implementation, and their effects on workers: Evidence from the auto parts supply sector

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ABSTRACT

Using data drawn from both managers (N=24) and employees (N=888) from eight auto parts supply companies in Detroit, MI, the implementation of workplace strategy and its effects on the workforce are examined. Management and workers reported that human resources, engineering and research and development, or technology received the greatest resource emphasis at the workplace. The implemented mix of these activities: teamwork, job rotation, on-the-job and off-the-job training, investment in new equipment, and computer usage, are consistent with management's choice of strategy. The resulting workplace climate, as measured by perceived fairness, safety, overtime appropriateness, and pain is only partially related to workplace strategy. Satisfaction with working conditions is significantly reduced when engineering and R&D is the emphasized workplace strategy. Safety, pain, and overtime appropriateness also exhibited significant differences. This study, for the first time, provides details of the manner by which strategy choice and its implementation affect workers.

Keywords: Implementation, strategy, human resources.

INTRODUCTION

The relationships between business strategies, market-positioning strategies and workplace practice strategies in the automobile parts supplier industry have been shown in great detail by Cooke (2007) and Chen, Cheng & Lai (2010). However, Hatten, James, and Meyer (2004) showed, in the banking industry, that the larger impact on company performance was not due to the *choice* of strategy, but, rather, the *implementation* of strategy. Huselid (1995) points out that accurate measures of the extent of strategy implementation, let alone of its success, are difficult to obtain. Management, for obvious reasons, will report full, successful implementation of any workplace practice. The employees are an alternative source of information regarding the extent and success of strategy implementation. Further, the employees are, arguably, the most important actors for the success of the company. However, there are few examples in the literature, to this point, of examinations of the implementation of strategy and employee responses to that implementation. This study does that, closely following the rationale presented in the Cooke (2007) study.

Three propositions are examined here. First, the implementation of a workplace strategy will emphasize those practices that are central to the chosen strategy. For example, the implementation of the HRM strategy will emphasize HRM practices such as teamwork and job rotation. The implementation of the Technology strategy will emphasize the use of the latest designs in machinery and computers. That is, the equipment will be newer and computer usage will be more extensive than for the other strategies. Second, employees will readily observe the implementation of these different features of workplace strategies. Third, employee satisfaction will be greater and the workplace climate more worker friendly in companies choosing to emphasize HRM in their workplace strategy.

STRATEGIC CHOICE AND ITS IMPLEMENTATION

Cooke (2007) examined the responses from 175 corporate level executives in the automobile parts supplier sector regarding the strategic positioning of their company. The CEO, the vice-president of Operations, and the vice-president of HR, or their equivalents, provided a rich, complex overview of the business strategies, the market-positioning strategies, and, of greatest interest here, the workplace strategies chosen by the company. The majority of respondents gave the greatest emphasis to Human Resources, Engineering and Research and Development, or Technology as their workplace strategy. Only a few companies reported equal emphasis on two or all three of these workplace strategies.

As examined herein, a variety of practices were implemented given these strategic choices. Teamwork, job rotation, technology, and training all received greater or lesser emphasis given the strategic choice. Moreover, along with the extent, the form of the implementation varied with the choice of strategic emphasis.

Teamwork and Job Rotation

Organizing work so that it is performed by teams of workers and the, sometimes, associated job rotation among team members are but two of the many aspects of High Performance work systems found by researchers (Arthur, 1994; Huselid, 1995; MacDuffie, 1995; Spreitzer, Noble, Mishra, & Cooke, 1999). In general, team-based reorganization of work has

led to productivity increases. As expected, these practices are more likely to be found in companies placing their strategic emphasis on HRM.

