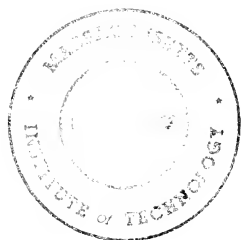


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PRODUCTIVITY, INDUSTRIAL RELATIONS
AND HUMAN RESOURCE MANAGEMENT:
FOOTBALL ON A SOCCER FIELD

By

Thomas A. Barocci and Kirsten R. Wever

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PRODUCTIVITY, INDUSTRIAL RELATIONS
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FOOTBALL ON A SOCCER FIELD

By
Thomas A. Barocci and Kirsten R. Wever*

American managers have often likened business to the game of football: tough, competitive, strategic, and -- if you win -- very profitable. In the last few decades we've come to discover that the world's football field is getting larger, more like a soccer field; playing business on it requires a different kind of skill, staying power and strategy. Goals are scored differently in soccer than in football, just as sales and profits are scored differently in the 1980s than they were in previous decades. The rules have changed, but managerial strategy has not taken into account that the players must be trained, or retrained to play the new game.

We are not exactly sure of the rules of the new game, but product development, attention to quality control and reliability, long-run strategy development and a better understanding of cultural differences have led American management to introduce some new moves. Where they have been slow to react, and where it will hurt the most in the medium- and long-run, is in the areas of human resource management and industrial relations. Productivity improvements -- taking into account quality considerations -- is a necessary part of the US attempt to maintain (in some industries) or regain (in others) economic stability and long run viability.

The purpose of this paper is to look at the new terms of industrial competition in such a way as to come up with a few new rules of the game; to

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examine how the productivity improvements we need are connected with the new industrial relations we are still creating.

Like most catchy words and phrases, 'productivity' means many things to many people. Some people believe the problem is you just can't get good workers anymore. Others think management shouldn't be so short-run profit-oriented. One theory holds that productivity problems derive from the government's failure to stem inflation; another, that protection of foreign markets is to blame. Finally, many people believe the American culture is the culprit, and rue the fact that we aren't more like the Japanese. Of course there's something to each of these notions; and of course the whole picture is more complicated than all of them put together. Not surprisingly, then, the solutions adopted by American businesses vary widely in their scope, kind, and effectiveness. And, not surprisingly, most productivity improvement programs are still far from perfected. (Barocci, 1982).

It would be nice -- like all clear and concise ideas are 'nice' -- to be able to rattle off exactly what these programs lack and how they can be improved. But the development and implementation of effective productivity programs takes place in a context -- firm culture and strategy, industry position, broad economic trends, international climate and competition -- that is far too complex to allow for any specific prescriptions about how to go about improving productivity. Even when all these contextual factors are defined and understood, in most corporate settings the major problem for the analyst or manager interested in improving productivity remains: the compatibility of the firm's modes of industrial relations and human resource management, on the one hand, and its corporate goals, on the other.

The issue is complicated further when you consider the premises on which the so-called "New Industrial Relations" are to be based: participatory management; self-managed work teams; bottom-up decision making and productivity

innovations; a focus on the psychological interaction between and among workers, managers and the firm itself; and an essentially cooperative, rather than traditional adversarial basis for the labor-management relationship. These concepts are revolutionary in an industrial environment that has always functioned on the basis of managerial control, top-down organizational structures, and the assumption of inherent and deep conflicts of interest between managers and employees.

The very essence of the 'old' industrial relations is coming under increasing fire. And it's not just the so-called 'California solution' -- providing workers with hot-tubs and EST training -- that challenges traditional methods of management. Even in heavy industrial sectors US managers are coming to realize that the combination of changing worker values and increasingly intense international price and quality competition demand a different way of managing people. The consensus is increasingly broad: management will have to base profits on the qualitative and innovative potential of human resources, rather than directing workers on the basis of technologically and quantitatively defined profit and production imperatives. Donald Peterson, President of the Ford Motor Company, calls this the "second bottom line."

Even union officials -- whom one would expect to be antagonistic toward any management encroachment on their terrain -- are starting to claim that in the future collective bargaining will center increasingly -- perhaps even primarily -- on quality of work life issues. For the time being, labor leaders are content with cooperating with management on the shop floor, while restricting the adversarial aspects of the labor-management relationship to the bargaining table. But even that measure of conflict may begin to give way to the new industrial relations. Change would be required on at least three dimensions: first, the development of a non-adversarial relationship on the

shop floor; second, increasing emphasis on low-level participative decision making; and third, a reform of bargaining to stress the mutual interests of organized labor and management -- primarily the success of the firm itself. (Business Week, May 1982)

Industrial relations both reflect and affect the context in which today's firms must operate. Ideally, the relationship between management and labor should be an integral part of that context, particularly of a company's strategy and culture. The tenor of those relations will both shape the firm and be shaped by it, through multiple feedback mechanisms. But when the economic climate as a whole demands major adaptations across industries, when words like 'productivity' are transformed from catch-phrases to imperatives of industrial survival, the ways in which management and labor deal with each other must necessarily change. And change involves reticence and often suspicion, on both sides.

Nonetheless, international economic conditions require increasingly stiff competition on the basis of price and quality. Broadly speaking, this is the productivity imperative. And in order to meet the challenge adequately, both management and labor find themselves having to approach industrial relations in new ways. Before management can tackle the productivity issue constructively, it is necessary to figure out how labor will respond to, might resist, or could help in the achievement of higher productivity. In short, management must discover how these new industrial imperatives require a new industrial relations.

