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1 INTRODUCTION

In recent debates regarding the issues of quality, productivity and business competitiveness, the theme of organizational culture has been addressed with increasing frequency. All authors agree that the successful introduction of these programmes depends upon or impacts upon enterprise culture, yet, few have examined why, how and when this occurs. The object of this article is to explore some of these issues. It seeks to join conceptual concerns arising from discussions by authors who have tried to characterize the process of change in organizations, with empirical material from recent research concerning the adoption of productivity and quality programmes by Brazilian firms.

Over the past few decades, studies have proliferated concerning strategies for organizational change and their impact upon the culture of firms (Pettigrew 1987). The focuses adopted by authors coming from different theoretical disciplines present views of varying degrees of breadth, ranging from studies of a particular country's culture and its influence upon the administrative practices of the firm (for example, the works of Hofstede *et al.* 1990), to studies on the culture of a particular organization,¹ through to more recent discussions about the cultures of sub-groups within an organization. According to Sainsaulieu (1987), an author who adopts this latter approach, a firm is comprised of a web of groups, each possessing its own individual forms of representation, its particular relation with the firm and work, and a common heritage of experience. Therefore, one should speak of group cultures (plural), rather than a single firm culture.

In order to examine the adoption of quality and productivity programmes, it is necessary to adjust the focus towards organizations and their many dimensions: hierarchies, functions, groups etc. It is clear that the national context is a factor, not only in terms of those cultural features in a country which help or hinder the adoption of a particular organiza-

tional model, but also the value given to education and to work itself.

Gagliardi (1986) identifies three types of cultural change in organizations:

- apparent change, when an organization changes in order to preserve its own culture;
- a cultural revolution, when the new values which are incorporated are antagonistic to the previous ones. This presents a great challenge to the organization's founding members, who have to substitute the values around which they had constructed the organization's identity. This process is nearly always accompanied by a flow of people entering and leaving the firm and the destruction of important symbols;
- cultural incrementalism, when the proposed values are complementary to those which exist, opening a range of alternatives with which to solve problems.

In the majority of organizations the general tendency is to preserve the existing culture. In other words, people try to reconcile problems which arise in accordance with existing cultural patterns. Only the marriage of external and internal forces in the organization can induce changes in these patterns. Among the external forces, we highlight: the national or international market, which sets new levels of competitiveness for firms in terms of price, specifications and quality of products or services; the State and its economic and social policies; and social movements, which seek new forms of interaction. Internal forces include changes in the directorate of an organization, or in its marketing, financial and human resource policies, or in the forms of organization and management of work - all of which can provoke changes in cultural norms.

The adoption of new production techniques and of so-called quality programmes implies significant changes in companies. The very notion of quality as

¹ Much of the research about organizational culture is based upon case studies. Recent work in Brazil and elsewhere tends to focus upon the reality within a particular organization. A recent collection of articles

(Fleury and Fischer 1992) puts together case studies, including banking, services, state-owned informatics firms and a prison.

conformance to a norm, or as a series of specifications to be followed by all employees - that is, by all employees, independent of their position within the hierarchy of the firm - gives it the character of a catalyst for change (Hirata 1991). As Hirata notes, the issue of quality places the producer directly face-to-face with the problem of value in the market - the visualization of the user's satisfaction or dissatisfaction with the product. This requires that the worker be more integrated and participate more in the definition and attainment of quality production. Techniques and programmes for obtaining quality and productivity are extremely varied, but they have certain features in common: a management strategy aimed at meeting the needs of customers, the elimination of loss and waste, and the sharing of responsibility for meeting set targets.

Zarifian (1992) adds to this analysis of the process of change and the emergence of new models of organization, by proposing a distinction between a skilled organization and a skilling organization. According to this author, 'skilled organizations' display the following characteristics:

- work in teams or in cells;
- autonomy delegated to cells, giving them responsibility for meeting performance objectives, such as quality, cost, and profit;
- reduction in number of tiers of management and training for managers in the motivation and management of human resources;
- the strengthening of relations between different activities within the firm (between maintenance and production, or between production and marketing).

These four characteristics are presented as constituting a break with Taylorism and have become obligatory reference points for those organizations which intend to be modern. Nevertheless, behind this appearance of modernity, serious problems may persist: the organization may become exclusive (if hiring criteria stress higher levels of education and qualification and rule out significant sectors of the population), rigid, incapable of evolving rapidly and slow to respond to change. As a result it becomes demotivating.

