



**THE JAPANESE MODEL AND
ITS POSSIBLE HYBRIDIZATION IN OTHER COUNTRIES**

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**Canada Research Chair on the Socio-Organizational
Challenges of the Knowledge Economy**

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Note 2 : More recent work can be found on our websites mentioned above (our cv : www.teluq.quebec.ca/chaireecosavoir/cvdgt), amongst which many research reports and articles done since 1996 on work organization and its various forms.

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Summary

Given the interest of Japanese Human Resources Management policies and Labour Regimes in terms of fostering innovation and industrialisation, one can wonder if the diffusion of these practices has spread or will spread beyond the Japanese border? The recent financial difficulties set this question in a particular context, but it seems that the organisation of HRM and Labour regime has not been totally questioned in the Japanese context, and surely many elements of the innovation system still seem to be referred to as a source of strength for future industrialisation and development. Thus, if the financial bubble has shattered, the concrete organisation of production still seems to hold as a reference. This article starts by explaining the different dimensions of what has become known as the Japanese Innovation system, highlighting the elements which appear pertinent for the Economy of the 21st century. It then sets out to assess what dimensions of the Japanese model have been retained in a foreign setting, Canada, and how emulators of these practices compare with Japanese firms. The observation leads to a conclusion of continuity and transition, in the sense that Japanese practices abroad seem to adapt to the local context, while it is observed that many Quality-oriented Canadian firms have moved towards what is known as the Japanese model of innovation and production organisation.



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Introduction

HRM policies and Labour regimes compatible with what is often referred to as New production requirements, the Knowledge or the New Information Economy, that is HRM practices that stress the importance of quality and reliability as they do in Japan, seem to be of increasing interest for many economies (Schonberger, 1994). For traditional Fordist organizations, requirements for upgrading human resources were not as important; division of labor was in fact minimizing human contact and training needs, as skills to operate single task operations were minimal. The sociotechnical school challenged this view, indicating that labor will in the end be demotivated by the absence of a social context in workplaces. However critical and important the findings of the Tavistock institute, the sociotechnical approach has not diffused widely (Matthews, 1994). The leading motivation for change came from the successes of Japanese firms, challenging at first the heart of manufacturing: the automobile industry (Womack *et al.*, 1992). What has been known as Japanese management practices has been associated with a different approach to human resources and innovation. The need to involve workers in production problem-solving and delegating responsibility for quality standards as well as seeking participation for productivity improvement has led to view personnel practices and labour regimes as a key element of competitiveness of the Japanese firms in particular (Kenney and Florida, 1993), and more and more for many nations and firms searching to renew their competitive advantage in the Knowledge or Information Economy. How have these elements been replicated in the Canadian setting by the Japanese firms? This is the object of a survey which has been undertaken by the authors, some elements of which we will present here after having gone through the relations between Japanese HRM and its innovation capacity. We feel this might bring some insights to industrialisation paths in other countries as well. We will thus first briefly go over the main elements of the Japanese innovation system, then present the essential characteristics of the Japanese HRM and work organization that are pertinent to our subject, and finally present some results from our research, which lead us to a conclusion of hybridization of HRM practices and labour regimes, between the Japanese and the North American model.

1. The Japanese Innovation System

We will start by situating our presentation in the context of the debate on national systems of innovation, given the fact that the Economy of the 21st century, which to many refers to the Knowledge and Information Economy, also often refers to Innovation and to National systems of innovation. The Japanese system of innovation having been recognized as particularly successful, at least in terms of fostering innovation on the shopfloor, if not so much in terms of financial organisation (especially in the last few years), we will highlight the main elements of this system, before we look at the possible application of these elements in Japanese transplants abroad, our research having been conducted in Canada and in Canadian firms. This can surely lead to some insights as to the possible application of the practices in other Asian countries as well, in terms of hybridisation.



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The Japanese system of innovation is seen as composed of four elements: the central government, the organization of firms between themselves, some social innovations and some educational innovations. We will insist more on the two last aspects, which are of more interest in the context of the Information economy.

