

**"Low-Involvement Work Practices
and Business Performance"**

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XIV. HUMAN RESOURCES AND BUSINESS PERFORMANCE

Low-Involvement Work Practices and Business Performance

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During the last decade, numerous studies have appeared that provide quantitative estimates of the effects of human resource management practices on business performance (see, as examples, Mitchell, Lewin, and Lawler 1990; Arthur 1992; Huselid 1995; MacDuffie 1995; Huselid, Jackson, and Schuler 1997; Ichniowski, Shaw, and Prensushi 1997; Lee and Johnson 1998; Batt 1999; Applebaum, Bailey, Berg, and Kalleberg 2000). Taken as a whole, this exciting stream of research appears to support the conclusion that so-called high-involvement or high-performance work systems are, in statistical parlance, significantly positively associated with various measures of team, plant/establishment, business unit, and overall company performance.¹

For the fields of human resources (HR) and industrial relations (IR), these studies and the generalized conclusion to which they lead are of signal importance. Regarding HR, recent high-involvement work systems research lends credence to the claim (voiced by some scholars and practitioners) that human resources can be strategically managed to achieve competitive advantage, perhaps even sustainable competitive advantage, to the business enterprise (Pfeffer 1998). This research also gives credence to the claim that modern human resource management differs significantly from traditional personnel management, both analytically and in practice (Ulrich 1997). Regarding IR, recent high-involvement work systems research shows that it is possible to go well beyond narrowly focused union wage impact studies, which have long been at the center of IR research, to analyze rigorously the

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effects of other "labor" practices on business performance. Further, the findings and conclusions drawn from high-involvement work systems research strongly support the view that a shift (some say transformation) from unions to management as the dominant force (or actor) in the employment relationship has recently taken place (Dunlop 1998; Kochan, Katz, and McKersie 1986).

But this is not all. By specifying and quantitatively estimating the effects of high-involvement work systems on business performance, today's researchers have gone well beyond earlier generations of organizational-behavior scholars, many of whom believed but were unable to demonstrate rigorously that participatively oriented "people management" practices could benefit both employers and employees. Consequently, one may reasonably conclude that recent high-involvement work systems research has rather quickly come to occupy a dominant place in the fields of HR, IR, and organizational behavior.

Yet there is reason to question this dominance and, more fundamentally, the conceptual and empirical foundations of contemporary high-involvement work systems studies. In this regard, I do not have in mind the lack of a uniform, widely agreed upon definition of high-involvement work systems; the heavy reliance on cross-sectional studies (and paucity of longitudinal studies); or the oversampling of manufacturing businesses (and undersampling of service businesses) in high-involvement work systems research. These and related concerns about contemporary high-involvement work systems research have been ably identified and elaborated by Godard and Delaney (2000). Rather, I have in mind what I regard as two major exclusions from high-involvement work systems research. First, and to the best of my knowledge, *none* of this research takes account of—controls for—the effects of marketing, finance, operations, or other areas of business practice in estimating the effects of high-involvement work systems on business performance.² Second, as both its name and its extant research designs indicate, high-involvement work systems research appears to focus exclusively on high-involvement work practices and to exclude from consideration what may best be termed low-involvement work practices.³ It is the second of these exclusions from high-involvement work systems research, that is, low-involvement work systems and practices, that serves as the central focus of this paper.

Low-Involvement (and High-Involvement) Work Practices

While the adoption and diffusion of high-involvement work systems among business enterprises in the United States and abroad have been widely attested to and increasingly studied, there also has been substantial

growth and diffusion of low-involvement work systems and practices among business enterprises—including some of the same enterprises that utilize high-involvement work practices for certain portions of their workforces. By low-involvement work practices, I am *not* referring to traditional, or high-control, work systems based on the principles of scientific management, which typically constitute the point of departure or baseline comparison for high-involvement work systems researchers.⁴ Instead, I am referring to such practices as part-time employment, temporary employment, contract employment, vendored employment, and outsourcing.⁵ Another way to think about the distinction between high-involvement and low-involvement work systems is to distinguish core employees from peripheral employees. Following this dichotomy, core employees are most likely to be covered by (or subjected to) high-involvement work systems and practices, while peripheral employees are most likely to be covered by (or subjected to) low-involvement work systems and practices (Sherer 2000; Lewin and Mitchell 1995). In any case, and analogous to recent high-involvement work systems research, the key question to be addressed here is “Do low-involvement work systems have significant effects on business performance?”

Conceptually, low-involvement work systems characterized by part-time employment, temporary employment, contract employment, vendored employment, outsourced work and employment, or some combination thereof can be posited to improve business performance by resulting in lower labor or payroll costs rather than higher productivity, improved product or service quality, or enhanced revenue (or revenue growth). High-involvement work systems, by contrast, are typically considered likely to improve business performance by resulting in higher productivity, improved product or service quality, enhanced revenue or revenue growth, or some combination thereof rather than lower labor or payroll costs. In research that uses overall company or component-business-unit-level financial performance measures—for example, return on capital, market value, and net revenue per employee—as dependent variables, the different paths to improved business performance between low-involvement and high-involvement work systems matter little, if at all, because such measures reflect the combined influences of cost-reducing and productivity-, quality-, and revenue-enhancing work system initiatives and practices. In research that uses work-unit or workplace-level operating performance measures—for example, labor costs, productivity, and product or service quality—as dependent variables, the different paths to improved business performance between low-involvement and high-involvement work systems are likely to matter quite a lot.