The relationship between the need for increased productivity, on the one hand, and for predictable and mutually beneficial management-labor relations, on the other, involves both good news and bad news. The good news is that here is an issue with which management can deal directly, and on which managers can have real, visible and immediate impact. The same cannot be said

for management's ability to influence the international economy, for instance, or the American work-ethic. But the bad news is that industrial relations are in a state of flux which no one fully understands, and which engenders tremendous amounts of jealous hostility, mostly founded on the insecurities (on both sides) that are inevitably bred of uncertainty.

What is to be done? Well, not too little, but not too much either. We have to raise productivity to remain internationally competitive, so we can't afford to be complacent. But we also have to handle the issue with kid gloves if we are interested in ushering in a new style of industrial relations that will be acceptable to both sides in the short-run, and effective for everyone in the long-run.

The first step is to understand the nature of the changes, both in the economy and in our industrial relations system, which require a new and flexible approach on the parts of management and labor. The second step is to examine the context in which management will have to rise to the challenge. The third step is to look at the ways in which some representative firms are responding to the current 'crisis'. And the fourth is to analyze the short-comings exemplified by our case studies, and to derive some conclusions about what's wrong and how to fix it. This paper will procede along those lines.

CHANGING INDUSTRY, CHANGING LABOR FORCE: CHANGING INDUSTRIAL RELATIONS

We are in a recession that doesn't seem to want to go away. Economic problems plague not only us, but most of our major international competitors. As a result, international competition has intensified. American firms can no longer rely on their traditional technological leading edge to keep them ahead of the game; other countries -- most visibly Japan -- are competing with

seering success on the basis of technology, product quality and -- increasingly -- price. US semiconductors, for example, have been shown recently to fail on a variety of quality dimensions between three and 26 times as often as those made in Japan. Similar contrasts have emerged between Japanese- and US-produced autos. (Klein and Sanford, 1981)

That we are having problems producing quality goods in both these industries illustrates that the quality issue cannot be ascribed simply to the vagaries of 'declining' or 'mature' sectors: semiconductors are high-tech, high cost goods, being produced in what has been over the last decade one of our most vibrant economic sectors. How do the Japanese do it? Many have touted the virtues of the Japanese culture, both national and managerial. Japanese workers, it is said, naturally enjoy working in groups; thus, productivity increases resulting from quality circles or corporatist management practices are not surprising there.

It is certainly true that the Japanese have introduced several highly innovative techniques of managing 'human resources,' as workers are now called. These advances are based on a view of industrial relations that departs radically from the Tayloristic mode with which we are acquainted in the US, a view that emphasizes human psychology and draws on the behavioral sciences. Workers are conceived of as people (though not, as we will later explain, as individuals) with human needs and motivations, rather than simply as inputs into the production process. (McGregor, 1957)

The new focus on "Human Resource Management" enhances both productivity and quality. The mechanisms by which to achieve this include quality and quality control circles, quality of work life programs, productivity incentive and reward systems, management by objective, goal setting and feedback, and a variety of other modes of worker participation.

Sound good? Maybe, but the US is not Japan, and Japan undeniably has certain structural advantages over the US that allow for the successful implementation and diffusion of productivity programs. But rather than dwelling on the advantages we do not possess, and thus approaching the issue from a negative standpoint, it makes more sense here to emphasize some of the specific obstacles to similar -- but not identical -- successes in the US. By identifying those constraints we will at least gain the background knowledge necessary to prescribe some remedies for them.

If the first set of changes confronting us derives from a dynamic and unpredictable international economic situation, the second (equally important) set of changes concerns the traditional American system of industrial relations. Traditional collective bargaining is eroding in a climate that demands labor concessions in the name of the economic viability of many of our industrial enterprises. The issue is complicated by the fact that it is precisely in the 'declining' sectors (e.g., steel and autos) that the work forces are best organized, and in which collective bargaining is most deeply entrenched. Beyond that, these are also the sectors where job insecurity is most justified. Job insecurity lowers worker motivation, and low motivation means lower productivity.

Unionized firms in mature industries appear to face not just a complex set of dilemmas, but a no-win situation. First, productivity imperatives render collective bargaining behavior and outcomes unsatisfactory from the viewpoint of management, but productivity bargaining or concession bargaining threaten unions. Productivity is endangered by the precarious economic conditions of mature sectors, but productivity gains through higher levels of worker motivation are unobtainable because economic instability raises the ominous spectre of lay-offs, and thus lowers worker motivation. And, since these are the sectors in which trade unions are most powerful, the chances of

gaining worker concessions are lower than in non-unionized or weakly unionized sectors.

But there are signs that concession bargaining may be an increasingly important mechanism for management to deal with dramatically changed economic conditions. To begin with, one primary alternative to concession bargaining -- protection -- is less and less viable, given the current political climate. We appear to have entered an era in which plants must stay open because they are competitive, not because they are socially important enough to isolate from market forces.

Furthermore, concession bargaining operates on premises that can be reconciled with "the new industrial relations." On the face of it, it may appear as a simple result of trade unions' need to retain jobs, and consequent willingness to give up higher wages, more benefits or shorter hours. But at a deeper level, concession bargaining opens the way for labor to become more involved in issues that have always been considered the domain of management, including union and job security arrangements, long-range wage agreements, some say in future investment decisions, and various types of information sharing between management and labor. (McKersie and Cappelli, June 1982)

The potentials created by concession bargaining illustrate the point that unionized industrial sectors are not necessarily "worse off" than non-unionized industries. Furthermore, mature, unionized sectors are not alone in their difficulties with the implementation of productivity and quality enhancement programs. Other sectors, which appear to operate under less constraints, are also having trouble adjusting to the changing circumstances. The dual nature of the current industrial relations system -- the existence side-by-side of established unionized plants with newer non-unionized operations -- offers the interesting opportunity to compare the constraints on each category of firms, and examine whether, from the management standpoint, there are any important differences.