As for the Central government's role, it is rather well known; let us recall that this usually refers to the infrastructures offered, to the public investment in R & D which facilitate diffusion, but more particularly in the Japanese case, in the informal consultations between the State and companies via MITI and other similar organizations, and maybe foremost the exchanges of personnel between MITI and various companies. As concerns the organization of firms, this mainly refers to the Japanese Keiretsu (conglomerate or network of firms); cooperation between firms is stronger in Japan than in most other nations, although cooperation with universities is on the contrary somewhat lesser in Japan than in the US. However, some authors consider that cooperation with universities is underestimated in Japan, while they consider that the role of MITI is often overestimated (Odagiri and Goto, 1993).

We share the view that the two first dimensions (i.e. the State and firms' organization) are often overestimated, while the two latter are underestimated. This explains why we chose to stress the two last points.

As concerns the social innovations related to the internal organization of firms, this is of more interest to us here, given the theme of the Knowledge Economy. This generally refers to what is known as "reverse engineering", a reconstruction of various products which apparently favours innovation - at least incremental innovations- in Japanese firms. In this perspective, Japanese firms tend to integrate more fully marketing and production management, as well as R & D; this permits simultaneous horizontal exchanges between these otherwise separate services. There is more collaborative work between engineers, management and workers and due to this, "lead time" between conception and design of products and their arrival on the market is reduced considerably, which gives an important competitive advantage to the J firm. To a certain extent, the whole firm is seen as an R & D lab in terms of developing better processes and products (Kenney and Florida, 1993). There are also frequent interactions between the firm and its' suppliers and subcontractors, even as concerns product development, processes, and various aspects of innovation. Let us mention that this typical Japanese system does not necessarily concern all Japanese firms, but that it should be seen as an ideal-type, as has been highlighted by various authors (including Aoki, 1989; Dore, 1973) This system is of course associated with a particular employment system and HRM system, which is seen as essential to the innovation system as it stands, and to which we will turn later on.

This offers the J firm important advantages not only in terms of economies of scale, but more importantly of scope, advantages that can advantageously compete with those obtained with vertical integration within large US or Western firms. The decentralization of Japanese firms and their privileged relationship with unique suppliers gives them more flexibility and more long term perspectives, comparatively with the North American firms.



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The last element of the Japanese Innovation System is related to some characteristics of the educational and training system, here again associated with the employment system which has come to be known as the typical Japanese system. Let us first mention that the Japanese firms are known for hiring workers with a good basic education, not necessarily workers specialized for the work they will be doing. This facilitates problem resolution and general maintenance within teamwork, as well as participation in the continuous improvement process and quality insurance, two renowned dimensions of the Japanese system. This also permits future adjustments and change within the firms.

The firm is responsible for training workers on the job for the specific skills required by their jobs. There is a strong integration of training with the process of innovation, be it product or technological process innovation. Knowledge of production processes by the workers facilitates horizontal exchanges of information. In a sense, the Japanese system is seen as a “systemic” approach to production at all levels, as management is not alone in knowing and mastering the whole production process.

It seems in fact that exchanges of information which are useful to innovation and quality are favoured by the fact that worker statuses tend to be equalized, that wage differentials are not as high as in the US for example. This reduces obstacles to cooperation on the shopfloor.

There are different views on what is more efficient for innovation development and diffusion, with two main views dominating. Some, amongst which Aoki, highlight the importance of work organization, that is the collective, cooperative nature of work in opposition with strong hierarchical division of labour in North America and many other advanced nations. Others, amongst which Lundvall (1988), highlight the importance of interactions between users and producers, cultural and geographic proximity being an important factor for these interactions to exist. Lundvall highlights the fact that important interactions within the national borders tend to strengthen the National system of innovation. This is certainly important for what has come to be known as the Information Economy and this largely explains the interest for the Japanese management system, and the possibility of importing or hybridizing the system. In any case, internal work organization and interactions between firms both favour exchanges of information that are conducive to innovation. According to many authors, these exchanges of information would not be possible without a specific HRM system, and most particularly without a long term employment relationship and cooperative workplace practices. These are elements of the Japanese HRM system to which we will now turn.

