

# DECLINING PRODUCTIVITY AND CORPORATE RESPONSE

## 16597 The Indian Experience

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The paper presents a picture of comparative productivity levels in select Asian countries during the eighties with particular reference to India and Japan. After elaborating on the Japanese productivity system the paper addresses itself to three basic questions: (i) What is unique about the Japanese productivity system? (ii) Can a management technique developed within the context of Japanese companies be transferred to Indian companies? and (iii) What can Indian managers interested in initiating successful productivity programs learn from their past experiences?

The rate of growth of the industrial sector of an economy is determined by the rate of expansion in the productive resources employed in industry and the rate of improvement in total factor productivity [Nadiri, 1970; Kennedy and Thirlwall, 1972; and Golder 1986 and 1986b.] i.e. the overall efficiency in factor use. Most studies [Reddy and Rao, 1962; Banerjee, 1975; Mehta, 1980; Brahmananda, 1982; Ahluwalia, 1985] found a downward trend in the total factor productivity in Indian industry at the aggregate level, as may be seen from Table 1.

TABLE 1: Annual Growth Rate in Total Factor Productivity in the Industrial Sector of India

Author (s)	Period	Growth Rate (% per annum)
Reddy and Rao	1946-57	-0.8
Banerjee	1946-64	-1.6
Hasim and Dadi	1946-64	2.8
Mehta	1959-70	-1.8
Brahmananda	1950-80	-0.2
Ahluwalia	1959-79	-0.6
Golder	1951-65	1.3
Golder	1959-79	1.3

Source: Indian Industrialisation : Structure and Policy [Ghosh, Subramanian, Eapen and Drabu, 1992]

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TABLE 2: Productivity Levels in Select Asian Countries (All Sectors)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
China, Rep. of	6324	6588	6682	6981	7470	7713	8272	8957	9513	10058
Hong Kong	11532	11979	12198	12739	13377	13193	14424	16172	17281	17742
India	669	695	701	743	757	780	795	807	843	865
Indonesia	1415	1436	1337	1434	1474	1481	1481	1501	1530	1588
Japan	20609	21210	21666	22034	23031	24109	24167	25327	26496	28644
Korea, Rep. of	4577	4766	4987	5576	6078	6265	6798	7221	7804	7076
Malaysia	4847	5030	5398	5616	5900	5591	5577	5690	5989	6229
Pakistan	1028	1073	1112	1156	1219	1282	1353	1356	1408	1436
Philippines	2054	2055	2023	1962	1844	1682	1660	1754	1794	1872
Singapore	10963	11542	12035	12717	13690	13705	1402	14782	15285	16762
Thailand	1428	1638	1647	1666	1781	1747	1761	1857	1985	-

Source: Productivity, National Productivity Council, Vol. 32, No.2, July-September, 1991.

Two studies in which a significant rising trend in total factor productivity has been observed are Hasim and Dadi (1973) and Goldar (1986 a) but Ahluwalia's (1991) recent analysis of 63 manufacturing industries shows that over the span of 25 years ending 1985-86, total productivity growth is virtually zero (The estimate shows a decline of 0.4 per cent per annum). Further, Indian productivity level among select Asian countries is the lowest as shown in Table 2.

Almost everyone agrees that lagging productivity is a serious problem in India but no one seems to agree on what is causing the slowdown or who should be taking responsibility. The bulk of the blame has been placed, rightly or wrongly, on the following:

- \* governments, for increasing the number of central, state and local regulation, for enacting equal opportunity rules, for maintaining large military spending, and for not providing tax incentives to boost investment;
- \* unions, for being responsible for featherbedding and for spiralling wage costs;
- \* OPEC, for creating a sharp rise in energy costs;
- \* environmentalists, for demanding stringent pollution control measures;
- \* workers, for taking off from work, for being inexperienced and under-educated, and for being "more interested in the 'me' in his life than in keeping his nose to the grindstone" (ET, 25-10-1992); and
- \* corporate managers, for making workers feel alienated and for not investing more in long term research and development (Kumar, 1991).

Given the long list of possible "suspects", productivity experts have been struggling to determine the beginning of the investigation. These experts, mostly economists, have tended to concentrate their investigative efforts at the macro-economic level. As a consequence, relatively little has been said thus far on what corporate managers could do to improve the productivity problem.

The prevailing view among corporate managers has been to treat productivity as "someone else's problem". Those who hold such a view would point out that many of the causes of the productivity slowdown cited by experts are beyond their own control. Some managers would go a step further to argue that they have been the victims of actions taken by the government, union, and others.

In recent years, more and more corporate managers in India are beginning to realise the direct impact of declining productivity on their business. Productivity, these managers argue, is very much "their problem". These managers see productivity as playing some part in the loss of Indian companies' share in the domestic and world markets to foreign competition. Others are alarmed by a study published by the New York Stock Exchange (1979) that a small productivity decline may have a large "multiplier" effect on inflation. Still others are concerned with empirical results that show productivity as a significant determinant of profits (Hirota, 1977). To the extent these concerns — loss of market share, inflation, and profits — are of pivotal importance to everyday busi-

ness, it seems logical that corporate managers are beginning to show such more than a casual interest in productivity.

Some Indian companies — Bharat Heavy Electricals, National Fertilizers, Maruti Udyog, Bajaj Auto, Larsen & Toubro, Tata Iron & Steel, Escorts — to name a few — have got their productivity improvement programs. For example, Maruti Udyog has recently started a project to study how computer-aided systems, office and paper-work systems, energy conservation, value engineering, quality control teams, and reorganisation can improve productivity in the plant and the office. The companies named above have been enthusiastic about the results of such programs —namely, an improved rate of productivity growth for the company and improved morale among the workers.