The 'skilling' organization, according to Zarifian, should be concerned with four further characteristics in addition to those required in a skilled organization:

- it should concentrate on the understanding and control of unforeseen situations. These can be used as learning opportunities by all employees;
- it should be open to company policy being operationalized by employees. For example, a quality strategy can be defined partly by those putting it into operation on the shop floor;
- it should promote the development of shared responsibility around common objectives. These shared responsibilities promote interaction and communication between different departments, functions and skills;
- it should regard employees' skills as dynamic and allow them to invest in the continual improvement of such skills. When this happens, they stop thinking of their own 'know-how' as a stock of knowledge to be protected and start to see it as skill and activities which are simultaneously personal and devoted to collective aims.

These four dimensions define, according to Zarifian, the 'skilling' organization, which has the potential to surpass the limitations and defects of an organization which is only skilled. Furthermore, because of the shared concern for the values of increased regard for learning and permanent innovation, the skilling organization can develop a culture which is more favourable to change.

When considering the implications of these issues for the Brazilian context, it is evident that political, economic and social change is taking place with increasing intensity not only in Brazil, but in other countries, and by no means just in those in the industrialized world. Transformations in the rules of the game in international and national markets, the lifting of protectionism, the break-up of oligopolies, neo-liberal interventions by the State, increasing union activities questioning labour conditions and relations, the emergence of ecological movements encouraged by new forms of interaction with the environment, new technologies and new organizational arrangements all characterize an extremely changeable context.

In Brazil, obstacles to the adoption of change in organizations and in the productive system are, nevertheless, significant, given the low educational level of the population as compared with countries in the First World or other newly-industrialized countries (Fleury 1991), the low technological dynamism of Brazilian enterprises (Carvalho 1992), and

the persistence of traditional and predatory labour practices.

Because of the heterogeneity of the Brazilian business community, the reaction of firms to these challenges and obstacles has been varied: some companies have anticipated these changes, others have only reacted to them, while others have closed ranks and resisted change. The objective of this article is to try to reflect upon these processes and seek an understanding of why, how and when change occurs, to what extent cultural patterns and the nature of power relations within organizations are changing, and to see if any plans for skilling organizations exist, or whether Brazilian modernization is limited to attempts to create skilled organizations. A recent research project conducted among industrial enterprises in the region of São Paulo city provides the empirical background needed for discussion of these issues.

2 THE INNOVATIVE PROCESS IN THE PRODUCTIVE SYSTEM AND THE MANAGEMENT OF BRAZILIAN ENTERPRISES

2.1 The Research

A research project on the diffusion of new quality practices in Brazil and their impact upon human resources studied 21 manufacturing companies in São Paulo and Porto Alegre which were adopting, or had already adopted, quality and productivity programmes.² This Section will analyse the information provided by 12 firms in São Paulo. These firms can be clustered into three groups, according to the stage they had reached in the adoption of organizational change:

Group One - Firms which had introduced little or no change in the productive system and in the administrative system;

Group Two - Firms which had introduced change but were retreating for various reasons;

Group Three - Firms which had introduced changes in both productive and administrative systems.

2.2 Firms at the Margin of the Process of Change

Three of the firms examined in this research were barely involved in the organizational changes which had been identified among the other firms. These were small, family-owned firms, with between 150 and 250 employees, whose founder (in all cases a former employee of a large company) was still actively involved in the management of the firm. These three firms were producers of auto components, yet they avoided supplying the large multinational auto assemblers, preferring instead to situate themselves in market niches with much less pressure from clients for high product quality.³

The production methods and technology utilized by these firms were largely conventional. In terms of the introduction of quality control methods, one firm used SPC only on the days when the company was visited by the client's technical staff. In another firm, development of SPC began in one area, but the programme was severely undermined during a strike. The area using SPC was the only production area to be completely paralysed, indicating workers' discontent with the new system. After the Collor Plan in 1990, this SPC system was abandoned.⁴

These three firms operated with high rates of labour turnover (around 50 per cent per annum), mostly due to voluntary resignations over wages or other dissatisfactions. No investments were made in training, and initiatives for employee involvement in company schemes (such as hygiene or workplace safety) were viewed sceptically. The directors in these three firms agreed that they should modernize their production methods and adopt quality programmes. However, their everyday activities were governed by the search for immediate survival in the least-demanding market niches.

The labour relations in these firms were based on the 1970s model of high labour turn-over and keeping labour costs low by using unskilled manual labour. The only difference between current practices in these firms and labour relations in the 1970s was that unions are now able to pressure them to observe the minimum standards set by industry-level negotiated contracts.