2. The Japanese Model of HRM, Labour Regime and Work Organization

Three elements are fundamental in the J firm's HRM (Human Resources Management), labour regime and work organization. First, the flexible organization of production characteristic of the J firm depends on the multi-skilling of workers who can be assigned to different tasks at different times depending on the level of orders and the work that needs to be done. Secondly, "Kaizen" involves the continual



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search for improvements that allow quality to be improved and costs to be reduced. The third key element, Just-in-Time, avoids the waste associated with the "Just-in-Case" system within firms and ties together the firm as a complex whole. Long term employment is often seen as a prerequisite for these three aspects, thus representing a forth pillar of the system. While the three first elements seem to have been reproduced in many countries, it seems the last, that is long term employment, is less frequently found abroad, and less and less in Japan itself since the explosion of the financial bubble in the '90's. We will look into this further on in the paper, when we look at Japanese transplants and Canadian firms.

As concerns long-term employment in Japanese firms, let us mention that this has never really covered more than one third of the labour force, that working in large firms, and the situation is not always as positive in small- and medium-sized companies. Thus, the superior performance of the J-firm is obtained at the cost of a degree of stress and inferior working conditions within small- and medium-sized subcontractors organized into a network dominated by the large J-firm (Dedoussis and Littler, 1995 and Demes, 1992). In the following discussion of the Japanese model of human resource management, we focus more particularly on the conditions which are characteristic of large J firms, those that have come to be seen as the typical J firm as presented by various authors.

The Japanese model of human resource management is closely related to the organization of production. As will be seen, recruitment, training, compensation and participation policies are all aspects of human resource management which contribute to the success of the Japanese style of production organization and innovation within the J-firm, and which many now see as the typical HRM strategy for the New Information or Knowledge Economy of the 21st century.

2.1 Recruitment Policy

The process of recruitment in Japan has been compared to the study of a large investment plan. The firm concentrates on verifying whether or not the candidate conforms to the culture of the firm, not so much on testing specific knowledge or skills. This type of practice is due to both a long-term employment relationship in which there is little likelihood of employees leaving the firm once they are hired, and to the type of skills sought. Because specific training is provided by the firm, basic education is the main recruitment criterion. Since the firm's internal market is used to fill vacancies created by promotions, recruitment policy also aims at evaluating the candidate's capacity to learn within a process of continuous training. Thus, recruitment is carried out in relation to jobs rather than to well defined tasks. To evaluate candidates, firms maintain contact with professors who participate in pre-recruitment. The recruitment policy of large Japanese firms is distinctive in the sense that it promotes homogeneity. It comes from a need for cohesiveness within firms trying to recreate a family atmosphere based on trust (Bernstein, 1988). Typically, for entry-level positions at the bottom of the salary scale, recruits are hired at the same place and at the same time and come from the same age (and gender) group.¹ Recruitment homogeneity appears to promote team spirit and resolve a certain number of communication problems or "pre-management" problems (Whitehill ,



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1991: 83 and Murayama, 1982: 101). At the time of recruitment, evaluation of social skills appears even more important than the candidate's knowledge. As will be seen, this is consistent with wage, promotion and training policies.

2.2 Promotion and Compensation

Within Japanese firms, career progress is slow and based on an informal, long-term evaluation of the employee. The *nenko* system of promotion, based on seniority, is very widely used.ⁱⁱ Starting salaries are quite low and progress with seniority. Thus, older employees are relatively overpaid, which explains the retirement age of 55. This system applies to both blue-collar and white-collar workers and the union structure called enterprise unionism, which includes all of a firm's employees, is conducive to the negotiation of salary scales.ⁱⁱⁱ Compared to other countries, wage gaps in Japan are small and tend to favour egalitarianism and participation of all in various activities like quality circles and others.

This egalitarianism of the wage policy in Japanese firms is characterized by the *nenko* system of slow salary advancement based on age (*nen*) and years of service (*ko*) in the firm. In fact, this is a system of intergenerational transfer and some people believe that this practice is an adaptation to the Japanese cultural requirement of respect for elders.^{iv} However, this system has the effect of decreasing stress when workers first arrive in the firm, and it tends to make external mobility on the labour market less attractive because all new employees begin at the bottom of the salary scale. The *nenko* system allows some separation between responsibilities and salary scales, thus favoring initiative and participation in innovative processes.