Further, in a conceptual vein, concentrating attention on low-involvement work systems and their effects on business performance does not

require the exclusion of high-involvement work systems from consideration. To the contrary, the question of whether and to what extent low-involvement *and* high-involvement work systems separately and together affect business performance appears to be a key question in contemporary HR management research and practice, all the more so given that many businesses, including those that are well known for their high-involvement work practices, apparently employ both low-involvement and high-involvement work practices (Pfeffer 1994).⁶

This paper presents preliminary findings from ongoing research into the effects of low-involvement work systems on the economic performance of samples of (1) U.S.-based business enterprises, (2) business units of multiunit U.S.-based business enterprises, (3) California-based manufacturing plants or establishments (hereafter called plants), and (4) sales and service field offices of a U.S.-based national insurance company. The data used in this study cover the 1995–1998 period and were obtained from secondary sources, field research, and especially surveys of executives and managers concerning their organizations' uses of low- (and high-) involvement work practices, economic performance, and other (control) variables. The rationale for this multilevel, quasi-triangulation approach is that with the paucity of research into the effects of low-involvement work systems on business performance, there is little or no theoretical or empirical justification for choosing one type of design over another. Further, as is well known, a triangulation-based research design allows us to determine whether the findings from the separate components of the design converge or diverge. Main findings from each of the four substudies composing this research are presented in summary fashion in the following sections.

Low-Involvement Work Systems and Business Enterprise Performance

To examine the effects of low-involvement work systems on the (consolidated) performance of (U.S.) business enterprises, a sample of such enterprises was selected from Standard and Poor's COMPUSTAT:I file.⁷ This source was used to construct economic performance measures for each business enterprise. A randomized 10% sample of COMPUSTAT business enterprises was selected, and a survey questionnaire was sent to the head human resource officer, chief operating officer, chief administrative officer, or president of each enterprise in mid-1999. Two survey mailings, a telephone follow-up, and an e-mail follow-up were employed for each sampled enterprise, yielding an overall (fully usable) response rate of 55% (i.e., 289/525). Descriptive statistics for this sample of enterprises indicated that between 1995 and 1998, they increased their use of part-time, temporary,

contract, vendored, and outsourced employment by about three percentage points (from roughly 10% to 13%).

To estimate the effects of low-involvement work systems on financial performance among this sample of enterprises, three economic performance measures—namely, (adjusted) rate of return on capital employed (ROCE), (adjusted) market value (MKTVAL), and mean (gross) revenue per employee (REVPEM)—were first regressed on an index of low-involvement work practices (LIWP)⁸ and a vector of control variables for the year 1998. Then, the change in each of the three performance measures was regressed on the change in the low-involvement work practices index and changes in the control variables over the 1995–1998 period. To conserve space, these regression estimates are not presented here.

The 1998 cross-sectional results show a significant positive regression coefficient on the LIWP index in each of the business performance equations, with the result being strongest in the case of revenue per employee. The longitudinal results also show a significant positive coefficient on the change in the LIWP index in each of the economic performance equations; the longitudinal results are stronger than the cross-sectional results. Next, the cross-sectional and longitudinal economic performance equations were reestimated but this time including a high-involvement work practices (HIWP) index together with the LIWP index and the control variables. The results of testing these six equations are presented in table 1.

Both the cross-sectional and longitudinal estimates show significant positive regression coefficients on the LIWP index in the economic performance equations (columns 1–6 of table 1). The regression coefficients on the HIWP index are positive but insignificant in all three cross-sectional estimates (columns 1–3); however, they are positive and significant in all three longitudinal estimates (columns 4–6). These findings suggest that at a particular point in time as well as over time, the use of part-time, temporary, vendored, contract, and outsourced employment is associated with improved economic performance among the business enterprises included in this study. That high-involvement work practices are more likely to manifest positive effects on business performance in the intermediate or long run than in the short run is not surprising in light of prior research findings (e.g., Eaton and Voos 1994). What is surprising, perhaps, is that these longer-run positive effects of businesses' use of employee participation plans, variable pay plans, targeted selection methods, performance management programs, formal training programs, and other related work practices included in the HIWP index do not vitiate the longer-run positive effects of low-involvement work practices on economic performance among the business enterprises included in this study.⁹