One would imagine that the non-unionized, so-called 'ascending' sectors would have a much better time adapting a la Japan to the imperatives of the emerging industrial relations system. Not so. At least not self-evidently so. As will become clear in the next section, both types of firms are slow to respond to the changing requirements of today's labor relations. As a result, they may well be partly responsible for their own inability to compete as effectively as some Japanese firms on the basis of heightened productivity, enhanced quality, and competitive prices.

THE MANAGEMENT CHALLENGE: CULTURAL AND STRATEGIC ADAPTATIONS

In both mature and newer sectors job insecurity is one of the most salient issues for unionized and non-unionized employees, particularly at lower levels of an organization. Furthermore, the simple mention of the word 'productivity' has until recently been virtually taboo in both union and non-union circles, since it used to connote nothing but unpleasant prospects of automation, speedups, and replacing workers through robots or increased efficiency. These circumstances combine to lead workers in unionized sectors to resist many changes initiated in the name of productivity with the various institutional tools at their disposal. In non-unionized firms the threat of employee resistance to productivity programs is less poignant, but -- as will become apparent in the following section -- communication between employees and managers, and joint participation in these endeavors, are still rare and inadequate. Perhaps the most pressing reason why both unionized and non-unionized firms must begin to pay more attention to their work forces is that quality enhancement clearly requires cooperation at all levels.

The constraints placed on businesses by the industrial relations system, even in heavily unionized sectors, can be lessened to a considerable degree.

But this cannot be done by ignoring the structure of management-labor relations. Rather, it will be necessary to work with that structure, in the interest of fostering the kinds of cooperation and communication that are necessary to the successful implementation of productivity improvement programs. However, there is one powerful obstacle in many US firms that prevents a positive approach to this issue: outmoded managerial cultures. The implicit and explicit bases on which management runs a firm, the stated and unstated objectives management seeks to achieve, and the methods by which managers try to implement their goals -- all of these factors have a crucial impact on the style of management-employee relations. Intimately bound up with organizational cultures are the strategies -- short- and long-term -- that are chosen to put the firm's plans into effect.

Top-down strategies and rigid or formal cultures can often hamper a firm's ability to adapt to the kinds of changes outlined above. Low-level managers and supervisors, for example, are often unwilling to relinquish any of their control over the work force. But the hierarchical relationship implied by that kind of control is in direct conflict with the necessity to involve the workers themselves in broader productivity- or quality-related organizational goals. Upper-level managers often resist suggestions from the bottom up, and thus sever their own access to the practical realities of the production process itself. And without some idea of how the product is produced in the first place, management will have a tough time devising programs to produce it better.

Similarly, a rigid culture can discourage employees from allowing their innate motivations to surface, and can in fact prevent the work force from innovating or suggesting the kinds of changes required today. All these considerations hold for unionized as well as non-unionized sectors in American industry. They have in common the fact that they all imply a lack of communication and cooperation between management and workers.

This will not be easy to change. As mentioned above, the traditional mode of American industrial relations is a relatively confrontational one, in which the emphasis has been on controlling the work force (or the work), rather than drawing out its great potential for the quality- cost- and productivity-related enhancement of the production process, or allowing for the flexibility in crews and staffing to do so. But the situation is far from hopeless. You don't have to go to Japan to see business organizations that encourage the involvement of people at every level of the firm in efforts to improve competitiveness on a wide variety of dimensions. Many American firms have instituted extensive, highly successful, and cost-effective quality circles, quality of work life programs, productivity incentive and reward systems, and so on. What characterizes most of the new approaches is the fact that in getting away from older adversarial forms of labor-management relations they do not swing to the other -- typically American -- end of the continuum: individualism. The role of the individual in these firms is to a considerable extent subordinated to the functioning and interaction of groups, including people at the same level as well as people across levels of the organizational hierarchy. This trend was strengthened by the move to 'project- based' teams and matrix organization in many firms.

In order to tap the substantial powers of group involvement in the quality- and productivity-enhancement processes, it is necessary for management to create and sustain a kind of culture that rejects rigid lines of communication and control in favor of fluid and more informal modes of interaction among employees at all levels. One might expect that in firms producing solely or mostly under government contract -- usually for the Defense Department -- the potential to relinquish older forms of labor-relations and control-oriented production processes would be particularly low. Their involvement with the government -- with sharply

delineated specifications and standards -- might make it particularly difficult for these firms to adapt to the emerging requirements of fluid, rather than rigidly militaristic, organizational cultures. In fact, however, this is not necessarily the case. Some defense contractors have shown a remarkable ability to work with informal and elastic processes. Thus we can be particularly optimistic about the potential for firms with less rigid production requirements to adopt the kinds of cultures and strategies that are necessary under current conditions.

But in order to create the cultures and strategies that promote quality and production innovations, it is not enough for management simply to follow some universal example or to base the organization on some academic model. Every firm's approach must be unique to that particular organization, taking into account what is produced, whom it is produced for, how it is produced, what kind of workers produce it (skill and pay level, likely motivations...) and how environmental factors (subcontractors, vendors, governmental regulations, unions or potential unionization, the economic climate, international and domestic competition, and so on) will mesh with the changes proposed to increase productivity or enhance quality. The combination of these factors should provide management with a firm-specific guide to change.