The productivity increase often occurs because the team assumes management duties (Carroll, 1997; 1998; Donovan, 1996; Faxen, 1978). In order to effectively assume these duties, both social (team-building) and technological training are necessary (Carroll, 1997; Faxen, 1978). The training must be delivered properly for the team to be effective (Bushe, Havlovic, & Coetzer, 1996a;b; Donovan, 1996). Once a team is formed and has made improvements, adding new members is difficult; they tend to upset the team (Carroll, 1997). Collins (1995), in examining the implementation of a gainsharing program from a political perspective, provides another reason for this difficulty - go-getters, both in management and the workforce, are treated skeptically by opponents.

For these reasons, trust in management and resulting job security are both necessary for the team-based work for employees and employers. For employees, they need to know that they will not be downsized as the team assumes management functions and is more productive. For employers, they must be able to recoup the costs of the extensive training of the team members to mold them into a team, without losing team members. This is only one of the manners by which “value created by adopting more effective HRM practices will accrue to employees” (Huselid, 1995, p. 667). Trust and turnover are key issues that must be addressed for High Performance work practices to be effective. Further, employees expect other workplace practices to be consistent with, and support, the importance of the team. Workplace culture must be supportive of the reorganized work and employees must perceive the rewards.

Another aspect of team-based work that improves productivity is that feedback regarding quality is available closer to the decision makers. Carroll’s work (1997, 1998) emphasizes this aspect of teamwork. His work finds that the both the speed and informational content of feedback were higher in team-based work systems, resulting in a synergistic impact on productivity. A key factor affecting productivity is whether job rotation is part of the team-based work design. Carroll (1998) stresses that it is the collective ability of team members to solve problems providing their different perspectives to each job in the rotation that is the most important contributor to the gains made. Yet, in the same paragraph, the negative effect of peer pressure on performance is brought up (p. 25). Clearly, for teamwork and job rotation to be effective for *all* employees, adequate knowledge, skills, and abilities are necessary for *every* team member. Thus, effective training, delivered to every team member, is a key to performance improvements.

Hypothesis 1: Employees of companies emphasizing the HRM workplace strategy will report greater usage of a) Work Teams, b) Job Rotation, and [as a result] c) On-the-Job Training, than employees of companies emphasizing Engineering & Research and Development or Technology strategies.

Training

Training is the one component mentioned in the literature as a key to successful implementation of high performance work systems (Doeringer, Evans-Klock, & Terkla, 1998; Gittleman, Horrigan, & Joyce, 1998). However, for the most part, training has been treated singularly (e.g., Arthur, 1994; Huselid, 1995), that is hours of training for new hires are treated as equivalent to hours for experienced employees. MacDuffie (1995) discusses off-the-job and

on-the-job training, and then breaks training into that done for new hires and that done for experienced employees. Unlike the orientation of new employees, which focuses on company policies, practices, and expectations, training aimed at experienced employees is more likely to yield productivity gains.

Apart from orientation, there are two distinctly different types of training: on-the-job and off-the-job. They are applied in different situations. For HRM activities, training focusing on team building activities tends to be off-the-job, and training for successful job rotation is more likely to be on-the-job. Training for using the latest technology focuses on maximizing the efficiency of the employee-machine interface. That training will focus on getting the employee the knowledge and skill to use the machine (there is most likely less job rotation here) most effectively. Training for technology purposes is more likely to be balanced between off-the-job - classroom learning about the machine and its operation, and on-the-job - actually operating the machine.

The technology strategy is chosen to arrive at the lowest cost of producing particular items. Hence the intent is to wring any cost savings out of a particular production process by using the latest technology. On average, the emphasis is on efficiency not flexibility. Thus, relatively, training here, seen as a cost, will focus on using the technology and will be the minimum amount necessary. Zammuto and O'Connor (1992) point out the many implementation differences between the use of technology aimed at cost-reduction and the use of technology aimed at flexibility. Because the focus of the Engineering and Research and Development strategy is on new product development and/or production process innovation, flexibility is desired. Employees need to be trained in creative manners of using the current technology and to think of new technologies that will improve the process. Hence these employees need to be fully aware of the capabilities of the current technology, and they need the interpersonal skills to act as a creative group. Note that the organization cultures necessary to support the success of the Technology and the Engineering and Research and Development strategies are drastically different, even though both use computers and newer machinery.