TABLE 1
OLS Regression Coefficients on Business Enterprise Economic Performance

Independent variable	Dependent variable					
	1998			1995-1998		
	ROCE (1)	MKTVAL (2)	REVPEM (3)	ROCE (4)	MKTVAL (5)	REVPEM (6)
Constant	1.19* (0.57)	0.64* (0.28)	1.35* (0.62)	1.09* (0.51)	0.54* (0.23)	1.26* (0.60)
LIWP	0.46* (0.20)	0.44* (0.19)	0.52** (0.20)	0.51** (0.21)	0.47* (0.22)	0.56** (0.23)
Size	0.25* (0.11)	0.20* (0.09)	0.16 (0.10)	0.24* (0.11)	0.22* (0.10)	0.17 (0.11)
Cap/Lab	-0.57** (-0.23)	-0.50* (-0.22)	-0.28 (-0.15)	-0.68** (-0.27)	-0.54* (-0.23)	-0.31 (-0.18)
Union	-0.21 (-0.12)	-0.22 (-0.13)	-0.13 (-0.08)	-0.23 (-0.14)	-0.26 (-0.17)	-0.16 (-0.10)
RevGrowth	0.41 (0.24)	0.58* (0.27)	0.69** (0.28)	0.44 (0.25)	0.64* (0.30)	0.76** (0.31)
Concentration	-0.55** (-0.22)	-0.45* (-0.21)	-0.43* (-0.20)	-0.58** (-0.23)	-0.49* (-0.22)	-0.48* (-0.21)
S, G, & A	-0.19 (-0.11)	-0.21 (-0.12)	-0.32* (-0.14)	-0.21 (-0.12)	-0.24 (-0.15)	-0.34* (-0.15)
Risk	-0.37* (-0.16)	-0.31 (-0.17)	-0.24 (-0.14)	-0.40* (-0.18)	-0.33 (-0.19)	-0.29 (-0.15)
HIWP	0.34 (0.20)	0.32 (0.18)	0.41 (0.23)	0.39* (0.19)	0.37* (0.20)	0.47* (0.22)
R ²	0.24*	0.21*	0.20*	0.26*	0.24*	0.22*
N	289	289	289	254	254	254

Standard errors are in parentheses.

* Significant at $p \leq .05$

** Significant at $p \leq .01$

Low-Involvement Work Systems and Business Unit Performance

Because business enterprises are often composed of several (and, in some cases, many) separate or individual businesses, the overall enterprise may not be the most appropriate level for analyzing the effects of low-involvement (or high-involvement) work systems on economic performance. Further, because an overall enterprise-level set of financial statements represents a consolidation of the operating results of component business units or entities, the measures of economic performance drawn from such consolidated statements are not suitable for assessing the effects of low-involvement (or high-involvement) work systems on component businesses' economic performance. Therefore, the next empirical step in this

research was to analyze the effects of low-involvement work systems on business unit (as distinct from business enterprise) economic performance.¹⁰

For this purpose, a sample of business units was drawn from Standard and Poor's COMPUSTAT:II file. In this instance, the randomized sample represented 5% of all businesses included in this data source. As before, this source was used to construct economic performance measures for the sampled business units. Because most of these business units did not issue their own stock, however, the economic performance measures used in this portion of the research were limited to the (adjusted) rate of return on capital employed (ROCE) and the mean (gross) revenue per employee (REVPEN). Also, as before, a survey questionnaire was sent in mid-1999 to the head human resources officer, chief operating officer, chief administrative officer, or president of each business unit to elicit data on low-involvement work practices and other relevant variables. Two survey mailings, a telephone follow-up, and an e-mail follow-up were used for each sampled business unit, yielding a (fully usable) response rate of 58% (i.e., 313/540). Descriptive statistics for this sample of business units indicated that between 1995 and 1998, they increased their use of part-time, temporary, contract, vendored, and outsourced employment by about four percentage points (from 10% to 14%).

To estimate the effects of low-involvement work practices on economic performance among this sample of business units, the two performance measures were first regressed on the LIWP index and a vector of control variables for the single year 1998. Then the change in each economic performance measure was regressed on the change in the LIWP index and changes in the control variables over the 1995–1998 period. To conserve space, these regression estimates are not presented here.

The 1998 cross-sectional results show a significant positive regression coefficient on the LIWP index in both economic performance equations, with the result being strongest in the case of revenue per employee. The longitudinal results also show significant positive coefficients on the change in the LIWP index in the two economic performance equations, and these results are stronger than the cross-sectional results. Next, the cross-sectional and longitudinal economic performance equations were reestimated with the HIWP index included with the LIWP index and the control variables. The results of testing these four equations are presented in table 2.

Both the cross-sectional and longitudinal estimates show significant positive regression coefficients on the LIWP index in the economic performance equations (columns 1–4 of table 2). In addition, the coefficients on the HIWP index are positive and significant in one of the two cross-sectional estimates (column 2, revenue per employee) and in both longitudinal estimates (columns 3 and 4). These findings therefore suggest that at a