² The research referred to was the IPEA project, outlined in the Introduction.

³ The situation of these and other small firms is discussed more extensively in the article by Marx in this Bulletin.

⁴ A radical economic programme instituted by the Collor administration in early 1990 to control inflation, by freezing personal and corporate assets held in banks.

A fourth small firm in the sample had displayed similar characteristics to these firms, but by the time of the study it was beginning to change. This company, a producer of electronic components, was starting to redefine all of its organizational and productive strategies. Two years previously this firm was close to bankruptcy when it was taken over by a multinational to which it supplied parts. A process of administrative reorganization took place, involving a sharp reduction in the labour force. The firm had also started to take some initiatives in the area of quality programmes. With the economic crisis and changes in shareholder control, the company's management redefined its priorities, seeking to reduce costs in order to compete in domestic and foreign markets and improve quality standards by securing certification from its customers. Work-in-progress was reduced, SPC was introduced and the company is planning to implant ISO 9000.⁵

Significant changes in the management of direct production workers are evident in this firm. Previously, this company had regarded a labour turnover rate of five percent per month as acceptable. This was reduced to ten percent per annum. Furthermore, hiring requirements had been altered toward selecting only people (mainly women) who had completed 1st grade education (eight years) - considered by the company to be the minimum necessary for an employee to be able to keep up with changes in the production system. The company was investing in training these new recruits, by offering courses in SPC techniques, mathematics and the reading of technical drawings.

This company, having been very similar to the first group of companies described above, was forced by a crisis which threatened its very survival to undertake significant changes. While the small size of the firm was not an obstacle to introducing change, it seems clear that the resources of the multinational company behind it - management skills as well as finance - were important for the process of change to proceed smoothly. However, this company seems to be becoming a skilled rather than a skilling organization. It had begun to improve the general level of skill of its employees and had introduced organizational change in the productive system, while doing little to guarantee that learning for continuous improvement will take place.

2.3 Advances and Retreats

Two of the companies examined in the sample (one producing motor parts and the other footwear) had come up against a difficult transition point in which they had begun to lose some of the improvements achieved previously. Both firms were large, employing roughly 1,500 workers each, and had implemented changes throughout the 1980s in order to meet demands from national and international markets for improved quality and lower costs.

The changes introduced by the motor parts firm were much more technical than organizational in character. A Research and Development Centre had been installed, a subsidiary producing microelectronic equipment had been set up, and the company had introduced programmes such as Quality Circles, JIT and SPC. Nevertheless, the human resource policies continued to follow a traditional format. Management had a negative image of workers, considering them to be lazy, and unlikely to stay with the company for any length of time. Labour turnover rates were above 20 per cent annually, and the company invested little in the training of direct workers, technical or managerial staff. The firm had even closed its training department. The company had also encountered difficulties with the union over wage levels and redundancies.

This firm was unprepared to face the crisis which struck the motor parts sector as a result of the opening up of the domestic market to imports, and the deep recession in the Brazilian economy. Faced with severe external pressures, the company has tried to resist or delay the demands coming from the assemblers for better quality and price. It has, more importantly, abandoned a number of its innovative policies. The factory built to produce micro-electronic equipment was closed, the Quality Circle programme abandoned, the SPC programme reduced and simplified, and the use of kanban largely eliminated.

The changes introduced in the footwear firm were, in contrast, more organizational in nature. The programmes implemented included Quality Circles, quality control passed to work groups, significant investments in training for all types of workers and the replacement of individual bonuses by collective ones. Changes in the production system in-

⁵For a brief comment on ISO 9000, see the Appendix to the Introduction to this Bulletin.

cluded the purchase of computer-aided design equipment, implementing manufacturing cells in certain activities, and the computerization of production planning and control.

The firm's sales had fallen with the crisis in external and internal markets, giving rise to disputes among top management (members of one family) about whether these strategies for technical and administrative modernization were most appropriate for these new conditions. The most conservative wing of the family-run directorate proposed that the company withdraw from the international market and return to producing low-cost footwear for domestic consumption, while another part defended the continuation of the modernization strategy. As a result of the recession, 350 workers had been made redundant in 1990, which contradicted the firm's commitment to stabilizing labour and undermined its attempt to involve labour in the process of change. Some programmes were abandoned as a short-term cost-cutting measure, and the Director who had developed the entire participative strategy resigned. According to the Human Resources manager, the Board of Directors was only interested in rates of interest, finance and costs, and Human Resources policies were seen in terms of costs rather than plans and targets for development.