One of the characteristics common to all these Indian companies has been their willingness to learn from how Japanese companies have been testing and implementing productivity improvement programs for almost three decades. These long years of experimental efforts have now produced a unique way of thinking about and managing productivity, which I call the "Japanese productivity system" in this article, which addresses itself to three questions regarding the Japanese productivity system:

- \* What is unique about the Japanese productivity system?
- \* Can a management technique developed within the context of Japanese companies be transferred to Indian companies?
- \* What can Indian managers interested in initiating successful productivity programmes learn from past experiences?

I believe that corporate managers can do something about the productivity problems perplexing India. I invite Indian managers at large to evaluate, for themselves, whether the Japanese productivity system can deliver to them the kind of benefit currently enjoyed by a small number of Indian companies and their workers.

### **A Word of Caution**

A casual observer may note that the Japanese companies must be doing something right to post a rate of productivity growth more than three times faster than their own in the past decade. According to the Bureau of Labour Statistics, output per hour of manufacturing worker rose 9.9 per cent annually in Japan between 1960-61 and 1975-76 compared to 0.89 per cent in India for the same period. A study further reveals that the gap between labour productivity in India and that in Japan widened from 1:1.28 in 1960 to 1:7 in the late '70s (Kumar, 1991).

A casual observer may also note that the Japanese have been able to record a higher level of productivity in some key industries. Take the automobile and steel industries. According to the latest census data, an average Japanese auto worker produces 50 cars per annum compared to 20 cars on an average by Indian worker. An average Japanese steel worker turns out 133 tons of output per annum, compared to 68 tonnes in India.

Some words of caution are in order. First of all, an unwary use of readily available raw data may render comparisons meaningless. In relation to the auto industry comparison, an informed observer may respond: "How can you call this legitimate comparison when you know that differences in the size of the number of cars produced, the length of the work days, the level of automation, the degree of participation by outside suppliers, the attitude and skills of the workers, and a host of other factors distort the understanding of what's really happening in the two countries?" He or she may also explain that the difference in the annual growth rates may be largely due to the differences in the stage of industrial development in the two countries.

Second, there is a danger of obscuring the focus of the Japanese productivity system if corporate managers in India become too pre-occupied with numbers. The focus should be more on the process by which productivity programs are implemented and less on the results of having implemented them. To the extent that productivity programs are implemented by people, managers should be concerned primarily about people and secondarily about numbers. There is already some criticism that Indian managers have become too preoccupied with short-term performance results (such as returns on sales and investment, earnings per share, and equity ratios) at the risk of becoming myopic in their thinking. Translated within our context, a myopic manager may possibly run the risk of going to the extreme in thinking: "What we need to do is to get those 'automations' to crank out more products, even at the expense of increased defective rates."

The digression was needed to strike a sense of balance. We should be cautious of unqualified claims made by some eager advocates of the Japanese productivity system. We should also be cautious of becoming too preoccupied with playing the numbers game. On the other hand, we should guard ourselves against becoming excessively critical of the advocates' claims because differences between the two countries have not been accounted for entirely, and against shunning all comparative numbers that show differences between the two countries. An appropriate frame of mind to maintain is to recognize that differences do exist and to see if something can be learned from them.

### **Japanese Productivity System**

Some Indian managers seem to feel that the Japanese companies must have developed secret formulas for dealing with the productivity problem. There is nothing secret or magical about the productivity improvement programs (such as the suggestion box or quality control program), or the measure of productivity that they employ. In fact, most of the programs and measures were developed in the US and subsequently borrowed by the Japanese.

There are also no major gaps in the resources employed in the two countries. The manager of a Japanese consumer electronics company aptly observed: "Our workers are no smarter (than Indian workers); Our technology is no more advanced; our materials are no different; and our energy is no less abundant". What is unique about the Japanese productivity system is not the in-

Ingredients or pieces that go into the system, but how the pieces are put together. Productivity is like a jigsaw puzzle—all the pieces must be fitted together before the entire picture can be seen. Japanese companies seem to have mastered that art of putting together a workable productivity system.

What follows describes five key factors of the Japanese success. Each is indispensable because without any one the entire picture cannot be appreciated.

1. *Product Quality Control:*

Productivity improvement came about among the Japanese companies as a by-product of the emphasis placed on product quality control. The most urgent problem that most export minded Japanese companies faced in the 1950s was the "cheap and shoddy" image associated with made-in-Japan products. In order to compete on the world market, these companies placed their top priority in improving the quality of their products.

One of the first steps taken was to invite American experts to lecture on statistical quality control techniques. Visits by W. Edwards Deming, a statistician, in 1954, helped to spread the use of the methodology and practice needed in carrying out quality-control programs. Every new technique subsequently developed in the US—such as zero defects or value engineering—has been studied and adopted by the Japanese manufacturers. By the 1970s, quality control had almost become a religion. This religious dedication towards quality control seems to have paid off for the Japanese. Taking the television industry as an example, J.M. Juran observed:

- \* Between 1.5 to 1.8 defects per television set were discovered at the Motorola T.V. Factory before Matsushita Electric took over in 1974. In 1978, under new management but virtually the same employees, the new Quasar brand had a defective rate of 0.03 to 0.04 per set. In the Japanese parent company, the defective rate at the factory averages 0.005 per set.
- \* Once on the market, Japanese televisions have from one-half to one fourth the failure rates as compared to the US and European sets (Juran, 1978).

In the computer industry, a representative from Hewlett-Packard recently reported the test results conducted on three hundred thousand 16 K RAMS (random access memory microcomponents) supplied by three Japanese vendors and three US vendors. The incoming inspection failure rates of the 16 K RAMS supplied by the three Japanese vendors were all 0.00 per cent compared to the range between 0.11 per cent to 0.19 per cent for the three US vendors. Similarly, the field failures rate of the 16 K RAMS supplied by the three Japanese vendors ranged from 0.010 per cent to 0.019 per cent, compared to a range between 0.90 per cent to 0.267 per cent for the three US vendors (Rosen Electric Letter, 1980). Although considerable caution must be taken in interpreting these results and generalising these findings, the fact still remains that made-in-Japan products no longer suffer from the stigma that was attached to them up to a decade ago.