Some researchers trace the origin of the *nenko* system to the response of management in the 1920s to a very tight labour market. By granting continuous annual salary increases, firms were attempting on the one hand to decrease the attraction of unions and on the other hand, to keep qualified employees (Nitta, 1994). However, it was only after the war, when union organizations demanded equal status between white-collar and blue-collar workers, as well as job security, that this system became widespread. These demands shaped the structure of enterprise unionism and subsequently facilitated opportunities for mobility within an internal job market.^v Seniority-based promotions increase employees' attachment to the firm (and not to the job) and thus make expensive training profitable. For an employee, leaving a job would mean the loss of accumulated seniority and a return to the bottom of the salary scale in another firm.

However, the distinctive feature of this system, compared to most other countries, is that the blue-collar career path resembles that of white collar workers (Koike, 1987). The compensation and promotion system is consistent with a work organization based on a long-term relationship and on multi-skilling of employees with little specialization. Thus, employees are likely to experience vertical as well as horizontal job rotation, thereby acquiring skills through experience. If salary progression for Japanese blue-collar workers is higher than elsewhere, one



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explanation is that skills acquired through experience are compensated more by firms.

2.3 Employment Policy and Training

As we mentioned previously, long-term employment involves only about one-third of the labour force, essentially workers in large firms, which in fact are the model for the J-firm. This job security decreases in an inverse proportion to the size of the firm. Until employees reach the age of 55, they are called upon to carry out different tasks for the same employer. In the case of rationalization, the jobs of women and temporary workers are cut, working hours are rearranged and the work force is moved around. Thus, it is rare for a regular employee to be laid off, the main criterion for dismissal being a disloyal attitude towards the firm. Moreover, the law limits the possibility of laying employees off for economic reasons (Sasajima, 1993). Long-term employment is often viewed as a post-war union victory.

Long-term employment and the absence of precise job descriptions encourage the formation of work teams, one of the main tools of Japanese work organization and innovation process. Through teamwork, employees acquire speed in communicating and minimize transaction costs associated with the integration and frequent changing of partners in specialized work. A key element in job satisfaction involves friendship with work colleagues and this, in turn, encourages informal communication and quick adaptation, important factors in greater productivity and information exchange which are vital for innovation.

On-the-job training within work teams encourages the acquisition of general knowledge of the production process as a whole (Koike, 1981). Quality control carried out by workers themselves requires wider skills and responsibilities. Older workers are used as mentors for training new recruits. Quality circles also provide an opportunity for training. Multi-skilling allows workers to detect defects in pieces or products coming from other work stations and to ensure the necessary corrections are made.

Since training is not meant to be transferred from one firm to another, which reduces the possibilities of an "exit" strategy, training and qualifications are thus associated with employees, not so much with a specific job description. Having less specialized but more multi-skilled employees, firms are less affected by absenteeism and can count on production continuity. Long-term employment is thus consistent with the type of training specific to firms that make less use of the external market.

2.4 Participation in Decisions

The creativity of both managers and employees is a factor which is often mentioned in the literature on the success of the Japanese model (Leonard and Thanopoulos, 1982) particularly in terms of quality and innovation. Participation in decisions by managers (*ringi sei*) and employees is a means to channel suggestions for improving the production process and facilitating adaptation to new technologies. This obviously requires a good knowledge of the production process but also an



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employment system that will not turn to head count savings as a result of implementing innovations. These collective decision-making processes have the advantage of stimulating (or simulating according to some authors) participation and informing managers and employees of organizational changes to come, as well as promoting a sense of belonging to the firm. It takes admittedly longer to develop directives that everyone has had the opportunity to influence or comment on, or at least to be associated with, but they are implemented more quickly. The importance of this participatory management system in the firm's success can be seen in its contribution to continuous improvement (kaizen).

3. Japanese transplants and Quality-oriented Canadian firms: how close are they to the J firm ?

Research on Japanese firms in Canada has not been extensive comparatively to the UK (Morris, 1994) and has focused on the automotive industry (Huxley *et al.*, 1995; Drache, 1994 ; Robertson *et al.*, 1992; Boyer, 1992). Research conducted in the 1980s shows that adoption of new work organizational forms has spread slowly comparatively to the US (Meltz and Verma, 1993).