TABLE 2
OLS Regression Coefficients on Business Unit Economic Performance

Independent variable	Dependent variable			
	1998		1995-1998	
	ROCE (1)	REVPEM (2)	ROCE (3)	REVPEM (4)
Constant	1.29° (0.59)	1.43° (0.67)	1.16° (0.54)	1.36° (0.63)
LIWP	0.44° (0.19)	0.49°° (0.20)	0.48°° (0.19)	0.52°° (0.20)
Size	0.26° (0.12)	0.17 (0.11)	0.28° (0.13)	0.19 (0.13)
Cap/Lab	-0.61°° (-0.25)	-0.31 (-0.17)	-0.69°° (-0.28)	-0.34 (-0.19)
Union	-0.27° (-0.13)	-0.17 (-0.10)	-0.28° (-0.13)	-0.14 (-0.08)
RevGrowth	0.37 (0.21)	0.64°° (0.26)	0.39 (0.21)	0.71°° (0.27)
Concentration	-0.51°° (-0.20)	-0.40° (-0.18)	-0.56°° (-0.22)	-0.45° (-0.20)
S, G, & A	-0.20 (-0.12)	-0.36° (-0.15)	-0.23 (-0.13)	-0.37° (-0.17)
HIWP	0.41° (0.18)	0.45° (0.20)	0.44° (0.19)	0.49° (0.23)
R ²	0.25°	0.22°	0.26°	0.24°
N	289	289	254	254

Standard errors are in parentheses.

° Significant at $p \leq .05$

°° Significant at $p \leq .01$

particular time as well as over time, the use of part-time, temporary, contract, vendored, and outsourced employment is associated with improved business unit economic performance. And, as before, the positive effects of low-involvement work practices on the economic performance of business units are not vitiated when the high-involvement work practices of these same business units are considered and such high-involvement work practices have additional, independent positive effects on the economic performance of the business units included in this study.

Low-Involvement Work Systems and Plant Performance

While low-involvement work systems may affect the financial performance of business enterprises and units of those enterprises, studies of

high-involvement work systems suggest that the effects of low-involvement work systems are likely to be most direct and largest on workplace-level rather than enterprise-level or business-unit-level performance (Ichniowski, Kochan, Levine, Olson, and Strauss 1996). To analyze the effects of low-involvement work systems on workplace-level operating performance in this study, a sample of manufacturing plants in California was selected from a statewide directory provided by the California Employment Development Department (EDD). Approximately 22,300 plants or establishments were included in the EDD's 1999 directory, and an industry employment-weighted, randomized 5% sample of these plants was selected for the administration of a survey questionnaire. The survey was mailed to the head human resource officer, general manager, plant manager, or chief operating officer of each plant in mid-1999. Two survey mailings, a telephone follow-up, and an e-mail follow-up were used for each sampled plant, yielding an overall (fully usable) response rate of 41% (i.e., 457/1,115). Descriptive statistics for this sample of manufacturing plants indicated that between 1995 and 1998, they increased their use of part-time, temporary, contract, vendored, and outsourced employment by about 3.5 percentage points (from 10% to 13.5%).

To estimate the effects of low-involvement work systems on operating performance among this sample of plants, total labor cost as a proportion of total operating cost (LABOR COST), productivity (PROD), and product quality (PROD QUAL) were first regressed on the LIWP index and a vector of control variables for the year 1998. Then the change in each operating performance measure was regressed on the change in the LIWP index and changes in the control variables between 1995 and 1998. Both the 1998 cross-sectional and 1995-1998 longitudinal results (not presented here) show significant negative regression coefficients on the LIWP index in the LABOR COST equations and insignificant negative coefficients on this index in the PROD and PROD QUAL equations. Thus, it appears that at a particular point in time and over time, the use of low-involvement work practices is significantly associated with lower labor costs but not with productivity or product quality among the manufacturing plants included in this study.

Next, the cross-sectional and longitudinal plant operating performance equations were reestimated with the inclusion of the HIWP index. The results of testing these six equations are presented in table 3. Once again, both the cross-sectional (columns 1-3) and the longitudinal (columns 4-6) estimates show negative regression coefficients on the LIWP index in all six equations and, also as before, significantly so in the LABOR COST equations (columns 1 and 4) but not in the PROD and PROD QUAL

equations (columns 2-3 and 5-6). The regression coefficients on the HIWP index are positive in all six equations, significantly so in the two LABOR COST equations (columns 1 and 4), the two PROD QUAL equations (columns 3 and 6), and the longitudinal PROD equation (column 5).

TABLE 3
OLS Regression Coefficients on Manufacturing Plant Operating Performance

Independent variable	Dependent variable					
	1998			1995-1998		
	LABOR COST (1)	PROD (2)	PROD QUAL (3)	LABOR COST (4)	PROD (5)	PROD QUAL (6)
Constant	2.19* (1.07)	2.34* (1.12)	2.48* (1.21)	2.23* (1.07)	2.41* (1.15)	2.59* (1.24)
LIWP	-0.63* (0.28)	-0.26 (0.15)	-0.32 (0.17)	0.74** (0.30)	-0.30 (-0.16)	-0.35 (-0.18)
Size	0.30 (0.16)	0.24 (0.13)	-0.43* (-0.19)	0.38* (0.18)	0.27 (0.14)	-0.41* (-0.18)
Cap/Lab	-0.33* (-0.16)	0.37* (0.17)	0.24 (0.14)	-0.36* (-0.17)	0.39* (0.18)	0.27 (0.15)
Union	0.38* (0.18)	0.14 (0.08)	0.12 (0.07)	0.44* (0.20)	0.17 (0.09)	0.15 (0.18)
Years	0.27 (0.15)	-0.40* (-0.18)	0.18 (0.10)	0.30 (0.16)	-0.49* (-0.23)	0.19 (0.11)
HIWP	0.48* (0.22)	0.31 (0.16)	0.49* (0.22)	0.52* (0.23)	0.43* (0.19)	0.55* (0.24)
R ²	0.29*	0.31*	0.24*	0.30*	0.33*	0.26*
N	457	457	457	384	384	384

Standard errors are in parentheses.