What does quality control have to do with productivity? Quality control affects both output and input. On the output side, Louis P. Bucklin notes: "If television sets that move off the assembly line fail to function, then there is no real output even though the physical presence of something that would otherwise be described as a television undeniably exists." (Louis, 1987). From a marketing perspective, lower defective rates in the factory and on the market are likely to be translated into higher trial rates and repeat purchase rates—higher sales, in other words. On the input side, a large number of rejected items means: more human resources required to repair them; duplicated cost materials; and more energy consumed per unit produced.

## 2. Grassroots Involvement

With such dedication to quality, it was natural for technical experts to assume a leadership role in promoting productivity in Japan, but the major driving force behind its productivity movement came from millions of rank-and-file workers who have taken the initiatives to suggest changes to their superiors. This "bottom up" process constitutes the backbone of the Japanese productivity system. The number of suggestions reported by some companies is astonishingly high:

- \* In the past few years, both Toyota Motor company and Mitsubishi Motors have been averaging close to twenty suggestions per worker a year at their factories.
- \* In the ten months ending October 1976, Matsubisha Electric averaged fifty suggestions for each of the fifteen-hundred production workers in its Ibaragi television factory [International Management, 1977]. The company as a whole has been averaging over ten suggestions per worker (factory and office workers combined) per year in the last few years. These numbers should be treated with discretion because they include all suggestions for change. But a Matsushita manager points out, "all these suggestions somehow relate to making the product better, the job easier, or the worker happier, wouldn't that lead to better productivity?"

Once the suggestions are submitted in writing, using preprinted forms in most cases, a suggestion committee evaluates the ideas, and if necessary, hands over the acceptable set to technical experts for further evaluation. At Matsushita, the acceptance rate has been averaging about 10 per cent.

One interesting feature of the suggestion program is its rapid increase since the mid-1960s. Toyota averaged only one suggestion per worker in 1965 and Matsushita averaged 1.1 suggestion per worker in 1966. The rapid increase in worker involvement since the mid-1960s corresponds directly with the rise of small group activities discussed next in the same time period.

Another interesting feature of the suggestion system is the heavy promotional effort directed towards the newcomers of the company. Slogans such as "make every worker a manager" and "make every worker an engineer" are em-

phased to encourage initiative on the part of even the lowest ranked workers. Some companies put the program into practice by offering newcomers small incentives (such as a meal ticket) in exchange for suggestions, whether used or not. If accepted, the name of the contributor is published through a company newspaper or a bulletin board. In such a way, workers are conditioned early in the career to thinking that there is a room for creativity even within the routine operations of the factory, and to thinking that "giving is rewarding."

A personnel manager at Toshiba Electric asked a twenty-one year old factory worker what prompted her to make seventy technical suggestions a year, half of which were accepted. "Her answer was simply, it makes me feel good", said the manager, who also added: "Our strength lies in the fact that we can mix the scientific management approach and the behavioural approach (self-actualisation, job enrichment) together and come up with rank-and-file workers with a very constructive frame of mind."

### *3. Quality Control*

Quality control circles are a central outgrowth of the suggestion program. As in the suggestion program, workers offer solutions towards job related problems, but the problems by QC circles are often more complex and less obvious to uncover. Also the solutions no longer consist of untested ideas, which may or may not work. Members of QC circles devote a considerable amount of their time in testing their recommendations and putting them into practice. QC circles thus serve to further enhance worker involvement.

Although the QC circle is well-known in Japan, the concept as it is understood in Japan is still relatively unknown in India. A Quality control circles is a voluntary study group dedicated to solving job-related problems. Two commonly held misconceptions need to be dispelled. First, the study group does not consist of quality control specialists with an extensive prior technical training. QC circle members are mostly rank and file workers and foremen who receive virtually all of their technical training once they join the study group. Some see the inclusion and training of foremen, who usually serve as circle leaders, as the most innovative characteristic of the Japanese approach to quality control (Cole, 1979). Secondly, problem solving is not restricted to the area of product quality control. According to a 1979 survey, the kinds of projects being conducted by over five hundred of the QC circles in Japan include (in order of importance) cost reduction, product quality control, improvement in workshop facilities, safety precautions, employee morale improvements, pollution control, and continued employee education (JUSE, 1979). Directly or indirectly, these projects become instrumental in improving productivity and quality of work life.

QC circles have grown explosively in Japan since their establishment in 1962. In 1965, fewer than 5,000 QC circles were registered with Japan Union of Scientists and Engineers (JUSE), a non-profit association serving as the QC circle coordinator. By the end of 1979, there were over 1,00,000 circles. Membership of these registered circles totalled 9,80,000 in 1979, with an average of nine members per quality circle. A high-ranking JUSE official estimates the



number of unregistered and quasi-QC circles in Japan to reach as high as eight times the number of registered circles. Assuming the same number of members per group, as many as one out of five employees in the entire Japanese labour force (thirty-seven million) could be taking part in some form of job related group activities today. This rapid diffusion of QC circles in Japan is credited largely to JUSE's pioneering efforts. Among other activities, JUSE has been responsible for:

- \* Holding training sessions for managers and foremen. In 1979, more than thirty such sessions, usually lasting from two to six days were held in its Tokyo headquarters and its eight regional offices. In addition, close to thirty five hundred foremen took two training courses conducted via radio and TV.
- \* Publishing a monthly trade journal called FQC (Quality control for the foremen), whose subscription reached over one hundred thousand in 1979. In addition, it publishes numerous textbooks and training manuals.
- \* Sponsoring a series of conferences and visitor programs. In 1979, a total of 107 conferences, in which some two thousand successful case studies were presented by QC circle members, were held throughout Japan. Exchange visits among different Japanese companies active in QC circles (initiated in 1963) and exchange visits with foreign countries (initiated in 1986) are increasing every year.