Diffusion of the new Japanese (J) production system has been seen by many as a necessary requirement to enhance innovation and higher productivity of firms in the context of the so-called Knowledge Economy of the 21st century. Again, while financial difficulties in Japan have questioned the macro-economic dimension of the J model, the micro-économic or micro-social dimension of organisation of production at the shopfloor level remains a reference in management theory and practice. To implement outside of Japan, the J style of production management generally implies a series of transformations in the mode of HRM, labour regime and work organization, as we highlighted earlier. An important aspect of lean production is the quality improvements of products embedded in the production process, which renders necessary the adoption of a new style of workplace (Kochan and McKersie, 1992; Schonberger, 1994). Most studies on the adoption of the Japanese model abroad tend to indicate a partial transfer or hybridization of work practices and human resources management (Da Costa, 1995; Dedoussis and Littler, 1994; Florida and Kenney, 1991; Negandhi *et al.*, 1985; Matsusaki, 1980).

Our study examined the practices of Japanese firms in Canada to determine how much of these practices have been retained, but also how they compare with Canadian firms in general, as the interest for the Knowledge Economy leads us to question the diffusion of the J-style practices beyond Japanese firms in other countries.

The survey conducted thus compares the practices of Japanese firms to a model of the Japanese firm, as defined earlier. As the postal questionnaire is mostly about organization of work and human resources practices, it has been sent to directors of human resources in 271 Japanese firms. To determine whether the hybridization process may have gone as far as to blur the differences between these firms and the Canadian ones, the questionnaire was sent to some 397 Canadian firms. Answer rates on both samples were about 20 %^{vi}.



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The difference between the American and the Japanese concept of quality monitoring and improvement process is said to be a major source of the need to reform the workplace (Betcherman, Leckie and Verma, 1994; Cole, 1993). Total quality management in a decentralized setting (typical in the model of the Japanese firm) would hence be a proxy for identifying firms bearing resemblance with Japanese practices of work organization and employment relations. Canadian firms were thus divided into two different groups according to the quality monitoring process. Besides the Japanese sample, those firms managing total quality in a decentralized manner, giving responsibility of quality monitoring to line workers constitute the second sample (Q). All other firms constitute a third sample (E) that can also be compared to the Japanese sample. This sample, as it has not adopted a total quality process in a decentralized manner, should be closer to the traditional way of managing production and work in North America (the A firm in Aoki's terms).

The questionnaire was divided into three sections: enterprise culture, production and business organization, as well as work organization and human resources practices. The first section was composed of a series of discrete questions on human resources attitudes typical in the American and Japanese practices of recruitment, work organization, appraisal, etc. Respondents had to chose between a set of dichotomous propositions which typified in a positive manner different ways of managing. Examples of these will be given further on, in Table 5. The second section asked about the environment of the firm and the production organization. The last section concentrates on human resources practices of recruitment, training, promotion and work organization.

3.1. Results

First, figures from the production process and the business organization show that Japanese firms are mostly engaged in standardized production, not needing special customized alterations; they are then less driven by diversified special demands (See table 1). The fact is that they are understandably more integrated in the national and international markets than the other firms of our samples. As Table 1 shows, Japanese firms established in Canada seem to be more technologically advanced and less integrated into a web of sub-contracting, a feature that might impede their capacity to pursue some of Japanese practices^{vii}.

Table 1. Aspects of firms of the residual (E), Japanese (J) and quality (Q) sample

| Aspects | E | J | Q | total |
|------------------------------------|-----|-----|-----|-------|
| N | 46 | 26 | 24 | 96 |
| # of employees | 323 | 641 | 642 | 489 |
| Type of production: continuous | 22% | 42% | 54% | 35% |
| Type of production: demand driven | 53% | 29% | 42% | 44% |
| Standards/non-standard products | 58% | 89% | 61% | 66% |
| National/international destination | 43% | 72% | 53% | 52% |
| Leading technological edge | 50% | 77% | 50% | 57% |
| Contracting-in | 52% | 23% | 63% | 47% |
| Contracting-out | 80% | 38% | 88% | 71% |