Hypothesis 2: Employees of companies emphasizing the Engineering & Research and Development workplace strategy will report greater amounts of total training than will employees of companies emphasizing the HRM or Technology strategies.

Hypothesis 3: Employees of companies emphasizing the Technology workplace strategy will report lesser amounts of total training than will employees of companies emphasizing the HRM or the Engineering & Research and Development strategies.

Note that the mix of training also follows an order. The most off-the-job training will be for employees of companies choosing the Engineering & Research and Development strategy, the most on-the-job training will be for employees of companies choosing the HRM strategy.

Technology

Turning to the use of technology at the workplace, Huselid (1995) points out the traditional view of interchangeability of labor and capital and how the threat of that substitution undermines the supportive culture necessary for High Performance work systems to have their full, positive effect. In contrast, MacDuffie (1995) finds synergies for the combination of cutting edge technology allied with "high commitment" work practices. Here, high commitment work

practices, applied in team-based work systems, involved contingent compensation and extensive training. Thus, the choice to use technology must be bundled with other practices in order to be effective.

Hypothesis 4: Employees of companies emphasizing the Technology workplace strategy will report greater usage of a) Newer Equipment and b) Computers than employees of companies emphasizing Engineering & Research and Development or HRM strategies.

Zammuto and O'Connor (1992) postulate, and Doeringer, et al. (1998) find, that the workplace climate must be appropriate for the implementation of technology to be successful. Focusing on the use of computers at work, both sets of researchers find that only where workers are properly trained to use all aspects of the new technology, and given the authority to respond to changes in the work and its flow, will the implementation of technology be successful. Given the needs for trust and job security discussed above, these needs for compensation, training, and authority mean that the entire climate must be examined to determine whether the strategy choice and its implementation will be successful.

Climate

One of the desired outcomes of implementing the HRM workplace strategy is increased commitment of the employees to helping the company be successful. The focus is on the employee-work design relationship more so than for the Technology or Engineering and Research and Development strategies. Given the focus on the employees' commitment, successful implementation of the HRM strategy should exhibit a greater improvement in employee affective states than for employees of companies emphasizing other strategies. To this end employees should report increased satisfaction with their job, working conditions, and pay. Further, given that the workplace climate is designed to show more concern for employees (Zammuto & O'Connor, 1992), the employees should report that the workplace is more fair, safer (Marcoulides & Heck, 1993), they work a more appropriate amount of overtime, and they work in less pain (McClain, 1995) than the employees of the companies choosing other workplace strategies. Note that Marcoulides and Heck (1993) and McClain (1995) associate the safer work environment aspects of the HRM focus with the increased worker control over their job, its pace, and the environment. Following the rationale of Doeringer, et al. (1998) regarding quality, employee control over the job is increased in the HRM and Engineering and Research and Development strategies, but minimized in the Technology strategy. All of this leads to the following:

Hypothesis 5: Employees of companies emphasizing the HRM workplace strategy will report greater a) Job Satisfaction, b) Working Conditions Satisfaction, and c) Pay Satisfaction, than employees of companies emphasizing Engineering & Research and Development or Technology strategies. They will also perceive that: d) their workplace is fairer, e) safer, f) they work in less pain, and g) they do not work Too Much Overtime compared to employees of companies emphasizing Engineering & Research and Development or Technology strategies.

Overtime is somewhat problematic. Workers depend on a certain amount of overtime, and its premium pay, to make up for lower wages. Consequently, some overtime is seen as not only a good thing, but as necessary. Too much overtime, however, intrudes on one's personal life, and, particularly if forced, is seen as a negative thing.