It may seem like an inordinately difficult task to have to take into account all of these factors in the implementation and diffusion of appropriate productivity programs. But surprisingly enough, many firms encounter their most severe difficulties at the very first step in this process -- monitoring and measuring. Consider what management should know about its employees. First, how do employees feel about productivity programs? How will these programs affect their motivations on the shop-floor or in the office? What kinds of rewards or incentives are likely to increase their involvement in and identification with the firm's productivity goals?

Second, what kind of productivity programs are likely to be helpful to a particular firm? In order to determine this, it is of course necessary first to have some clear understanding of what the problems with productivity are.

Measuring, monitoring and understanding employee attitudes and productivity or quality problems appear to be not only the first, but perhaps also the simplest steps in the process of rising to the new challenges of changing labor relations and uncertain economic conditions. The second set of steps will be the implementation of productivity programs, perhaps preceded by pilots to test them. And in both of these areas we found a surprising amount of inertia, resistance and lack of knowledge in the cases we examined. The specific problems that appear to be wide-spread will become clear in the following section.

MANAGEMENT, LABOR AND PRODUCTIVITY PROGRAMS IN ACTION

This section of the paper is based on interviews with relatively highly-placed people in a series of thirteen major American firms in a variety of industrial sectors, and with different types of work forces. (See appendix A for brief firm descriptions and Appendix B for the questionnaire administered.) The questions we are considering concern six broad dimensions of management-employee relations and productivity programs:

1. Management efforts to improve labor-relations;
2. Employee participation channels or programs;
3. Productivity incentive programs;
4. Reward systems;
5. Reactions of union leaders and/or employees to productivity programs; and
6. The philosophy of management with regard to trade unions and their effect on productivity.

These issues provoked a surprisingly wide variety of responses. Some of the managers interviewed chose not to respond to certain questions at all; others answered all of them with meticulous care and thoroughness. (Although it is difficult to assess the reasons why some of these questions were not answered as candidly as others, we will attempt to take into account these managers' measure of willingness to respond as we consider the substantive results of the questionnaire. We can only surmise that at least to some extent it is likely that an unwillingness to respond to certain questions implies that their content is unfamiliar or unpleasant to consider. Both of these possibilities have a direct bearing on our overall argument about management awareness of the problems and desirability to do something about them.)

The general responses of these firms to the six issues listed above are illustrated in figure #1. The most cursory glance at the data illuminates a few noticeable trends. First, it is clear that on the dimensions of improving management-labor relations and gaining employee participation (in general), the overall responses of the firms were most positive. The contrast is particularly sharp in the category dealing with reward systems for employee inputs or suggestions. Second, one firm in particular -- Rome -- stands considerably ahead of the rest in its understanding of and attention to all six dimensions. Another firm -- San Francisco -- is similarly conspicuous for its low score on all dimensions. The most important implication of this contrast is probably the fact that Rome appears to have a comparatively high level of awareness concerning the problems encompassed by the six issues we addressed; San Francisco, on the other hand, seems to be all but ignorant of the salience of these issues, and resistant to changes in these domains.

The third broad fact these data make apparent is that eight of the remaining eleven firms score very similarly in their overall treatment of

these productivity and labor-relations issues. In other words, it would seem that there is a narrow range of awareness of these issues (and appropriate programs), which appears to be relatively standard across firms and industries. This is particularly interesting because it could imply that exogenous factors (like product market or industrial sector) may not pose the most important obstacles to successful innovation in productivity and labor-relations. By a process of elimination, this would mean that factors such as managerial culture or the tenor of labor relations -- factors on which management can have a direct impact -- are probably relatively important.

FIGURE 1: RANKING OF COMPANY ATTITUDES CONCERNING LABOR AND ITS INVOLVEMENT IN PRODUCTIVITY*

	Improving Mgmt-Labor Rel's.	Employee Partic.	Prod. Incent. Programs	Reward Systems	Interest in Labor and TU Input	Philos. of Mgmt. toward TUs.	Total	Unionized?
INSBRUCK	1	4	2	1	1	1	10	no
PARIS	4	4	1	1	1	3	14	yes
HAMBURG	4	4	3	2	1	1	15	no
WARSAW	3	3	3	1	1	1	12	no
TOKYO	3	2	1	3	2	1	12	no
HOUSTON	1	2	1	1	2	4	11	yes
ROME	5	4	3	2	1	3	18	yes
FRANKFURT	3	2	1	1	2	1	10	no
AMSTERDAM	3	2	2	1	2	1	11	yes
BOSTON	1	4	4	1	2	1	13	no
SAN FRANCISCO	1	1	1	1	1	1	6	no
DALLAS	3	2	1	1	3	2	12	no
AUSTIN	3	2	1	2	1	1	10	no
	35	36	24	18	20	21		

*The subject matter required a subjective rating, in which we devised a scale of one to five. "1" signifies a progressive attitude, as that implied by the argument of this paper and the ideal type of industrial relations which we think is required under the current general economic circumstances. "5" signifies an obsolete attitude, as embodied in a completely confrontational and hostile industrial relations system. "3", the mid point on the scale, signifies an attitude that appears to characterize the average perspective of a firm with at least a cursory knowledge of the theoretical and practical issues at hand.

It is also interesting to note that the four unionized firms all display at least the average level of concern across all six dimensions. Although it is impossible to draw any hard and fast conclusions on the basis of four cases, this observation at least fails to support the possibly intuitive assumption that unionized firms have built-in difficulties with these issues, related both to productivity and labor relations -- difficulties that are not present in non-unionized firms.

There are a few more points worth noting before we try to pull together and make sense of our generalizations. With the exception of San Francisco, all of these firms had some sort of quality circles or quality of work life programs in place, although several of these were still very new. (In the case of Tokyo, the manager we interviewed admitted that the QCs in effect primarily symbolized management's need to pay lip service to the concept of worker involvement in quality enhancement.)