The cases of the two companies described above illustrate how the processes of change do not occur in one direction and can advance or retreat in relation to external and internal crises. The major point of differentiation between these two companies arises from the type of strategy for change adopted - whether technical or organizational change was favoured, or whether a more balanced strategy was defined. In the case of the first firm, the emphasis upon technical change in the productive system, while maintaining an extremely conservative system of management and labour relations, did not produce the desired results. The research revealed that in the context of an economic crisis, the company was experiencing a serious set-back.

In the second firm, strategies were formulated in a more balanced form and a more innovation-oriented culture had been introduced. As a result, the possibility of a total retreat from these programmes is remote. In other words, a real redefinition of cultural patterns occurred in the second firm with the adoption not only of quality strategies to meet client needs, but also the internalization of new

values of participation and shared responsibility by all employees for meeting set targets. This view of the firm's prospects was confirmed by a manager who participated in a workshop on the results of the study some nine months after the research had been completed.

2.4 Change Consolidated

The common denominator among six firms in the final group was the depth of the changes which had been introduced in production and management systems. All these firms had initiated the process of change over a decade ago, and in spite of pursuing different paths and finding different solutions, they had all consolidated change.

Three of the firms in this group were medium- or large-scale motor parts producers. Of these, two were subsidiaries of large multinationals and had received strong backing from the parent company for introducing innovations. The third company was Brazilian-owned, but one of the country's leaders in its use of quality and productivity programmes.

The innovations adopted by these three firms were extremely technical in character - focused upon the production process and emphasizing quality and cost. All of these companies had implanted SPC, manufacturing cells, kanban systems and reductions in machine set-up time. They were seeking to introduce ISO 9000, largely in response to demands from their customers in the vehicle assembly industry. Making all of these changes involved a process of trial and error. Two of these firms reported that they had only implanted SPC techniques successfully at the third attempt, with the key to success being the creation of a system of indicators which enables staff to evaluate the success or failure of each attempt to innovate.

In terms of organizational change, these companies had reduced the number of management tiers, eliminated supervisory posts, sought to stabilize their labour force, reduced the labour turnover rate to below 10 per cent per annum and invested significantly in training all employees, including direct labour. None of these firms, however, had defined a participative strategy which included worker involvement. The Human Resources managers interviewed indicated that while participatory strategies would be an interesting area to explore, they were something to be considered for the future only.

These firms could be characterized as skilled organizations. They continually reiterated their modern image, but signs of the limits to their strategy were already evident.

A fourth firm, a medium-sized, Brazilian-owned firm in the metal-working sector had adopted a rather different approach, focusing much more on the mobilization and involvement of labour. Its production process was relatively simple and it had introduced quality programmes and a kanban system in the first half of the 1980s, as a result of pressure from customers and from the need to rationalize its use of available physical space. In an extremely gradual process of change, the firm removed its quality inspectors from certain areas of the factory and introduced quality tests which were conducted by workers using very simple devices. By implementing a simplified kanban system, the company had reduced its stocks and throughput time (time between receipt of an order and delivery to the customer).

All these changes were preceded by an intense campaign of worker awareness and mobilization at all levels of the firm. Training programmes were instituted for everyone - from direct labour up to managerial levels - drawing upon both internal and external resources. Special attention was directed toward supervisors, whose activities and power were significantly reduced under the new practices. The firm arranged visits by production workers to customers' factories (especially when complaints had been received) and displays of defective goods which customers had returned. The aim was to involve all employees in problem-solving and improvement. As part of this same mobilizing drive, the firm introduced a monthly bonus for all workers, based upon the overall performance of both the company's factories. As a corollary of this emphasis on involvement at all levels, the company has given great emphasis to stabilizing its labour force, paying much more attention to recruitment and reducing turnover, even to the point of controlling voluntary separations.⁶

In this firm, as opposed to the others in this group, changes introduced in the productive and administrative system have provoked not only changes in

certain cultural patterns (from being a closed firm to a more open firm which monitors the market closely) but also changes in power relations within the company as a result of the space that direct labour has begun to occupy in the firm's strategies.

Two other large firms (a Brazilian firm and a multinational subsidiary) are examples of more consistent, balanced and consolidated strategies for change. The Brazilian firm, which re-laminates steel, had begun the process of change in the 1970s, when leadership of the firm passed from the founder to his sons. At this point in time, a process of organizational change was undertaken in order to move from a more paternalistic and centralized form of management to a more participatory style. New projects were introduced, including Quality Circles, participatory strategic planning (involving management down to the level of supervisors) and quality programmes.