SAMPLE

The data were drawn from part of a larger project funded by the Russell Sage and Rockefeller Foundations. The employee responses to a questionnaire surveying their perceptions are used here. The surveys were conducted on location, during work time, across all shifts as needed, at eight unionized firms located in Michigan during 2000-2001. A member of the research team was present at all times during the survey. Response rates ranged from 55% to 86% across the eight firms, with an overall response rate of 69%, yielding a total of 888 observations.

These employee data were then paired with data drawn from questionnaire data obtained from the HRM manager, the operations manager, and the plant manager at each location. For these facilities, the managers agreed upon the company strategic orientation with respect to workplace emphases. Managers of only one company each identified their company as emphasizing HRM and Technology workplace emphasis (with six companies emphasizing Engineering & Research and Development). Although this limits the generalizability of the results, the tests of the hypotheses examine whether the employees perceive that the workplace practices implemented are consistent with the workplace strategy emphasis. Thus having only one firm choosing HRM and one firm choosing Technology is not as problematic as might initially be surmised. Differences will be found only when there are differences across companies **and** the within company variance is less than the across company variance, reflecting common perceptions across employees.

Those differences are hypothesized as following a logic that supports the rational choices of managers choosing to implement HRM practices and/or technology improvements consistent with their workplace strategy emphasis. If the implementation is consistent, as would be expected, any differences in the employees' perceptions would more likely be due to the implementation differences than due to random chance. Similarly, as shown by Cooke (2007), all eight firms place emphasis on all three strategic areas (HRM, Technical, and Engineering & Research and Development) to gain any competitive advantage; the difference in emphasis is a matter of degree. This inquiry attempts to determine whether these different emphases receive different enough implementation emphases for employees to readily discern differences.

MEASURES

The strategic emphasis was measured using the responses to the following question:

Without using fractions, please allocate 10 points to reflect the priority your company has placed over the last 5 years on the following operational activities:

- a. application of the latest technologies, equipment and technical processes ____ .0 pts.
- b. improvements in human resource management practices ____ .0 pts.
- c. R&D and engineering to improve products and services ____ .0 pts.

Total 10.0 pts

The point allocation yields the relative emphasis on each of these activities. There was agreement among all of the management respondents at each facility regarding the activity with the greatest emphasis, though there was some variance in the point allocation.

The employee affective and climate measures were measured using seven point Likert scales ranging from strongly disagree (1) to strongly agree (7). Teamwork was measured with a yes or no question. Job rotation was measured with a "not at all", "some", or "a lot" choice, as were the newness of equipment (in the last 5 years, using "none"), and computer usage (also using "none"). These were coded 0, 1, 2. Training hours were measured with the following question format:

Roughly, how many hours of classroom [on-the-job] training have you received from the company since you started working here? ___ hours

Hours worked, wages, and layoffs were measured objectively.

RESULTS

The results for the ANOVA tests of the relationships of employee perceptions to workplace strategy emphases are found in Table 1. In the main the first two propositions receive support. There are differences in implementation consistent with the different strategic emphases. And employees do perceive differences in workplace practices that are consistent with the company's choice of workplace strategy. The form of training differs by strategic emphasis. Yet the third proposition does not receive support. Employees of the company choosing a HRM emphasis report only slightly better affective results, surprising given an employer supposedly showing greater concern for these issues as indicated in Table 1 in the appendix.

All four of the hypotheses (1a, 1b, 4a, 4b) concerning the relationship of HRM and Technology strategy emphasis and the implementation of workplace practices receive support. The company choosing a HRM emphasis was perceived as having a greater use of work teams and more job rotation than the other companies. The company choosing a Technology emphasis was perceived as having more new equipment and more computer usage than the other companies, the latter significantly more than the company choosing a HRM emphasis.

There are significant differences, associated with large magnitudes, regarding training. The company emphasizing HRM provided significantly less classroom training and significantly more on-the-job training than the other companies. This is consistent with the greater use of job rotation, as hypothesized (1c). The company emphasizing Technology provided significantly less total training than did the companies emphasizing Engineering & Research and Development and the company emphasizing HRM, although it did provide significantly more classroom training than did the company emphasizing HRM. Hypotheses 2 and 3 are supported.