* Significant at $p \leq .05$

** Significant at $p \leq .01$

Taken together, these findings suggest that the use of part-time, temporary, contract, vendored, and outsourced employment is associated with improved manufacturing plant performance, specifically in terms of a lower ratio of labor cost to total operating cost, and that this effect is not offset by the degradation of either productivity or product quality. By contrast, high-involvement work practices are associated with improved product quality and, to a lesser extent, productivity, but also with a higher ratio of labor cost to total operating costs. Finally, the effects of low-involvement and high-involvement work practices on manufacturing plant performance appear to be independent of each other, at least among the sample of plants included in this study.¹¹

Low-Involvement Work Practices and Service Performance

In the final phase of this study, an attempt was made to determine the effects of low-involvement work practices on performance in a service context. For this purpose, access was obtained to a California-based national insurance company that sells life, homeowner, automobile, and certain other types of insurance policies directly to individual customers throughout the United States. The company also provides a variety of services to customers, especially the investigation, settlement, and payment of claims made by customers under the various insurance plans and coverages. To sell insurance and provide insurance-related services to its customers, this company is organized into numerous field offices, and a subset of these offices served as the unit of analysis for this phase of the study.

To begin, the company's operating and human resource management practices were reviewed with the chief operating officer and chief human resource officer. Then a complete list of the company's field offices was obtained, and a letter requesting participation in the study was sent in early 1999 to the manager of each office. Positive responses were received from 65% of these managers (i.e., 289/445). A survey questionnaire designed to elicit data on these field offices' use of low-involvement work practices and other relevant variables was then prepared and mailed in mid-1999 to each of these managers. Note that data on these field offices' use of high-involvement work practices could not be obtained for this study, so the following analysis is limited to estimating the effects of low-involvement work practices on operating performance.¹² Two survey mailings, a telephone follow-up, and an e-mail follow-up yielded an overall (fully usable) response rate of 56% (i.e., 249/445). Descriptive statistics for this sample of field offices indicated that between 1995 and 1998, they increased their use of part-time, temporary, contract, and outsourced employment by about 5.5 percentage points (from 13.5% to 19%).

Operating performance among these field offices is measured by four variables: labor costs, or the ratio of payroll cost to sales revenue; revenue growth, or the percentage increase (or decrease) of sales revenue during the year; quality of service, or the mean customer rating of the quality of service provided by field office personnel at a point in time during the year on a scale of 1 = low to 5 = high; and customer satisfaction, or the mean rating of field office's customers' satisfaction at a point in time during the year, also on a scale of 1 = low to 5 = high. Both the quality of service and customer satisfaction data for field offices were made available to the researcher by the company, which began in 1994 to systematically collect such data annually from rotating samples of customers.

To estimate the effects of low-involvement work systems on operating performance among the sample of field offices of this insurance company, labor cost, revenue growth, quality of service, and customer satisfaction were first regressed on the LIWP index and a vector of control variables for the year 1998. Then the change in each operating performance measure was regressed on the change in the LIWP index and changes in the control variables between 1995 and 1998. These procedures yielded the eight sets of regression estimates presented in table 4.

Both the 1998 cross-sectional and the 1995–1998 longitudinal results show significant negative regression coefficients on the LIWP index in the labor cost equations (columns 1 and 5), insignificant negative coefficients on the LIWP index in the revenue growth (columns 2 and 6) and quality of service (columns 3 and 7) equations, and insignificant positive coefficients on the LIWP index in the customer satisfaction equations (columns 4 and 8). Note, too, that the significant negative association between LIWP and labor cost is stronger in the longitudinal (column 5) than in the cross-sectional estimate (column 1). It appears, therefore, that at a point in time as well as over time, the use of part-time, temporary, contract, and outsourced employment is associated with improved operating performance among the field offices of the insurance company that participated in this study. In particular, performance improvement takes the form of (relatively) lower payroll cost for a given level of sales revenue, and this improvement is not offset or degraded by lower revenue growth, (perceived) quality of service, or (perceived) customer satisfaction.

Conclusions

High-involvement work systems have recently been shown to be significantly associated with improved business performance. However, high-involvement work systems research has ignored the influence of low-involvement work systems on business performance. The findings from this research suggest that low-involvement work practices in the form of part-time employment, temporary employment, contract employment, vendored employment, and outsourcing have significant positive effects on the rate of return on capital employed, market value, and revenue per employee of business enterprises and on the rate of return on capital employed and revenue per employee of business units. Further, such practices have significant negative effects on the ratio of total labor cost to total operating cost in manufacturing plants and on the ratio of payroll costs to sales revenue in insurance company field offices. While these findings were quite consistent in a variety of cross-sectional estimates, they were also quite consistently stronger in the longitudinal than in the cross-sectional analyses.