JUSE's activities are financed through nominal fees charged for these training programs, publications, and conferences. It does not, however, change membership fees. "It is a voluntary movement; this movement will grow as long as we can continue to deliver the hoped for benefits to member companies and their workers", said a JUSE official.

TABLE 3: Impact of Quality Control Circles on Managers and Circle Leaders

Managers	Circle leaders
1. Improved worker morale	1. Provided good opportunity for learning
2. Improved safety	2. Improved communication with superior
3. Strengthened teamwork	3. Heightened problem awareness
4. Improved product quality	4. Heightened consciousness to improve status-quo
5. Led to better human relations	5. Improved working environment

According to the 1979 survey cited, the QC movement delivered different benefits to company managers and circle managers. The tangible benefits cited most often by the groups are shown in Table 3. The survey also tried to ascertain the extent of tangible monetary benefits enjoyed by both groups. About 80 of the managers reported that the company gained annual monetary benefits ranging from \$12000 to \$1.2 million per business unit. Taking the mode, the ratio of these benefits to incremental, out-of-pocket costs was then ten to one per business unit. On a company-wide basis, one large Japanese electronics

company with forty-six thousand employees interviewed by Hirota (1981) estimated its benefits at \$13.3 million a year and its incremental cost at \$2.7 million in 1987 (a benefit-cost ratio of five to one). Monetary benefits to QC circle members, on the other hand, appear to be relatively insignificant. As an indication, only 2.7 per cent of over five hundred QC circle leaders surveyed mentioned higher pay as one of the benefits of participation in QC circles.

Of course, companies will not be able to amass such large benefits by simply providing moral encouragement. Active company support is a necessary condition for the successful operation of QC circles. First, workers are encouraged to use company facilities to test out their ideas or develop prototypes. Secondly, workers are encouraged to conduct QC circle meetings during working hours—two-thirds of the circles surveyed did so in 1979. On an average, QC circles meet twice a month for more than an hour per session. Thirdly, even if meetings are held beyond regular working hours, most companies (69 per cent in 1979) offer some financial support. For the most part, such support consists of nominal overtime pay. Fourthly, almost all the companies bear the costs associated with putting together intercompany QC circle contests. These intercompany contests, usually held two or three times a year regionally and once a year nationally, can turn into fiercely competitive events. QC circle members spend long hours rehearsing their case study presentation, often on stage. The presentations are often accompanied by kits or music to make the potentially dry technical contest as appealing as possible. "Sometimes these contests turn into talent shows," said one manager. "It can also become as thrilling and exciting as an Academy Award when the time for selecting the winner is reached. I have seen many winners in tears."

The case study method has been used very effectively by the QC circles. In the early stage of the case study, much of the effort of the study group is directed towards identifying crucial problems that may have a far reaching impact if resolved. This search process tests the creativity of QC circle members and heightens their sense of mission. In the analytical stage, QC circle members make extensive use of basic statistical and graphical techniques that they have learned in the training program. The major objectives of the analysis is to drive meaningful relationships and inferences from the raw data that have been collected. The most frequently utilised analytical tools include histograms, Pareto analysis (similar to "80-20" analysis), cause-and-effect diagrams, and flowcharts. This analytical process conditions QC circle members to argue with facts rather than with intuitions. In the recommendation stage of the case study, QC circle members try to convince their superiors that the solution makes a positive contribution to the company. The number of the case studies that reach this stage is low (an average of 2.4 per QC circle in 1979), but the rewards are high for the workers.

#### *4. Non-financial Rewards*

The reward that seems to work best within the Japanese productivity system is the pat on the back. The success of many Japanese companies in applying posi-

tive reinforcement, such as praise and recognition, suggests that rewards do not necessarily have to take the form of a fat cheque.

Some Japanese companies, to be sure, are offering cash rewards to individual workers and QC circles, but payment appears to be nominal. A worker at Matsushita Electric's factory suggested a device to stop solder from dripping down the endplates of television sets and causing short-term circuits (*International Management*, 1977). His suggestion, which was designated as a fifth grade award under Matsushita's eight grade system, earned him thirteen dollars. Another worker received a total of one hundred dollars for sixty suggestions that were accepted in a year. The cash award came out to sixty cents per suggestion. At Mitsushita Electric, ten members of a QC circle jointly received a cash award of two hundred dollars for suggesting the best cost reduction idea of the year. According to Robert E. Cole, "symbolic payments are common, with rewards for even the best suggestion, leading to say a patent, seldom exceeding \$600" (Cole, 1979).

Most companies prefer to rely on some form of nonfinancial reward. At a Honda Motor company plant small rectangular cards are hung from the ceiling directly above some of its workers. These cards are the most visible rewards that Honda's workers receive for contributing to the suggestion program. Under the system, workers can receive up to a hundred points per suggestion, depending on the value of the suggestion made. A cumulative record is kept of the points earned by each worker and a gold-coloured car is awarded once he or she reaches fifty points.

Extensive use is also made of trophies, commemorative items to honour the contributors. According to the 1979 survey of QC circles, 93 per cent of the companies handed out some variations of the above awards in their intercompany contests. For some QC circles fortunate enough to be selected to attend the national contest, positive reinforcement may result from something less tangible than a trophy or a medal. The opportunity to visit the corporate headquarters, to present their case studies to top management, and for a Presidential handshake have been mentioned by QC circle members as morale boosters.

Another positive reinforcement tool, within a broader context, is the posting of performance results, such as defective rate, output per employee hour, number of suggestions, attendance rate, and repair rate on the factory bulletin board. The results are charted and updated on a regular basis. Performance results of other factories or the norm for the entire company are frequently charted to provide a basis for comparison. Workers are praised for internal improvements and for superior performance over others.

Are cards hanging from the ceiling, trophies, Presidential hand-shake, and performance charts too sophomoric as mechanisms for rewards? Call it whatever you please, the Skinnerian principle of offering positive rewards in the form of praise and recognition has become an integral part of the Japanese productivity system.