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Features of the production process and work organization should, more than the preceding results, show a clearer trend towards the Japanese practices. Changes in the organization of production refer mainly to the adoption of just-in-time. In our sample, the Japanese firms have not been the prime adopters of this production mode (See Table 2). In fact, they have adopted modifications of production (comprising changes in work space, JIT, simplification of tasks, automation of machinery and automation of controls) in the same proportion than firms of the residual sample. They also adopted less means to improve their productivity (increase in the use of machinery, change in equipment, change in the organization of work, increased training of employees).

In none of the aspects surveyed with regards to work organization were the Japanese firms outstanding in any particular way. For important items of the Japanese work organization such as multitasking, rotation and the use of quality circles to perform some Kaizen, Japanese firms are actually less numerous in using these practices than their Canadian emulators (See Table 2).

Table 2. Aspects of the work organization of firms of the residual (E), Japanese (J) and quality (Q) sample

| Aspects | E | J | Q | total |
|--|-----|-----|------|-------|
| organization of production | 40% | 40% | 49% | 42% |
| -Just-in-time production schedules | 35% | 32% | 54% | 39% |
| measure to increase productivity | 58% | 63% | 70% | 62% |
| modification of work organization | 32% | 33% | 50% | 37% |
| - enlargement of tasks | 46% | 46% | 50% | 47% |
| - enrichment of tasks | 37% | 31% | 54% | 40% |
| - multitasking of employees | 52% | 62% | 79% | 61% |
| - rotation within teams | 24% | 35% | 58% | 35% |
| - quality circles | 26% | 19% | 54% | 31% |
| - quality of working life groups | 13% | 8% | 17% | 13% |
| - semi-autonomous work groups | 20% | 12% | 38% | 22% |
| - reduction of command levels | 26% | 46% | 50% | 38% |
| - integration of departments | 46% | 42% | 54% | 47% |
| Type of quality management ^{viii} | 31% | 34% | 58% | 38% |
| - total quality program | 22% | 42% | 100% | 47% |

This leads us to examine aspects of human resources management, in Table 3. As mentioned previously, recruitment in the Japanese management model of employment relation is of great importance as employees are hired for a long term period and must be able to learn a multiple range of tasks. Continuous training provided in house and on-the-job is typical of the Japanese model and employees are accordingly hired at bottom of scale. Criteria for evaluation of employees provide a quite clear idea of hiring practices. Results show that Japanese firms, while hiring mostly for entry posts, do not provide for development of the career path in relation with the qualifications of the individual employed. Much like other firms, Japanese firms in Canada seem to draw on the external labor market. To the question: "Do part-time employees have more chances of being hired in case of an opening than those coming from the outside", Japanese firms seem even less keen to respond



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positively. Work appraisal criteria show that quantity of work and capacity to perform in work teams are relatively important while potential of the individual is less stressed.

Table 3. Aspects of the recruitment and appraisal criteria of human resources of firms of the residual sample (E), Japanese firms (J) and quality firms (Q)

| Aspects | E | J | Q | total |
|----------------------------------|-----|-----|-----|-------|
| Recruitment at entry | 30% | 54% | 21% | 34% |
| Recruitment function career path | 11% | 23% | 13% | 15% |
| promotion of part-timers | 83% | 76% | 95% | 84% |
| Evaluation criteria | | | | |
| - acquisition of knowledge | 41% | 69% | 77% | 58% |
| - quantity of work done | 61% | 77% | 64% | 66% |
| - capacity for team work | 66% | 81% | 59% | 68% |
| - quality of work | 86% | 88% | 95% | 89% |
| - assiduity | 55% | 50% | 45% | 51% |
| - respect of production norms | 34% | 31% | 55% | 38% |
| - work attitude | 57% | 81% | 86% | 71% |
| - contribution to innovation | 39% | 46% | 45% | 42% |
| - potential | 70% | 46% | 86% | 67% |
| - critical incidents | 23% | 12% | 32% | 22% |
| - observation | 23% | 38% | 45% | 33% |