The 'Production with Quality' programme was introduced gradually, with both successes and failures. All the machine operators were trained with the aim of implementing the new programme in the entire factory, although interest in it varied markedly between departments. At the time of the research, the entire process of production control and quality control was being computerized and the firm was introducing ISO 9000 procedures. In addition, the company had reduced its set-up time and had implemented preventive maintenance schemes in order to rationalize the entire production system. The company has encountered difficulties, nevertheless, in implanting a JIT system for its upstream suppliers (mostly state-owned enterprises), although the system is now operating effectively with downstream clients in the car assembly sector.

In the multinational firm (which operates in the telecommunications sector), changes in the production and management had begun in the 1980s under the strong influence of a manufacturing director who was enthusiastic about the Japanese model. Over the years, this company has introduced SPC, kanban and manufacturing cells. The company is also creating a category of multi-skilled operators, who are trained to work at a variety of workstations.

⁶ Workers whose contracts are terminated by the company without disciplinary justification are entitled to a compensation payment, financed largely by a payroll tax. Workers wishing to leave a firm try to force their own dismissal so as to obtain this payment. Firms often connive in this practice because they pay only a part of the

compensation costs, while the costs of proving 'justified' dismissal are high. The firm described here had cracked down on this practice, arguing that it gave management no incentive to resolve personnel problems.

ISO 9000 procedures are also being implemented in this company.

Despite the specific characteristics of the production process in both of these companies, certain similarities can be observed in the process of introducing these new production techniques. The similarities are even more evident in changes to the management system. Both companies have reduced a number of management tiers, eliminating supervisory and management posts and adopting a focusing strategy. In terms of policies for human resource management, both firms have invested in the education and training of labour, for direct production workers, as well as for technical and managerial staff. The stabilization of labour is a stated objective in both companies, although the Brazilian firm has been more successful in this, reaching a labour a turnover rate of about 10 per cent per annum, compared to nearly 20 per cent for the multinational subsidiary. In part, this reflects differences in the type of work and labour forces used - steel as opposed to electronics.

Internal communication is highly valued in both companies, not only for improving the internal working climate but also for obtaining the participation and involvement of workers in meeting planned targets. The multinational firm has sought to implement certain programmes which are already well-established internationally but innovative in the Brazilian context, including 'coffee with the boss' (each morning four workers are chosen at random to have their coffee break with the manager of each area) and an 'open door' policy for access to senior management.

Changes were being introduced gradually in these firms, but they were significantly transforming their cultural patterns and existing power relations. Changes in management hierarchies affected the power relations between different groups within the firm and led to significant changes in the degree and means by which first-line supervisors exercised power over production workers. These firms shared some of the features of skilling organizations, as defined by Zarifian (1992). They are developing strategies aimed at developing technical and organizational learning, co-responsibility for goals and objectives, and personal and organizational competence.

3 CHANGES IN CULTURAL PATTERNS AND POWER RELATIONS

This analysis, albeit of a limited sample of firms, has enabled us to map out the different strategies adopted by companies to confront the situation of change and crisis in Brazil. These strategies have ranged from closing up and searching for less competitive market niches, to limited changes, such as implanting some or other production or management technique, to proposals for more profound and consistent change in the broader strategies of the firm.

In the last case, it was possible to observe that the adoption of new productive and organizational strategies by firms leads to the creation of a 'culture of quality', involving not only new relations with the market and with customers, but also new forms of internal interaction and new power relations.

This research revealed the tendencies in some companies to break with the Taylorist system of production and human resource management. Nevertheless, in the majority of the organizations studied, the general course of change appears to be more in the direction of skilled organizations rather than skilling organizations.

The creation of a skilling organization implies significant cultural changes, so that new values can really be incorporated into organizational practice. These new values include: transparency in objectives and organizational strategies, so that they are no longer the sole domain of top management but understood by people at all levels of the organization; shared responsibility for these objectives and strategies; continuous learning. These are not a part of Brazilian business culture, and their implementation always runs up against strong resistance. In the skilling organization, the idea of continuous change constitutes the basic presupposition of its cultural identity.

In this way, the road most frequently travelled by the Brazilian firms which confront the challenge of competitiveness is in the direction of becoming skilled organizations. They look attractive, but for all their bright, modern appearance they have limitations. The challenge is to find the path towards becoming a skilling organization and the courage to take it.

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