### *5. Maternalistic Management*

The missing link in understanding the Japanese productivity system is the role the company plays in making the worker become closely involved with productivity. The answer lies in the "maternalistic" way the company relates to the worker on a day-to-day basis. Maternalistic management is characterised by the close, caring, nurturing type of relationship the companies build in trying to motivate, guide, and develop their workers.

Many readers may be puzzled at this point with the seemingly perverse use of the word maternalistic to describe a management style traditionally called paternalistic. As M.Y. Yosino observes, "The (Japanese) company was regarded as one vast family, with management playing the benevolent 'father' role and the workers as accepting the submissive role of 'children' (Yosino, 1978). To be sure, Japanese companies still adhere to a paternalistic style of management in building enduring employer-employee relationships. A paternalistic system which connotes security, solidarity, loyalty, and authority —is reflected in their personnel practices, such as the "guarantee against dismissal, regularised wage increases to meet the rising needs of a growing family; and fringe benefits (Yosino, 1978).

But many Japanese companies switch over to a more maternalistic style when managing the short-run execution of specific programs. Within the context of productivity improvement programs, this style is reflected in the following practices:

- \* Presence of top managers : frequent visits of top managers to the factory and their participation in training programmes or in company wide events (such as sport competition or QC circle contests) help to convey the message that "top management cares". Taking QC circle contests as an example, 89 per cent of the five hundred or so companies interviewed in 1979 responded that their presidents regularly attended these contests.
- \* Guidance and support provided by middle managers : 98 per cent of QC circle leaders interviewed acknowledged receiving some form of guidance and support from their immediate supervisors (mostly section or department managers).
- \* Daily contacts with productivity facilitators : all the companies interviewed assigned one or more full-time administrative staff members to serve as facilitators between the company and QC circle members. Workers are on "equal" terms with these facilitators, unlike the "submissive" role suggested within paternalistic system.
- \* Support of QC activities: as seen earlier, the company supports QC activities by providing materials and equipment necessary for workers to conduct experiments, arranging QC circle meetings on company premises and during working hours, sponsoring contests, organising visits to their companies, and sending its managers and foremen to training sessions conducted by JUSE. Company expenditure for these activities averaged thirty dollars per QC circle members annually, according to the 1979 JUSE survey.

Attempts to motivate and nurture the workers start as soon as the workers join the company. As cited earlier, the seeds for an active suggestion program are planted during the first few days of training when the workers are encouraged to stretch their creative thinking. The seeds of teamwork are also planted during the initial training program in which the new employees are organised into study groups. Some companies go so far as sending their new recruits to Zen temples, farms, camps; or even the self defence force. "By eating together, sleeping together, and organising day-time activities around groups, we want the trainees to have a first hand experience in what teamwork means and what it can accomplish," said the personnel manager of a company which recently incorporated climbing Mt. Fuji into its training program.

The company enables workers to feel like "part of the system" by providing a constant flow of information from different sources. Mention was made earlier of the use of charts to disseminate information regarding worker performance. In addition, general information of the financial status of the company, industry and competitive trends, long-run corporate strategy, and other areas is shared with everyone in the organisation via formal channels (such as company newspapers or routine morning gatherings) and informal channels (social gatherings, company clubs). Information about QC circle activities is also disseminated in some companies. According to the 1979 survey, 40 per cent of the companies published inter-company QC circle news letters; 60 per cent of these companies published such newsletters six times a year.

The bottom-up nature of the Japanese productivity system does not come about simply as a result of positive thinking workers becoming personally "turned on" with solving problems. Considerable effort is expended by the company in laying out the necessary network of people and communication to support the workers. The maternalistic nature in which the day-to-day programmes are executed, combined with a paternalistic framework, keeps to foster the belief among workers that "the best interests of my company are also my own best interests".

Regarding the key factors of the Japanese productivity system just discussed the Indian managers may legitimately raise the question: "So, what's new?" Suggestion boxes, for example, have been around for a long time in many companies. Statistical quality control, work groups, positive reinforcement, and human relations ( a broader concept encompassing maternalistic management) are not unheard of either. In fact, many of the original ideas date back to the experiments conducted at Tisco plant in the late 1920s.

The central point is that the distinguishing feature of the Japanese program lies in how the pieces are put together; in planning and organising productivity improvement programs. Japanese companies rely on almost a fanatic dedication to details. In implementing and controlling the programs, they resort to tender loving care. In reorchestrating the entire effort, they mobilise managers from different levels and staff members from different departments. And at all times, they keep sight of why productivity is being pursued — to benefit the workers, the company and the product simultaneously.

**Is it Transferable?**

The discussion thus far has centered on the successful implementation of a productivity system in a country several hundred miles away that shares little culturally with India. Before discussing what lessons can be drawn from the Japanese experience one must ask whether its success is endemic to Japan or whether it could be transferred across cultural boundaries.

Managers who hold a negative view (it will never work in India) would argue that the differences in the business culture between the two countries are too many for any meaningful transfer to take place. They would call close government-business ties, company-based unions (which play a less adversary role than in India), commitment to a life-time employment, and innate group orientation-barriers to entry as the idiosyncracies of the Japanese business culture. Their arguments could run as follows (Ezra, 1979).