Questions of training and employee involvement are also of importance in the Japanese model of human resources management and innovation. Training on a continuous basis provides workers with the ability to perform different tasks and the knowledge to participate in continuous improvement of the production process through suggestion systems, consultation and the like. Much of this training and involvement is provided through teamwork. Results shows that Japanese firms seem to use work teams to a lesser extent than other firms (Table 4) even though Table 3 indicates this is an important aspect for them in terms of evaluation.. If they seem to have less formalized training programs, this training is much more frequently done on a continuous basis (Table 4). Employees of the Japanese firms are less consulted than in firms of the other samples and participate even less in production decisions. Also, in half of the cases, they are not involved in a process of continuous improvement of quality/productivity, which is much less than in the Canadian firms (Q and E groups).

To enhance company identification and loyalty, Japanese firms in Japan often organize social activities for their employees. Results of the survey shows that J firms in Canada are on a par with the Q firm sample. One last important item of the Japanese model concerns the long term employment relation. Questioned as to what would be the preferred strategies of the firm in case of an economic slowdown, most firms in all samples responded that they would diminish the payroll which shows a poor commitment to the labor force as one would witness in Japan. Japanese firms were on the other hand those that acted the less on rationalizing the work force as they made less layoffs in the recent period, which is one of moderate expansion of the Canadian economy.(Table 4)



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Table 4. Aspects of human resources of firms of the residual (E), Japanese (J) and quality (Q) samples

| Aspects | E | J | Q | total |
|---|-----|-----|-----|-------|
| Work teams | 50% | 48% | 67% | 54% |
| Training program | 61% | 73% | 88% | 71% |
| Continuous training | 47% | 73% | 65% | 59% |
| Consultation of employees | 76% | 81% | 96% | 82% |
| Participation to production decisions | 64% | 48% | 90% | 66% |
| Continuous improvement process | 76% | 50% | 92% | 73% |
| Social activities for employees | 61% | 77% | 79% | 70% |
| Economic slowdown: diminish # employees | 78% | 73% | 75% | 76% |
| Recent layoffs | 50% | 46% | 58% | 51% |

In the first section of our questionnaire, we attempted to survey the opinion of the respondents on important aspects of the philosophy of the human resources management of the firm. Asked to choose only one of a serie of statements, the first is generally associated with an American culture and the second with the Japanese way. For example, the following three issues on the employment relation were presented (Table 5). Managers in Japanese firms seem more attentive to the motivation of the employees and their capacity to work in groups than the managers of the other samples, despite the fact that these firms were more organized in work teams. It is possible that more continuous training in the Japanese firms account for less need to hire specialized workers. However, Japanese managers did not think, as virtually all Q firms, that trained employees are worth keeping although other questions in the survey showed that they were less keen to proceed to layoffs. From another point of view, most managers of all samples valued equally the capacity to learn of the employees.

Table 5. Aspects of enterprise culture of firms of the residual sample (E), Japanese firms (J) and quality firms (Q)

| Enterprise culture | E | J | Q | total |
|--|-----|-----|------|-------|
| (A) New employees should foremost be productive in little time. or (J) New employees should foremost be motivated and able to work with others. | 59% | 77% | 61% | 64% |
| (A) The firm has everything to gain in keeping only the employees it needs in all times. or (J) Employees represent a training investment that is worth keeping. | 70% | 69% | 100% | 77% |
| (A) When hired, employees should know the work in order to be productive. or (J) When hired, employees should have the ability to learn. | 76% | 73% | 71% | 74% |

note: percentages correspond to answers given to the J proposition

3.2. Conclusion and Perspectives

Our survey results show that Japanese transplants in Canada did not necessarily bring along their J model of HRM, work organization and production management, which was successful in Japan and is seen as part of the explanation of their success in terms of innovation. Given the interest for the J model, which is often associated with the Knowledge Economy and High Performance Work Organization



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required for the 21st century, it is somewhat surprising to find this absence of transfer, although some practices did find their way to Canada. The reasons for this can be many: culture differences in workers, lack of knowledge of the J model by Canadian managers, lack of institutional environment conducive to the adoption of the J model, amongst which the tradition of cooperation between firms (subcontractors and suppliers), as well as traditions related to human resources, such as low turnover of personnel and long term employment relationship.