The managers in six of these firms specifically mentioned their commitment to improving communications across hierarchical levels of their organizations. But the commitment to monitoring or trying better to understand the motivations and perspectives of employees was generally low, as shown in figure 1.

Profit-sharing or other kinds of programs that involve people at all levels of the organization on an equal basis existed only in two of these firms -- Hamburg and Warsaw. One of the firms with the lowest level of actual programs and measurements -- Dallas -- nevertheless scored above the average on the basis of the fact that its general approach took ample account of the labor-relations and productivity issues we addressed. Dallas, however, chose to speak to these issues in a more or less ad hoc fashion. This style was reflected in the firm's belief that "companies that have unions deserve them." It would be interesting to hear that manager's response to the

fact that the one firm that scored well above the others on all dimensions -- Rome -- was unionized.

Among the unionized firms in this study the attitudes and philosophies of management toward unions varied widely. Paris believed that the firm should actively involve the union in its productivity and quality enhancement efforts. Houston found unions generally cooperative; the manager we interviewed at this firm noted that union members involved in the QCs were among the most enthusiastic members. This manager also noted that union cooperation was doubtless connected with the fact that employees at Houston have pretty secure jobs. The manager we spoke with at Rome had a similarly positive attitude toward unions, claiming that management consulted with union leaders on changes that would affect the union or organized employees. His belief was, however, that unions pose a net cost to productivity. Finally, Amsterdam's perspective differed substantially from those of Paris, Houston and Rome: the manager interviewed here believed that unions were harmful and should be avoided when possible.

The philosophies of the remaining non-unionized firms were more similar to that of Amsterdam than to those of the more positive firms. It should be kept in mind, then, that a firm's explicit philosophy regarding unions may simply reflect the need to deal with reality: if you're unionized, you can't do anything about it, so you may as well make the best of it; if you're not, be glad about it and try to stay that way.

What do these results tell us about the general nature of these firms' approaches to the problems of productivity, and to the ways in which labor-relations shape these problems and can be used to deal with them? First of all, it is clear that too little attention is paid to the actual perspectives, motivations and needs of the work forces in these firms. Not

only are these firms basically deficient in monitoring employee attitudes, but their measurement of productivity is inadequate as well.

But there is a second more encouraging observation: in general, these firms have the right idea. This is made clear by the fact that most of them are quite interested in improving management-labor relations and encouraging participation. It is on specific issues of measurement, monitoring, incentive systems, and rewards for productivity increases that they fall short of what we would consider to be a desirable level of awareness and action. Productivity incentive plans are scanty except in a couple of cases, and most of them fail to reach down below upper levels of management. Beyond standard promotions and wage adjustments, none of these firms have a specific reward system for productivity or quality enhancement increases for lower level employees.

But the fact that they have the right idea speaks well for the possibilities of readjusting corporate cultures to take into account the needs of current industrial relations modes, and of fitting corporate strategies to include productivity and quality goals as well as more traditional profit and revenue-related objectives. One obstacle that looks like it will continue to hamper these firms in their efforts to adapt to changing circumstances is the distrustful attitude with which managers seem to view unions per se. As noted above, once unionized, these firms might adopt different views to make the best of what they probably consider to be a bad situation. But for the time being the general atmosphere remains more confrontational than cooperative. As productivity programs become more wide-spread with the changing demands of the domestic and international economy, it will be necessary for most, if not all of the firms in this study to reevaluate and restructure their approaches to the labor-relations function and toward unions.

CONCLUSIONS: CLARITY AND ACCEPTANCE OF THE "NEW" INDUSTRIAL RELATIONS

There are some interesting parallels between these firms' inadequate approaches to productivity and industrial relations, on the one hand, and the ways in which firms go about planning for and implementing productivity programs, on the other. Research indicates (Barocci, et. al., Diffusion, 1982) that the kinds of trouble firms encounter in the implementation of productivity programs, particularly in the diffusion phase after testing or piloting reflect the very problems that became apparent in the case studies above. For the most part, difficulties result from the fact that productivity problems are not clearly defined before programs are chosen or developed, and goals set. The most discouraging result of this reverse sequence is that programs have a tendency to define problems, rather than the other way around. So the real problems of productivity can be painted over, in the hopes that some program will have enough of an impact to raise productivity without addressing the specific issues at hand.

This problem illustrates in broader strokes exactly what we found most lacking in these firms' positions on labor-relations and productivity -- that not enough attention is paid to the measurement of employee attitudes and productivity problems. Given extant economic and industrial relations structures, US firms can no longer afford to be quite as complacent about their awareness of what productivity and quality mean at the level of production.

This point can be related more specifically to the thirteen firms examined here. It is clear, not only on the basis of the Japanese example, but also on the basis of our own experience and common sense, that the system of industrial relations with which American businesspeople are used to dealing is increasingly obsolescent. In non-unionized industries there are a variety of tools available to management -- falling under the general rubric of Human

Resource Management - that are quite adept at pulling the work force into productivity and quality enhancement programs, and drawing on workers' own unique capacities for innovation in practical matters of production and production processes. Many of these tools are just as applicable in unionized firms, given union endorsement and management willingness. But management cannot -- and in our four cases of unionized firms, does not -- sit back and fling up its hands in despair at the mere fact of unions. Rather, it is necessary to find out what productivity innovations are acceptable to unions, which of these are compatible with the wants and needs of the work force, and which of those are practicable in terms of the nitty-gritties of production. Throughout all these stages, it is imperative that someone high up in the organization -- preferably a lot of people -- keep a constant eye on the nature of the organization's culture, and its conduciveness to the changes planned.