- \* Under the cozy government-business partnership known as Japan Inc., the government gives companies direct and indirect support for productivity improvement. For companies in selected growth industries, the government provides direct support in the form of tax breaks, technology transfer, and preferential financing. The government also provides indirect support to all companies by funding the Japan Productivity Control (JPC), which it established in 1955 as a means of involving management and labour unions in a national movement towards achieving higher productivity. In India, a non-profit organisation (National Productivity Council) similar to the JPC was established by the Indian Government four decades ago but the productivity of the country is declining continuously. Although the percentage of the work force participating in labour unions is somewhat higher in Japan, the locus of union power does not reside at the industry level, but resides within the company. Unlike local trade unions in India, which are "outside" unions, the so-called enterprise unions in Japan (sometimes referred to as home unions) are based "inside" the company. Most Japanese companies consider their unions as friends, not as adversaries. Company managers involve union leaders in key decisions, socialise with them, and regard "bringing up good union leaders" as part of their responsibility. Such practices are unheard of, if not illegal, in India.
- \* The lifetime employment practice of Japanese companies has dual benefits for productivity. Knowing that the employees will be around unlike in India where they retire at age fifty-five or sixty, companies can make substantial investment in training programs and efforts directed at human resources development. Knowing that their personal well being hinges on how well the company performs, workers are induced to making as much contribution to the company as possible. In India, several companies – Tisco, Telco, and Hindustan Lever, among others, are committed to job security (a no-lay-off policy). These companies, however, are the exceptions rather than the rule.

\* Japanese workers are prone to working in groups and teams, given the emphasis placed on traditional values of co-operation, harmony, and group consensus within the culture. Companies foster this group spirit by having their own uniforms, badges, and songs, and by organising training programs, sports competition and social events, around groups. In India, work teams are still a novelty (Walton, 1972; Louis and Cherns, 1975; Claser, 1975; and Poza and Marjus, 1980). Although experiments with work teams have been conducted in Tisco, Telco, P&G, BHEL, HL, Escorts, TVS, they are still the exceptions rather than the rule.

Although these arguments may support that Japan is Japan and India is India and never two shall meet, recent developments indicate that the two are beginning to meet. We now turn to Indian joint ventures of Japanese companies to present the view that the ideas basic to the Japanese productivity system can be transferred to India.

### Japanese Companies in India

Japanese companies (Chatterjee, 1990) that have established collaboration — technical as well financial — in India are finding that Indian workers are responding positively towards concern for product quality and human resources development. Maruti's collaboration and joint venture project with Suzuki Motor Co. of Japan represents the largest Japanese investment in India and was the first in the Indian automobile industry. Evidence of a successful collaborative venture can be seen in some of the following yardsticks.

- \* Peak production levels of over 8000 vehicles a month, have been reached in record time and two years earlier than originally planned.
- \* Employee productivity in terms of number of vehicles manufactured per employee per year already has exceeded the norm of 25 originally set as target.
- \* Attendance at the plant is over 93 per cent which is higher than what most plants in India have ever achieved, even though the target is to reach attendance levels of atleast 95 per cent.
- \* Productive working time at the plant is 7 hours 45 minutes out of a working shift of 8 hours, which is again much higher than the average productive time achieved by most manufacturing plants in India.
- \* Value added per employee worked out to Rs. 3.96 lakhs, Rs. 4.74 lakhs and Rs. 5.20 lakhs successively for 1986-87, 1987-88 and 1988-89. The figure for 1988-89 is 2.5 times that achieved by Premier Automobiles and more than three times that achieved by HMs for its Ambassador car.
- \* Vehicles per man per year worked out to be thirty. This astonishing figure is not only three times in excess of that of its nearest Indian competitors, but outstrips Europe where the figure is eighteen and even the US where the average figure is twenty two. Only Japan is still way ahead at fifty.

The Indore venture of Hindustan Motors is also very interesting. Birla executives are justifiably proud of being able to move their automobile company away from the age-old perception of it as one espousing obsolete technology and being totally oblivious to the concept of quality. Away from their "ancient" plant at Uttarpada near Calcutta (with some 1500 employees) they grabbed the opportunity to start from scratch.

The first precaution they took was to recruit fresh personnel. Not a single worker has been taken from Uttarpada. Emulating the Maruti example, they put their faith in building a new work culture with young employees not exposed generally to traditional Indian practices of management. Secondly, their interaction with the Japanese led them to believe the point their collaborators stressed: technology cannot be borrowed merely by taking the drawings and attempting to set up imported machinery. Although Hindustan Motors went in for technical collaboration alone, despite the Isuzu's keenness for equity participation, they paid real attention to the Japanese proposition that their technology could most successfully be implemented only by adopting their management philosophy and practices, particularly in respect of human resource management.

For the Indore plant, therefore, considerable emphasis is laid on training. Executives, engineers, managers, right down to supervisors were sent to Japan in batches, to acquire first-hand knowledge of their work ethic, work culture, managerial perception and concern for human beings in the organisation. At the same time, Japanese technical and managerial personnel came to Indore to install and run the machinery and work on systems that would ensure that maximum benefits could be derived from the adoption of new, improved technology. A fresh experiment could thus begin which marked a departure from the traditional Indian system by the incorporation of the Japanese-style business and management practices.

The Indore plant today has already put together the elements of the broad Japanese approach. Interestingly, the egalitarian aspects were the first to be emphasised. This concept, once completely anathema to the Indian big business, has emerged as a fundamental concern in the desire to modernise the managerial outlook, set new standards in productivity and quality and develop a "we feeling" in the total organisation. Common uniforms are worn by everybody; all eat at a single canteen: and toilets are the same for everyone. Arriving for work 10-15 minutes earlier than the schedule time, performing a set regimen of calisthenics together and holding quick stock-taking meetings have all been imbibed into the new work culture.

Two other aspects, communication and training, have also received central emphasis. Open offices unfettered by walls and partitions have fostered informality and easy accessibility. Many executives and technicians have been to Japan and acquired personal knowledge of the systems and practices prevailing there. On return, they have passed on their experiences and perspectives to co-workers at home. In-house training exercises have also helped to upgrade skills and spread the message of new ideas, thoughts and approaches. Finally, small group activity has been initiated. The QC movement, now in its nascent stage, has begun to gather momentum. The Indore plant is, by Japanese standards, still



a fledgling; but an exciting, new experiment has begun and there is a sense of enthusiasm running through the organisation. For a staid, conservative, traditional business house to have launched an enterprise incorporating modern Japanese ideas is certainly a breakthrough of great significance. Its efforts are bound to be felt within the Birla group of industries and in the broader Indian business scenario.