Of the four measures of satisfaction, the only difference found is the significantly lower workplace satisfaction perceived by the employees of the companies having an Engineering & Research and Development workplace strategy emphasis. For this limited sample, HRM emphasis does not lead to higher levels of satisfaction. Hypotheses 5a, 5b, and 5c do not receive support.

There is support for two of the four hypotheses concerning climate. Employees at the company emphasizing HRM perceived that they were safer and did not work too much overtime

compared to the employees of the companies having an Engineering & Research and Development or Technology workplace strategy emphasis. Hypotheses 5e and 5g receive support. Hypothesis 5d, concerning fairness, does not receive support. There are no significant differences in perceived fairness. A surprise here is the results regarding pain. Employees of the company emphasizing Technology perceived that they worked in significantly less pain than the employees at the other companies.

CONCLUSIONS

This initial study of employee perception of company strategy implementation lends support to the conclusion that employees can clearly perceive the implementation of corporate strategy and that management implements programs consistent with their intended strategies. There are distinct differences in the type of training used to support the implementation of different workplace strategies. Where HRM practice implementation is the strategic thrust, particularly when it involves job rotation among team members, on-the-job training is emphasized. Where technology is emphasized, there is more classroom training than there is for the company emphasizing HRM. The greater flexibility needed at companies pursuing Engineering & Research and Development emphasis led to a greater total amount of training.

Even given these distinctive characteristics, traditional measures of satisfaction and key measures of workplace climate did not reflect many differences. Even companies choosing to emphasize technology at the workplace did surprisingly well at maintaining a (relatively) satisfied workforce in an acceptable (relatively) climate.

Note that labor and product market influences are controlled for in this study. All of these companies operated in the metropolitan Detroit labor market and all were suppliers of auto parts to auto assemblers. Even so, there may be very different types of employees surveyed here. Although the average pay varies from \$10.84/hour to \$13.62/hour, there are no significant differences in pay satisfaction. The selection mechanisms of the companies may operate to employ higher or lower skilled individuals. Higher skilled individuals would be expected at the companies emphasizing Engineering & Research and Development, whereas the company emphasizing Technology may do as well employing individuals with lower skills - at a commensurately lower pay rate.

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APPENDIX

Table 1
Means or Proportions of Employee Responses for Different Workplace Strategic Emphases
Significance of Differences (ANOVA)

Variable	Overall	Workplace Strategy Emphasis		
		Human Resources	Engineering & Research	
Technology				
HRM				
Use of Work Teams*	.484	.561	.460	.500
Use of Job Rotation***	.989	1.23	.952	.908
Technology				
Newness of Equipment**	.929	.829	.925	1.03
Use of Computers***	.463	.167	.504	.584
Training				
Hours of Classroom Training***	41.02	10.02	50.87	36.08
On the Job Training Hours***	47.93	69.56	48.94	26.30
Training Satisfaction	3.98	4.02	3.91	4.14
Satisfaction				
Job Satisfaction	4.48	4.66	4.40	4.61
Working Conditions Satisfaction***	4.00	4.26	3.85	4.26
Pay Satisfaction	2.80	2.70	2.89	2.57
Climate				
I Am Treated Fairly	4.18	4.46	4.05	4.36
I Feel Safe***	4.18	4.75	3.97	4.37
I Work in Pain***	4.72	4.80	4.83	4.29
I Work Too Much Overtime***	3.00	2.33	3.22	2.84
Paycheck				
Hours***	45.64	41.88	46.14	47.04
Wages***	12.77	11.88	13.62	10.84
Layoffs***	.360	.848	.235	.370
N	860s	140s	550s	170s

* - differences significant below the .1 level, two-tailed test

** - differences significant below the .05 level, two-tailed test

*** - differences significant below the .01 level, two-tailed test