TABLE 4
OLS Regression Coefficients on Insurance Company Field Office Operating Performance

Independent variable	1998				1995-1998			
	Labor cost (1)	Revenue growth (2)	Quality of service (3)	Customer satisfaction (4)	Labor cost (5)	Revenue growth (6)	Quality of service (7)	Customer satisfaction (8)
Constant	1.84 [*] (0.85)	1.62 [*] (0.78)	1.59 [*] (0.73)	1.73 [*] (0.82)	1.90 [*] (0.88)	1.76 [*] (0.83)	1.68 [*] (0.79)	1.81 [*] (0.87)
LIWP	-0.54 [*] (0.24)	-0.25 (-0.14)	-0.21 (-0.12)	0.18 (0.10)	-0.63 ^{**} (0.26)	-0.29 (-0.16)	-0.27 (-0.15)	0.23 (0.13)
Size	0.41 [*] (0.18)	0.38 [*] (0.17)	-0.24 (-0.13)	-0.16 (-0.10)	0.46 ^{**} (0.19)	0.40 [*] (0.18)	-0.28 (-0.15)	-0.22 (-0.13)
Employ	-0.23 (-0.14)	0.44 [*] (0.19)	-0.18 (-0.10)	-0.19 (-0.11)	-0.28 (-0.15)	0.52 ^{**} (0.21)	-0.24 (-0.13)	-0.25 (-0.14)
Years	-0.29 (-0.15)	0.33 (0.17)	0.43 [*] (0.20)	0.31 (0.16)	-0.32 (-0.17)	0.35 (0.19)	0.48 [*] (0.22)	0.36 (0.19)
R ²	0.22 [*]	0.26 [*]	0.23 [*]	0.21 [*]	0.24 [*]	0.28 [*]	0.26 [*]	0.24 [*]
N	249	249	249	249	217	217	217	217

Standard errors are in parentheses.

^{*} Significant at $p \leq .05$

^{**} Significant at $p \leq .01$

Also of note are certain statistically insignificant workplace-level findings of this research. Specifically, these "insignificant" findings were interpreted to mean that the lower ratio of total labor cost to operating cost in manufacturing plants and the lower ratio of total payroll cost to total sales revenue in insurance field offices associated with low-involvement work practices were not offset by lower levels of productivity or product quality in the former or by lower levels of revenue growth, quality of service, and customer satisfaction in the latter.

Finally, the findings from this research suggest that the effects of low-involvement work practices on business performance change little, if at all, when high-involvement work practices are taken into account. Stated more positively, *both* low-involvement work practices and high-involvement work practices can have positive effects on business performance. This is because in addition to the positive effects of low-involvement work practices on business performance reported here, high-involvement work practices were also shown to have significant positive effects on the financial performance of business enterprises and business units and on productivity and product quality in manufacturing plants. Thus, it appears that low-involvement and high-involvement work practices are complements, rather than substitutes, and may therefore be used in tandem to enhance business performance.

Endnotes

¹ The specific practices typically featured under high-involvement work systems include one or more mechanisms for employee participation in decision making, attitude surveying, formal job analysis, training, performance management and information-sharing programs, variable pay arrangements, targeted selection and internal promotion practices, and employment dispute resolution procedures (see Delaney, Lewin, and Ichniowski 1989; Mitchell, Lewin, and Lawler 1990; Morishima 1991, 1992; Huselid 1995; Ichniowski, Kochan, Levine, Olson, and Strauss 1996; Ichniowski, Shaw, and Prensushi 1997).

² Sets of scholars in these fields have recently found significant effects of marketing, finance, operations, and other practices on business performance. Similar to HR and IR researchers, they also do not control for the effects of other areas of practice on business performance. For a review of this research, see Lewin (2000).

³ See, however, Sherer (2000). Pfeffer (1994) discusses one type of low-involvement work practice, namely, outsourcing (which he dubs "the externalization of employment"), but he does not estimate the effects of outsourcing on business performance.

⁴ The term "high-control" work system was apparently coined by Walton (1985), who contrasted this system with its polar alternative, namely, a "high-commitment" work system. In extant high-involvement work systems research, which often features one or more indexes of such involvement, a purely high-control work system yields a score at or close to zero, whereas a purely high-commitment work system yields a score at or near

the top of the index (see Mitchell, Lewin, and Lawler 1990; Huselid 1995; Ichniowski, Shaw, and Prensushi 1997). From this perspective, workers employed in a high-control system have no or low involvement in decision making or other aspects of work. This is, however, a different concept or construct of low-involvement work systems than is forwarded in this paper.