All of this requires that as a first step, managers must begin to pay more attention to what's going on around them -- not only outside, but also inside the firm. It will be helpful to conduct regular employee surveys to find out what effects productivity and quality-enhancement programs are having at lower levels of the organization. It will also be important to teach managers how to sustain the kind of atmosphere that supports employee involvement and participation in these programs. Without enthusiasm from below, no productivity program can meet with much success, since it is from below that these programs are implemented.

The appropriateness of one or another productivity program for a particular firm is a subject that reaches beyond the scope of this paper. But in fact, the issues we consider here must be dealt with prior to questions of program implementation, since the connection between these programs and the labor-relations function must be considered at the earliest stages of planning.

Specifically, today's manager would do well to consider the following broad conclusions of our research:

1. The existence of a union (or unions) does not appear to hamper a firm in its efforts to raise productivity, provided that firm be fully aware of the positive role its personnel can play in the process. (The highest scoring firm, Rome, was unionized; the lowest scoring, San Francisco, was not).
2. There is a wide-spread general awareness of the importance of improving labor-management relations, but this awareness is rarely extended specifically to apply to the productivity issue. (All but one firm had some sort of quality circle, but few had any sort of low-level productivity incentive systems).
3. One major constraint on the ability of most of these firms to integrate the issues of productivity and labor relations is the general lack of attention to union and/or employee perspectives, motivations and needs. (Employee surveys were rare or non-existent in almost all of these firms.)
4. It is perhaps obvious, but no less crucial, that a firm's culture and strategy be oriented toward a positive integration of labor, management and productivity improvement.

You really can't play a new game until you establish new rules. Without a clear understanding of what's going on at the level of non-managerial employees, management will have a hard time figuring out how to go about adapting to these changes. It is largely from employees that management can get information about the specifics of the production process, the ways in which productivity (and not only labor productivity) can be increased, the ways in which quality can be enhanced, and the conduciveness of the firm's culture to these innovations. You can play football on a soccer field, but brute force may have to give way to a new strategy, new types of training and a reassessment of the appropriate make-up of the team.

APPENDIX A:
FIRM DESCRIPTIONS

FIRM	SIZE	PRODUCT/SERVICE	CUSTOMER
INSBRUCK	1981 sales: \$375 mil.	Semiconductors	Commercial
PARIS	1980 sales: \$1.2 bil.	Electrical Equipment	Commercial
HAMBURG	1981 sales: \$3.6 bil.	Electronic Instruments	Commercial
WARSAW	1980 sales: over \$100 mil.	Bio-medical Instruments	Commercial
TOKYO	1980 sales: \$160 mil.	Space Electronics and Hardware	Primarily Government
HOUSTON	1981 sales: \$2.9 bil.	Space and Military Electronics	Primarily Government
ROME	1981 sales: over \$2 bil.	Industrial Equipment	Commercial
FRANKFURT	1980 sales: \$120 mil.	Service Bureau	Commercial
AMSTERDAM	1980 sales: \$6.5 bil.	Industrial Products	Commercial
BOSTON	1980 revenues: over \$500 mil.	Banking	Commercial
SAN FRANCISCO	1980 sales: \$364 mil.	Defense Electronics	Government
DALLAS	1981 sales: \$3.2 bil.	Computer Systems	Commercial
AUSTIN	1981 sales: \$134 mil.	Strategic Systems	Primarily Government

NAME AND PHONE NUMBER OF RESPONDENT: _____

 NAME OF COMPANY AND PLANT: _____

 DATE OF VISIT: _____
 INTERVIEWER: _____

The information requested in this questionnaire is for a thesis study conducted by candidates for a Master of Science degree at the Sloan School of Management, M.I.T. All the information you will provide will be held strictly confidential. No individuals or specific establishment will be identified when reporting the results of this questionnaire.

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December 1981

PRODUCTIVITY QUESTIONNAIRE

- I. General Information Corporate/Division/Establishment
 (Corporate = C, Division = D, Establishment = E)
- 1a. How old is this C/D/E?
 - 1b. If not Corporate, how many D/E are there?
 - 2a. How many plants are there in this location?
 - 2b. How old are these plants?
 - 2c. Have you had any major capital improvements over the last five years?
 3. What are the major product lines of this Division?
- | Product/Service | Market share | Maturity Stages
(new, expanding
mature) |
|-----------------|--------------|-----------------------------------------------|
| 1. _____ | _____ % | _____ |
| 2. _____ | _____ % | _____ |
| 3. _____ | _____ % | _____ |
| 4. _____ | _____ % | _____ |
| 5. _____ | _____ % | _____ |

4. On what basis do you compete in the above lines? (Rank order, "1" most important and "4" least important.)

- | | | | | | |
|----|-------|---------|------------|---------|-------|
| 1. | Price | Quality | Technology | Service | Other |
| 2. | Price | Quality | Technology | Service | Other |
| 3. | Price | Quality | Technology | Service | Other |
| 4. | Price | Quality | Technology | Service | Other |
| 5. | Price | Quality | Technology | Service | Other |

5. What are the total sales of this Division in FY 1980 (FY 1981 if available)?

Total	_____	Sales Last Year	_____	% Sales (75/76)	_____
Product	1980(1)	%	Change from	Change From	
<u>Lines</u>	<u>Sales (\$'s)</u>	<u>Of Total</u>	<u>Previous Year</u>	<u>1975(6)</u>	
1.					
2.					
3.					
4.					
5.					

6a. Have you ever been part of a merger or acquisition?