It is however interesting to note that some Quality Oriented Canadian firms seem to be closer to the J model of HRM and production. This would indicate that there has been some diffusion of knowledge concerning the J-model, and that this has spurred some interest for imitation, leading to hybridization of practices, as the Canadian firms have not adopted the integrality of the model. It can also mean that Management theories of the last decade have tended to globalize and that some prescriptions relative to HRM and labour organisation have tended to become universal; while obviously not applied in all firms in all countries - as there are still many Tayloristic firms in Canada, the US and Asia - , some prescriptions concerning teamwork, collective skill development may have become some form of universal prescription as to the Best way of manufacturing and fostering innovation.

This can of course lead to questions concerning the possibility of reproducing the innovation capacity and quality development of J firms without adopting the whole model, or by adopting similar theories centered on the innovative and creative capacity of workers. It is possible that some elements may serve as functional equivalents, in the sense that they may lead to similar results in terms of quality and innovation, in the absence of certain elements typical of the J innovation system, particularly the long term employment system. It may be hypothesized that the high unemployment characteristic of Canada and Québec may be a functional equivalent, in the sense that it may force cooperation in the absence of long term employment, because it induces some fear of job loss, which may lead to cooperation; this has to be verified in future research, and particularly in the analysis of the situation of other countries in Asia and elsewhere.

With the addition of more research on comparative HRM and labour regimes in different countries, more insights will be developed to evaluate key dimensions of hybridized HRM practices of Japanese firms in comparison to the other firms. It seems to us of special interest to focus on the intertwined relationship between the employment relation, training and employee involvement, as we consider these to be key dimensions, dimensions that are so closely related that they cannot be adopted one without the other according to some authors (Brown, Reich and Stern, 1993; MacDuffie, 1995). Also, these elements appear essential for the innovation and quality characteristics of the J model, as of many Quality-oriented models presented in various management theories over recent years.

ⁱLado and Wilson (1994) referring to Williamson's (1975) analysis, think that hiring at the bottom of the salary scale is a practice which protects the firm from interpreting an employee's skills wrongly and allows human resources to be redeployed accordingly.

ⁱⁱ This is the view of many authors, although according to Magota (1979), this practice does not correspond perfectly to the reality of all firms



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- ⁱⁱⁱ Japanese industrial relations are characterized by company unionism. Certain industrial federations are active and each spring they coordinate union demands. However, negotiations take place within the firms. The distinctive feature of this type of unionism is the absence of specific occupational groups within firms. The intra-firm equalization of salaries is often seen as a union demand. Japanese industrial relations can be described as micro-corporatist in the sense that all questions concerning salaries and income security are negotiated in a harmonious and consensual fashion within the firm.
- ^{iv} The Japanese language is in fact hierarchized according to the age of the person being addressed.
- ^v Moreover, the Japanese union structure is an element which reinforces workers' identification with the firm. However, it should not be inferred that this is the source of the relatively harmonious industrial relations with comparatively rare workplace conflicts which are resolved through informal negotiation and very rarely through arbitration.
- ^{vi} Some questionnaires had to be dropped because firms did not fit the necessary criteria to be included in the final sample, in terms of size and activity - i.e. production and not only sales offices. In the Japanese sample (J), the answer rate was 20% because the address book at hand did not always specify what kind of firm it was and because firms with at least 20 employees had to be selected, those with less dropped, given the object of our research. The final Japanese sample is comprised of 26 firms, with about half of these being established in Quebec and the other half in Ontario. In the Canadian sample, the answer rate was 19% and firms of diverse, mostly of the manufacturing sector responded. These were grouped into 24 firms with a Japanese-style quality process (Q) and 46 other firms (E).
- ^{vii} Although Boyer (1992) is of the opinion that this feature may not be essential.
- ^{viii} To obtain this result we have weighted the five categories on quality management in the following way: (1) A better repair service at end of production line. (2) Frequent product or service changes to suit specific customers. (3) Precision inspection aiming at "Zero defaults". (4) A quality control performed by employees at each steps of production. and (5) A total quality program.

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