⁵ About 18% of the U.S. private-sector workforce is estimated to be employed part-time (King 2000), with perhaps another (net) 4% to 5% employed on a temporary basis (Melchionno 1999). Estimates of contract employment, defined here as the employment of persons for a fixed rather than an unspecified time period, vary widely from about 2% to as much as 31% of the U.S. workforce (Hipple 1998; Lewin 1994). Estimates of vendored employment—employees who have been moved from employment with their original companies to employment with vendors (suppliers) to these companies—are relatively meager, but such employment may represent 2% to 3% of the U.S. private-sector workforce (Clinton 1997). Estimates of outsourced employment—defined here as the equivalent of jobs previously performed internally by a company's employees that are now performed by different employees of another, typically more specialized, company under a contract or agreement with the first company—vary widely but may constitute 5% to 6% of U.S. private-sector employment (Melchionno 1999).

⁶ Similarly, many businesses that make use of high-involvement work practices have also engaged in workforce downsizing and rightsizing (Lewin and Mitchell 1995; Pfeffer 1994).

⁷ The term *business enterprise* is used here to refer to a single entity for which a set of consolidated financial statements are generated (even if that enterprise consists of several component companies). The term *financial performance* is used here to refer to one or more measures of the performance of a business enterprise (and not of its component companies, plants or establishments, or offices or locations).

⁸ This index, which is used in each of the four substudies reported in this paper, was constructed in much the same way as researchers have constructed high-involvement work practices indexes. In particular, survey questions (items) were constructed to yield data on respondent organizations' current and past use of part-time, temporary, contract, vendored, and outsourced employment by the extent of usage for each of seven occupational/workforce groups. The index ranges from 0 (low) to 50 (high). Contact the author for further details on the construction and validation of this index.

⁹ In separate regression analyses (not shown here), the likelihood of low-involvement employees as a whole being covered by high-involvement work practices in this sample of business enterprises was estimated to be .04 ($p = .55$); part-time employees, .05 ($p \leq .53$); temporary employees, .03 ($p \leq .57$); contract employees, .06 ($p \leq .51$); and vendored employees, .02 ($p \leq .59$). Contact the author for additional details about similar estimates for the business units and manufacturing plants included in this study.

¹⁰ The term *business unit* refers to the component businesses or companies of a diversified business enterprise. Where a business enterprise has only one component business, the business enterprise and business unit are identical, as are the financial performance data for each. Among this sample of 313 business units, only 19, or 6%, were identical to their respective business enterprises.

¹¹ Note that other researchers (e.g., Katz, Kochan, and Gobeille 1983; Katz, Kochan, and Weber 1985) have treated labor cost as a dependent variable in studying the effects

of one or another high-involvement work practice on plant-level performance. Because the ratio of total labor cost to total operating cost can be considered a variable influencing productivity and product quality, however, a separate two-stage, least-squares regression analysis was performed, in which the effects of low-involvement work practices, high-involvement work practices, and control variables on the ratio of total labor cost to total operating cost in this sample of plants were first estimated, and then these estimates (together with low-involvement work practices, high-involvement work practices, and control variables) were entered into cross-sectional and longitudinal productivity and product quality regression equations. The results showed that low-involvement work practices are significantly negatively associated with the ratio of total labor cost to total operating cost, high-involvement work practices are significantly positively associated with the labor-to-operating-cost ratio, the labor-to-operating-cost ratio is not significantly associated with either productivity or product quality, and low-involvement work practices and high-involvement work practices continue to be significantly negatively and positively associated, respectively, with productivity and product quality in this sample of plants.

¹² In the insurance company that participated in this study, compensation, training, performance assessment, and certain other human resource management practices are centrally formulated and mandated upon field offices, in contrast to the flexibility and autonomy that these same offices are permitted to exercise with respect to the employment of part-time, temporary, and contract employees and the use of outsourcing. Stated differently, there is no variance among these field offices with respect to the use of certain human resource management practices and therefore no basis on which to construct and apply an index of high-involvement work practices to them. A separate study being conducted by the author compares the uses of low-involvement and high-involvement work practices and their effects on business performance among five major insurance companies.

References

- Applebaum, E., T. Bailey, P. Berg, and A. Kalleberg. 2000. *Manufacturing Advantage: Why High Performance Work Systems Pay Off*. Washington, DC: Economic Policy Institute.
- Arthur, J. 1992. "The Link between Business Strategy and Industrial Relations Systems in American Mini-Mills." *Industrial and Labor Relations Review*, Vol. 45, pp. 488-506.
- Batt, R. 1999. "Work Organization, Technology, and Performance in Customer Service and Sales." *Industrial and Labor Relations Review*, Vol. 52, pp. 539-64.
- Clinton, A. 1997. "Flexible Labor: Restructuring the American Work Force." *Monthly Labor Review*, Vol. 120, pp. 3-17.
- Delaney, J. T., D. Lewin, and C. Ichniowski. 1989. *Human Resource Policies and Practices in American Firms*. BLMR No. 137. Washington, DC: Bureau of Labor-Management Relations and Cooperative Programs, U.S. Department of Labor.
- Dunlop, J. T. 1998. "Industrial Relations Theory." In D. Lewin and B. E. Kaufman, eds., *Advances in Industrial and Labor Relations*, Vol. 8. Greenwich, CT: JAI Press, pp. 15-24.
- Eaton, A. E., and P. B. Voos. 1994. "Productivity-Enhancing Innovations in Work Organization, Compensation, and Employee Participation in the Union versus the Non-union Sectors." In D. Lewin and D. Sockell, eds., *Advances in Industrial and Labor Relations*, Vol. 6. Greenwich, CT: JAI Press, pp. 63-109.