If yes, how and when?

6b. Did this have a significant affect on the way this C/D/E was managed?

7a. How long has the top management of C/D/E (CEO, COO) been in place?

7b. If changed, did this affect how the C/D/E was managed? Why?

8. What, in your estimation, is the average tenure of the top/middle/lower management?

_____	Top
_____	Middle
_____	Lower

9. Can you give your best estimate of the number of employees in this plant?

_____	Hourly (Non-exempt)	Yearly Turnover %	_____
_____	Clerical (Non-exempt)	Yearly Turnover %	_____
_____	Exempt, Management	Yearly Turnover %	_____
_____	Exempt, Technicians	Yearly Turnover %	_____

10a. Have you had any layoffs of exempt/non-exempt employees over the last one to five years.

10b. If so, how many or what percent of work force?

10c. Reason(s) for layoff.

11a. Have you experienced any personnel shortages over the last year? In what occupations?

11b. How are you dealing with this problem(s)?

II. Culture

1. Do you have a copy of the organizational chart?

2a. Can you describe the decision making processing in the C/D/E? (participative, top down, budget)

- 2b. How are competing goals resolved?
 - 3. Would you describe your corporate culture?
 - 4a. Is there a document/official policy on the goals of the corporation? (If so, obtain a copy.)
 - 4b. If so, is a document given to _____ exempt _____ non-exempt?
 - 4c. If no, how are goals of the corporation relayed to divisions/establishments/employees?
 - 4d. Who participates in the formation of C/D/E goals? Describe process.
 - 5. Does the C/D/E planning staff engage in technology forecasting to facilitate the introduction of new technology? If yes, can you give an example?
- III. Programs and Measurement
- 1. How is the success of this C/D/E measured by the corporation?
 - 1a. Does this division measure its success in a manner different from corporate measures?
 - 2. Does the corporation use these success measures to compare D/E's across the corporation? How often? For what specific purposes? (budgets, etc.)
 - 3. How would you like to see the D/E measure its success?
 - 4a. Does this D/E have specific productivity goals?
 - 4b. If so, what are they? How were they formulated?
 - 5. Are there C/D/E programs specifically related to:
 - 5a. Improving Quality? If so, what? (Obtain documents, if possible.)
 - a.1. Upon what basis are direct/indirect expenditures allocated to this program?
 - a.2. Over what time period are the expenditures allocated?
 - a.3. How do you measure quality? Who receives this data?
 - a.4. How is the data used?
 - Are there C/D/E programs specifically related to:
 - 5b. Improving Labor-Management Relations? If so, what? (Get document, if possible.)
 - b.1. Upon what basis are direct/indirect expenditures allocated to this program?
 - b.2. Over what period of time?
 - b.3. Do you measure the labor relations climate in this organization (attitude survey, grievances, absenteeism, etc.)? If so, how? Who gets the data?
 - b.4. If so, how are the data used? By whom?
 - Are there C/D/E programs specifically related to:
 - 5c. Increased automation? (Including IS/Computers, Monitoring Devices, CAD/CAM, etc.) If so, what?

- c.1. Upon what basis are direct/indirect expenditures allocated to this program?
 - c.2. Over what time period are the expenditures allocated?
 - c.3. How do you measure effects? Who receives this data?
 - c.4. How is the data used?
- 5d. Are there C/D/E programs specifically related to: Research and Development? If so, what?
- d.1. Upon what basis are direct/indirect expenditures allocated to this program?
 - d.2. Over what time period are the expenditures allocated?
 - d.3. How do you measure the effects of increased R and D? Who receives the data?
 - d.4. How is the data used?
- 5e. Are there C/D/E programs specifically related to: Employee Participation Programs (QCCs, QWL, etc.)? If so, what?
- e.1. Upon what basis are direct/indirect expenditures allocated to this program?
 - e.2. Over what time period are the expenditures allocated?
 - e.3. How do you measure the effects of the programs? Who gets data?
 - e.4. How is data used?
- 5f. Are there C/D/E programs specifically related to: Productivity Incentive Plans (Scanlon, gainsharing, piecework, ROI, etc.)? If so, what?
- f.1. Upon what basis are direct/indirect expenditures allocated to this program?
 - f.2. Over what time period are the expenditures allocated?
 - f.3. How do you measure the effects of the programs? Who gets data?
 - f.4. How is data used?
- 5g. Are there C/D/E programs specifically related to: Cost Reduction Programs? If so, what?
- g.1. Upon what basis are direct/indirect expenditures allocated to this program?
 - g.2. Over what time period are the expenditures allocated?
 - g.3. How do you measure the effects of the programs? Who gets data?
 - g.4. How is data used?
- 6a. Do you have a person(s) or department specifically assigned to the productivity function? (Temporary or permanent?)
If yes, who is responsible? (Get name and set up interview.)

- 6b. If so, how many managers and what are their titles?
 6c. Also, how many staff and what are their titles?
 6d. To whom does the group report to in the organization?
 6e. What are their linkages (formal) to other divisions -
 e.g. quality assurance, manufacturing, R & D?
 6f. What is the approximate yearly budget of the
 productivity group?
 6g. What has been the reaction to the program of:

	<u>Supportive</u>	<u>Neutral</u>	<u>Opposed</u>
Workers	_____	_____	_____
Union Leaders	_____	_____	_____
I.R. Managers	_____	_____	_____
Line Managers	_____	_____	_____
First Line Supervisors	_____	_____	_____
Other	_____	_____	_____

Note: Make sure you get the reasons for the reactions of each group.