In the Asahi India Glass Ltd., a Maruti promotion and tie-up with Asahi Glass, Japan, the decision to have a Japanese managing director in the initial years and the vision of the Indian entrepreneur, have all combined to give this young company of 210 employees (average age, like in Maruti, below 30), a decidedly Japanese style-orientation. The common uniform and the open offices are very much in evidence. Calisthenics every morning may be missing but employees indulge in a number of team-oriented sports, particularly football and cricket.

The overall results of the company have been truly encouraging. It was set up within a very brief period of 12 months after foreign collaboration was approved by the Government. Within three years of commencement of production, it has already doubled its capacity. More importantly, perhaps, it has conducted its production programme in accordance with Japan Automobile Standards Organisation (JASO) and Japan Industrial Standards (JIS) specifications. It has put enormous emphasis on meeting quality specifications and it has successfully ingrained in its employees a very high degree of quality consciousness. Plant and equipment and manufacturing methods have been selected as per the advice of the Japanese collaborators. Asahi experts have guided and trained workers and supervisors during the production startup phase till quality had stabilised. The raw material is brought in almost wholly from Indonesia, conforming to Asahi specifications. Each element of the work in the factory has been planned in great detail. Every process has been designed so that the work is completed according to the prescribed standards. Quality inspection procedure and equipment have been provided at various stages of the production process. Control standards and methods covering almost every aspect of the product and process have been instituted.

The result is that, today, Asahi India Safety Glass reflects the standards and quality levels of its Japanese collaborators in machinery, work practices and product sophistication. This fact has been established by the company being rated the No. 1 supplier by Maruti Udyog on the grounds of quality, delivery, stocks, packing and service after sales. The company is now not only the sole supplier to Maruti Udyog for tempered safety glass but is also supplier to DCM Toyota Ltd. for their light commercial vehicles and will probably become a supplier to Swaraj Mazda as well, in the very near future.

Eicher Motor Ltd. was set up in financial collaboration with Mitsubishi Motor Corporation, Japan to manufacture the 'Canter' at a plant to be located in Pithampur near Indore. The Canter is a light bodied truck which at Mitsubishi factories in Japan is engineered and tested to an exacting set of standards. It is in fact, one of the most sought after light trucks the world over and in Japan alone, one million Canters have already been produced. Little wonder then that

although the first Canter entered the Indian market in 1986, almost a year after the onset of other Japanese collaboration LCVs, it rose quickly to being the market leader and has maintained that position ever since. In 1988-89, it achieved a market share of 32.15 per cent in the fiercely competitive Indian market.

At the Pithambur plant, workers and executives may not be wearing the same uniform but the common canteen, arrival at work 10-15 minutes earlier than the scheduled time, daily shop floor meetings, the exhortations for tidiness, orderliness and cleanliness are all in evidence. Communication channels are wide open with superiors, and engineers and workmen sit together once a day to discuss production problems. Small group activity in the shape of QC circles and inducements for workers suggestions, though not as intense as at Maruti, are nevertheless gathering momentum. A spirit of equality showing that employees are all members of the same corporate team, and a passion for quality have permeated the consciousness of workers. Today, the productivity of the Pithambur worker is way ahead of that of his counterpart in Faridabad, Parwanoo or Alwar.

The corporate practices can be classified into the following four distinct categories which are common to almost all the organisations:

- I. common uniform and common canteen, which provides the secure foundation of egalitarianism;
- II. quality circles and suggestion schemes which are responsible for the creation of a climate of team work and innovation;
- III. production incentive, which provides the basic motivation of material awards; and
- IV. single union which stimulates organisational harmony and prevents dysfunctional conflicts by reinforcing a sense of togetherness between management and employees.

There is little doubt that the egalitarianism inherent and fundamental in the Japanese approach has struck a very responsive chord in the mind of the Indian worker. Ouchi's dictum that 'this feature, more than any other, accounts for the high levels of commitment, of loyalty and of productivity' is clearly borne out by the Maruti experience. Wearing the same cloth as his executives and eating the same food at the same table obviously means a great deal to the Indian worker, who is accustomed from birth to a socio-psychological environment based on caste and status divisions. The espousing of egalitarian values by his company has been a tremendous motivational factor.

Quality Control circles (QCs) and the Suggestion Schemes (SS) have also evoked a very substantial employee response. These two practices seem to have realised the following major objectives which they are designed to fulfill:

1. activating communications between workers;
2. raising the level of group activities;
3. improving, thereby, their human relations;

4. heightening employee morale;
5. identifying organisational problems;
6. developing individual capabilities; and
7. strengthening the feeling of integration between individual employees and the organisation.

The effective functioning of these small-group activities have promoted team-spirit, information sharing and collective problem-solving. Everyone has been encouraged to participate and provide practical suggestions and solutions to problems. This has motivated employees to journey together on the path of innovation and adaptation. Employees clearly share the belief that quality control circles and suggestion schemes have contributed to the development of a general organisational climate which has fostered trust and communication across departments and between workers, supervisors and managers. However, the Japanese companies are not free from problems in their Indian joint ventures.

Although some attempts were made to introduce the Japanese work culture in the Baroda unit of Hindustan Motors that has gone in for a tie up with Isuzu Motor Company of Japan, these have not been very successful. The reasons for this were threefold: Firstly, the appreciation of the yen pushed up prices alarmingly. This coupled with the government decision to extend duty concessions to light commercial vehicles only and not to the heavier trucks, posed almost insurmountable difficulties to the company. In a very real sense, this factor catalysed the management's decision to go slow in the implementation of the Baroda project. Secondly, for reasons mostly administrative, there was a rapid turnover of top management in the unit so that consistent efforts to evolve a new work culture could not be sustained. Finally, none of those assigned with the responsibility of running the plant were at any time exposed to the Japanese industrial management systems.