- Godard, J., and J. T. Delaney. 2000. "Reflections on the 'High Performance' Paradigm's Implications for Industrial Relations as a Field." *Industrial and Labor Relations Review*, Vol. 53, pp. 482-502.
- Hipple, S. 1998. "Contingent Work: Results from the Second Survey." *Monthly Labor Review*, Vol. 121, pp. 22-35.
- Huselid, M. A. 1995. "The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Financial Performance." *Academy of Management Journal*, Vol. 38, pp. 635-72.
- Huselid, M. A., S. E. Jackson, and R. S. Schuler. 1997. "Technical and Strategic Human Resource Management Effectiveness as Determinants of Firm Performance." *Academy of Management Journal*, Vol. 40, pp. 171-88.
- Ichniowski, C., T. A. Kochan, D. Levine, C. Olson, and G. Strauss. 1996. "What Works at Work: Overview and Assessment." *Industrial Relations*, Vol. 35, pp. 299-333.
- Ichniowski, C., K. Shaw, and G. Prennushi. 1997. "The Effects of Human Resource Management Practices on Productivity: A Study of Steel Finishing Lines." *American Economic Review*, Vol. 87, pp. 291-313.
- Katz, H. C., T. A. Kochan, and K. R. Gobeille. 1983. "Industrial Relations Performance, Economic Performance, and QWL Programs: An Interplant Analysis." *Industrial and Labor Relations Review*, Vol. 37, pp. 3-17.
- Katz, H. C., T. A. Kochan, and M. R. Weber. 1985. "Assessing the Effects of Industrial Relations and Quality of Work Life Efforts on Organizational Effectiveness." *Academy of Management Journal*, Vol. 28, pp. 509-27.
- King, J. E. 2000. "Part-Time Workers' Earnings: Some Comparisons." *Compensation and Working Conditions*, Vol. 26, pp. 27-36.
- Kochan, T. A., H. C. Katz, and R. B. McKersie. 1986. *The Transformation of American Industrial Relations*. New York: Basic Books.
- Lee, M. B., and N. B. Johnson. 1998. "Business Environment, High-Involvement Management, and Firm Performance in Korea." In D. Lewin and B. E. Kaufman, eds., *Advances in Industrial and Labor Relations*, Vol. 8. Greenwich, CT: JAI Press, pp. 67-87.
- Lewin, D. 1994. "Explicit Individual Contracting in the Labor Market." In C. Kerr and P. D. Staudohar, eds., *Labor Economics and Industrial Relations*. Cambridge, MA: Harvard University Press, pp. 401-28.
- Lewin, D. 2000. *Human Resource Practices and Business Performance: Taking Account of Marketing, Finance, Operations and Other Areas of Practice*. Working Paper. Los Angeles: Anderson Graduate School of Management, University of California.
- Lewin, D., and D. J. B. Mitchell. 1995. *Human Resource Management: An Economic Approach*, 2nd ed. Cincinnati, OH: South-Western.
- MacDuffie, J. P. 1995. "Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry." *Industrial and Labor Relations Review*, Vol. 48, pp. 197-221.
- Melchionno, R. 1999. "The Changing Temporary Work Force: Managerial, Professional and Technical Workers in the Personnel Services Supply Industry." *Occupational Outlook Quarterly*, Vol. 43, pp. 24-32.
- Mitchell, D. J. B., D. Lewin, and E. E. Lawler, III. 1990. "Alternative Pay Systems, Firm Performance, and Productivity." In A. S. Blinder, ed., *Paying for Productivity*. Washington, DC: Brookings, pp. 15-88.
- Morishima, M. 1991. "Information Sharing and Firm Performance in Japan." *Industrial Relations*, Vol. 30, pp. 37-61.

- Morishima, M. 1992. "Information-Sharing and Collective Bargaining in Japan: Effects on Wage Negotiation." *Industrial and Labor Relations Review*, Vol. 45, pp. 469-86.
- Pfeffer, J. 1994. *Competitive Advantage through People*. Boston, MA: Harvard Business School Press.
- Pfeffer, J. 1998. *The Human Equation*. Boston, MA: Harvard Business School Press.
- Sherer, P. 2000. "The Competitive Implications of the Multiple Fits of Human Resource Systems and Firm Capabilities: The Organization and Labor Relationship Framework." Paper presented to the Sixth Bargaining Group Conference, Michigan State University, East Lansing, MI, May.
- Ulrich, D. 1997. *Human Resource Champions: The Next Agenda for Adding Value and Delivering Results*. Boston, MA: Harvard Business School Press.
- Walton, R. E. 1985. "From Control to Commitment in the Workplace." *Harvard Business Review*, Vol. 63, pp. 57-74.