- 7a. Do you use external productivity/efficiency consultants at this level of the organization?
 7b. If so, for how long?
 7c. What is their primary activity?
 7d. What is the approximate yearly budget for these consultants?
 8a. Do you receive any productivity newsletters? Would you be interested in one with specific applications to your industry?
 8b. If yes, can you summarize them briefly?
 9. If a productivity enhancement program (new investment, new process) results in the elimination of some jobs, how does the corporation/division handle this?
 10a. How do you define individual productivity?
 10b. Do you have a measure for it?
 11. Do you have an individually oriented formal productivity measurement system for:
 11a. Management,? If so, what?
 How Often?
 How collected?
 Do you have an individually oriented formal productivity measurement system for:
 11b. Exempt (technicians, etc.)? If so, what?
 How often?
 How Collected?
 Do you have an individually oriented formal productivity measurement system for:
 11c. Non-exempt? If so, what?
 How Often?
 How collected?
 12a. Does C/D/E have a formal productivity measure for this operation?

12b. If so, what?

13. Can you offer an estimate of how much productivity has improved in this organization over the last five years?

IV. Rewards for Performance

In this section we are interested in learning how compensation is related to the performance of different groups within the C/D/E.

Management

- 1a. To which of the following is managerial compensation related directly or indirectly? (Please check all of the appropriate items. Also indicate the level of management, i.e., top (TM), middle (MM), lower (LM), which corresponds to each measurement.

Compensation Criterion	Related Directly			Related Indirectly		
	T	M	L	T	M	L
(a) Level of company profits						
(b) Rate of growth of profits						
(c) Sales						
(d) Rate of growth of sales						
(e) Cost reduction and Contributions to operating efficiency						
(f) Other						

- 1b. For each level of management which of the compensation criterion identified above is the most important in determining management compensation?

Top management _____

Middle management _____

Lower management _____

- 1c. What other incentives does the firm offer for management to increase productivity? (Again, please indicated organizational level.)
Salaried non-managerial employees(clerical/technicians)
2. Please describe any special incentive arrangements that are used in your corporation for this group.
Hourly employees
3. Indicate the wage payment system used:
4. Other incentives
Are there other reward systems such as merit pay,

profit sharing or employee stock purchase plans in use? (Identify organizational level or category of employees.) If so, please describe and indicate whether you have any evidence that had any effect upon productivity. Please describe the evidence and the magnitude of the impact.

- 5a. Suggestion Systems
Describe briefly any employee incentive plans designed to elicit suggestions that can increase productivity.
- 5b. Suppose an employee has an idea for an innovation which save the company, say \$2 million per year for five years: Does there exist a clearly delineated set of channels for the submission and evaluation of such an idea? If so, please describe.
- 5c. What is the process for evaluation and implementation likely to be in acceptance of the idea?
- 5d. What financial or other reward would the employee receive? What? When? From what budget?
- 5e. Please provide, examples from one or a few selected sites information on productivity-increasing suggestions that have been received from employees and as a result saved dollars, preferably standardized by categories of employees offering the suggestion.
6. Describe any training programs in place related to productivity improvement? (Investment in those programs?) (Get document.)
7. Can you offer an example(s) of programs that have had a positive impact upon productivity in your organization and your assessment of why they worked?
8. Would you describe a specific incident that had a measurable positive effect on productivity enhancement within this organization?
9. Would you identify the factor(s) that have the most effect in terms of holding down productivity increases? (mil specs, work rules, quality assurance).
- 9a. Do you have trade union(s) within this organization? If yes, get contact.
- 9b. If yes, which groups of workers does it represent?
- 9c. Percentage of non-exempt workers?
- 9e. How would you describe your C/D/E management's strategy and philosophy toward unions?
For both union and nonunion establishments.
 1. Believes unions are harmful and should be avoided?
 2. Is not opposed to unions if employees want them?
 3. Other _____?For union establishments only.
 1. Believes we should actively involve the union in our efforts?
 2. Believes we should work independent of union involvement?

- 3. Sees our efforts as a way to weaken the influence of the union?
- 4. Other _____?
- 9f. How does the overall strategy in policy toward unions influence what you do, if at all?
- 9d. Does the trade union, in your opinion, affect productivity?
- 10a. Do you regularly administer an employee attitude survey?
- 10b. To Whom?
- 10c. How often?
- 10d. Who sees the results?
- 10e. Recent changes in results?

BIBLIOGRAPHY

- Barocci, Thomas A., Margaret K. Primak and Kirsten R. Wever, "Productivity Improvement Programs in Mature Manufacturing Industries: Implementation and Diffusion," Sloan School of Management Working Paper #1356-82, Alfred P. Sloan School of Management, M.I.T., Cambridge, MA, September 1982.
- Barocci, Thomas A., "The Cup is Half Full: American Firms React to the Productivity Crisis," Sloan School of Management Working Paper #1300-82, Alfred P. Sloan School of Management, M.I.T., Cambridge, MA, April 1982.
- "The New Industrial Relations," Special Report, Business Week, May 11, 1982.
- Klein, Thomas P., and David A. Sanford, "Planning and Implementation of Product Quality in the Transition from Development to Production in High Technology Industries," Masters Thesis, Sloan School of Management, M.I.T., June 1981, p. 223.
- McGregor, Douglas M., The Human Side of Enterprise, Reprinted from "Adventure in Thought and Action," Proceedings of the Fifth Anniversary Convocation of the School of Industrial Management, M.I.T.; June 1957.
- McKersie, R.B., and Peter Cappelli, "Concession Bargaining," Sloan School of Management Working Paper #1322-82, Alfred P. Sloan School of Management, M.I.T., Cambridge, MA, June 1982.

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