On the side of industrial relations, Hero Honda underwent pretty turbulent times. The Mujals had a very good record of peaceful and productive association with their workers in Ludhiana and were known as benevolent and concerned employers. In Haryana, however, they faced a new and sometimes hostile environment. As is often the case, it began with political pressures at the time of recruitment of 'local employees'. Gradually, as the new unit found its feet, attempts by political parties to unionise the workers under their own respective umbrellas intensified. When access to employees in Hero Honda proved difficult, the parties began to win over workers in the nearby ancillary units. Work stoppages in these units began to adversely affect production in the main factory.

In two major areas, one can see a definite dilution: one, in the practice of consultative decision making; and two, in job rotation. The long, often excruciatingly slow 'Ringi' system of taking decisions by formal consultation, has not really been attempted. "We don't have the 'Ringi' system here", admits Mr. Bhargava. Still Maruti does not use the conventional bureaucratic over-centralised, top down management style. As executives at lower levels point

out, top management does consult people to a considerable extent through the Sahyog Samitis, through meetings with union and through the management committee system. Open offices and communication channels also mean that the view of employees at any level can be expressed freely and top management receives almost continual feedback on decisions taken or about to be taken.

In the realm of job rotation, regrettably, there has been hardly any progress. Neither executives nor workers have been moved from one work sphere to another to broaden their perspectives and to develop multiple skills. One of the reasons for this could be the fact that Maruti is a young company. It is only in its tenth year of production and employees are simply doing the jobs they were recruited for.

Also, some negative aspects of contemporary Indian work culture have continued to stay. The 'babu' mentality and the practices of buckpassing, blockening, delaying, subverting and the use of corrupt practices surface every now and then. There is also a mental block against information sharing, and degree of dysfunctional departmentalism. Reluctance to share or part with information is a recognisable Indian tendency and the bureaucratic handicap of not being able to see beyond one's own department is common enough in India. Also the Japanese approach of complete trust has not always worked out very well.

### **Concluding Observations**

In the broader context of recent reforms of liberalisation in India by way of deregulation cum globalisation in order to make domestic markets more contestable as also induce greater export orientation, the competitive pressures on the Indian corporate sector to reduce organisational inefficiencies at firm level will increase. These pressures may translate themselves into a wider preference for flatter organisational structures instead of the conventional rigid and hierarchical organisational structures. Much of the fate of productivity improvement programs in the Indian corporate sector, of course, depends on the response of the top managements to the changing macroeconomic policy environment and consequently on their leadership and innovative abilities to tap the reservoir of productivity improvement potential within the companies.

The Japanese productivity system has taught us where to tap the reservoir of productivity improvement potential and how to tap it. The lessons that clearly follow are that (1) managers should first look at themselves, because without top management commitment and support, productivity improvement programs are doomed to failure. The productivity dilemma is something that managers can control and seek to remove for the benefit of the companies and their members as also for the society at large; (2) managers should solicit assistance from a wider variety of departments within the company to facilitate productivity improvement programs; (3) managers should draw substantially from their own workers in terms of identifying problems, finding and implementing solutions to problems of the workplaces. Primary focus should be on human resource development and co-ordination; (4) Quality control consciousness should be infused into the blood of everyone in the organisation, so to speak. Quality control should become a grassroots activity rather than "a little room adjacent to the

factory floor, whose occupants make a nuisance of themselves to everyone else." (New York Times 1974). The point is that quality control has to be pursued by forming effective quality control circles, and in a co-operative environment.

In the Indian corporate sector, there is slow and steady fusion of the conventional organisation culture with the egalitarian and flatter and more synergetic Japanese model. Over recent times, more and more Indian companies, encouraged by examples of Maruti Suzuki, Birla's Indore project etc., seem to have turned to the Japanese rather than to the West for the critical managerial practices with which they can revitalise their organisations.

However, the absorption of ideas from Japan and the consequent implementation cannot be expected to achieve success overnight. After all, it has taken almost three decades of trial and error for the Japanese productivity system to reach where it is now. A Japanese saying best describes how managers should view the process: "when dust accumulates, it makes a mountain." However, there is no gainsaying the fact that India as a late comer has the urgency of sorting out her productivity dilemma at the earliest.

Finally, while accepting that we have to learn and implement a lot from the Japanese model despite some of the obstacles involved in doing so in the Indian milieu, I would like to drive home an important point that the productivity drive in India needs to be honed by influencing the domestic organisational culture with ideas on productivity drawn almost entirely from the ancient Indian texts of the Bhagavad Gita and the Upanishad (Chakrabarty, 1989). Broadly speaking, these texts convey that managerial effectiveness lies more in such unquantifiable 'values' as honesty, integrity, and sincerity — values that are synonymous with 'becoming' than with 'skills' which are equivalent to 'doing'. These fundamental values should precede 'skills' — imported or otherwise — and not the other way round. And there should also be desirable means to desirable ends. Otherwise, after all, if an individual is willing to achieve an end at any cost than the corporation that he works for too may not be averse to the 'any what way you can' method and in the process bend laws and guidelines set by consensus or statutory authorities. Lastly, purity of mind, which is the crux of all value systems, should be inculcated. An aspect of the pure mind strategy is the 'giving' model of motivation in contrast to the 'grabbing' model, and another aspect is the perception of work always in terms of duties and excellence in performing them and not in terms of rights and ambitious and unwarranted claims. In the final analysis, internalisation of these classical Indian values goes a long way in acting as a fundamental remedy for low productivity, low innovativeness, poor work ethic, egocentric and uninspiring leadership, destructive politicisation, bungled team work, shady business ethics etc. that have got strongly entrenched and become chronic in the Indian society. Thus the point I have tried to highlight is that Indian organisational culture should change for better productivity not only by means of bringing out external pressures but also by means of promoting internal pressures. Otherwise, I am afraid, India, categorised as a 'morbid and moribund tiger' cannot be set free for a 'healthy and vigorous' growth.

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