

# **Institutional Limits to the Internalization of Work Systems: A Comparative Study of Three Japanese MNCs in the UK**

**Ayse Saka**

(Published in the European Journal of Industrial Relations, 2002, 8: 251-275)

## **ABSTRACT**

This study adopts a multilevel comparative approach to investigating the degree to which Japanese work systems are implemented and internalized in the UK business system. The focus is on the limits to accepting continuous improvement schemes of Japanese multinational corporations. The paper addresses national and local institutional factors and firm-level organizational factors affecting implementation and internalization. It is based on in-depth case studies systematically comparing the adoption of Japanese work systems in two UK subsidiaries and in an Anglo-Japanese technical collaboration. The study concludes that firms face a double barrier to the internalization of work systems in the form of, first, institutional embeddedness at national and local level, and second, embeddedness of tacit work systems at firm level. Firms attempt locally to interpret work systems transferred from the source company.

## **Introduction**

During the 1960s there was a widely-held view that the diffusion of manufacturing technologies and divisions of labour at the societal level would eventually lead to convergence in institutional arrangements (cf. Hollingsworth and Boyer, 1997). However, despite increasing international integration of production and markets, institutional harmonization across nations has not occurred. It is commonly believed, especially among advocates of the 'lean production' perspective (e.g. Womack *et al.*, 1990), that there is an optimum solution for organizing labour, raw materials and capital in the manufacture and distribution of goods, and this in turn implies a set of 'best practices' for organizing work systems cross-nationally. Within this perspective, the focus has been primarily on the conditions for the successful diffusion of work systems. Such systems are conceptualized as

comprising modules of practices that can be disassembled, encapsulated in ‘actionable consulting packages and “how to” books’ (Lillrank, 1995: 976) and transplanted to another context.

Another, more recent, body of research has adopted a more integrated understanding of the way in which work systems are socially constituted and how this influences the possibility of diffusing work systems to other national contexts (Abo, 1994; Cutcher-Gershenfeld *et al.*, 1998; Kostova, 1999). For example, there is much research reporting on the local adoption of diffused ‘Japanese’ work systems, where the result is far from being a replica of these systems (e.g. Oliver and Wilkinson, 1992; Elger and Smith, 1994).

In the light of the current state of the literature, the present study aims to explore how institutional peculiarities hinder the implementation and internalization of Japanese work systems in the UK. The introduction of ‘new’ work systems by management at the adopter firm is labelled here the ‘implementation process’ and is evident in formal mechanisms such as training programmes. The ‘internalization process’ refers to the routinization or institutionalization of work systems by workers and is evident in the attitudes of workers to diffused systems. More specifically, the internalization process refers to the acceptance and approval by employees of a practice that is infused with value (Kostova, 1999). The study adopts a process-oriented perspective to looking at the underlying reasons for the difficulties encountered in the diffusion of work systems from highly institutionalized contexts to those of lower institutionalization. It investigates not only structural contingencies but also the role of people in blending and redesigning work systems. The study examines the barriers to the internalization of alternative work systems by drawing on the historical neo-institutional perspective.

The following section discusses the peculiarities of each national-institutional context and assesses how far the institutional differences between Japan and Britain hinder the diffusion of work systems. Research methods and data analysis are discussed in the third section. The fourth reports the findings on what is diffused and the extent to which it is accepted in the adopter companies. The discussion in the fifth section uses a systematic comparison of cases to highlight the characteristics that are critical to the firms’ internalization of work systems. In the final section, the role of actors in the translation and editing of work systems is discussed, and the implications of the findings for other business systems and sectors are presented.

## **Peculiarities of the Japanese and UK National Business Systems**

The theoretical perspective of this paper is informed by the historical neo-institutionalist view in which economic activity is seen as embedded in and shaped by a particular set of institutional arrangements (cf. Hollingsworth and Boyer, 1997). Social relationships and the collective norms that mould them are examined in relation to their structural and historical underpinnings (Djelic, 1999). The ‘divergent capitalisms’ framework pays systematic attention to the influence of social institutions. Differences in dominant forms of governance or key macro-level institutions, such as the public training system, are seen as shaping different forms of business systems (Whitley, 1996). Managerial co-ordination and work organization within the firm reflect the institutional context in which it is embedded. Thus when firms extend their operations into new institutional contexts, they are highly likely to adapt their existing structures and cultures. This paper demonstrates that this is especially the case in Anglo-Japanese operations, given the wide disparity in institutional arrangements between Japan and the UK. The highly co-ordinated business system of Japan in which institutional co-operation is a key feature of organizational logic differs from the compartmentalized UK system in which dominant institutions discourage co-operation between business partners, including employers and employees.

The presumed advantage in commitment and motivation enjoyed by Japanese manufacturers over their ‘western’ counterparts rests on a distinctive set of organizational structures and employment systems (Lincoln and Kalleberg, 1990). The internal labour market allows for greater informal participation in decisions compared with western plants. The collectivist values and tightly-knit networks encourage low strike activity, absenteeism and turnover (see Oliver and Wilkinson, 1992, for a historical analysis). The norms governing trust and authority relations promote close links between superordinates and subordinates, ‘with reciprocal services expected of superiors through direct patronage’ (Whitley, 1999a: 52) and low reward differentials. Such relations encourage skills development. These skills are typically firm-specific and highly tacit owing to an ‘experience’ model of education, encompassing in-house training and job rotation and long-term commitments (Dore and Sako, 1997). The Japanese system of corporate management is seen as creating employment stability, flexible personnel policies and strong employee identification with the company, and as encouraging participative, hands-on management, commitment to continuous improvement activities and teamwork (e.g. McMillan, 1996).

By contrast, compartmentalized business systems encourage reliance on formal rules and procedures that facilitate delegation, rather than on social networks and high

interdependency. Relations between actors are seen as arm's-length and typically adversarial. Strike activity, absenteeism and turnover have traditionally been expected occurrences (Lane, 1996). Employment security in Britain is typically low; this is connected with lower investment in skills development by UK firms and the absence of a tradition of life-time relationships between employees and firms (Sako, 1992).

Given their strong embeddedness in a network of mutual obligations and commitment, firms in highly co-ordinated systems 'find it difficult to shift key activities and significant resources to foreign locations' (Whitley, 1999b: 12). Thus, it can be argued that the diffusion of work systems is more difficult where they are embedded in highly co-ordinated business systems.

Against this background, the study investigates the diffusion of continuous improvement schemes from Japan to the UK. It assesses the degree to which UK adopter firms implement and internalize a model of work organization in which employees participate through teams; and the extent of employee and management commitment to quality improvement schemes. It also examines Japanese involvement in strategic decisions and operations, as well as hands-on management in the adopter company. The study highlights the interrelation between largely tangible, explicit knowledge often embodied in formal structures, and more intangible, tacit knowledge embodied in management--worker relations within the firm.

The aim of the paper is thus to examine work systems in their institutional context and their diffusion to a less regulated and less densely institutionalized environment. Both institutional and organizational levels are addressed in an effort to consider the contextual embeddedness of alternative work systems (see figure 1).

[Figure 1 about here]

The extent to which the underlying principles of continuous improvement practices are implemented and internalized can differ across firms within the same sector. This is explored through a comparative study of affiliate firms -- two subsidiaries and a partner firm - of three Japanese MNCs in the UK.

## Research Methods and Sites

The study systematically compares three cases -- Teniki UK, Nissera UK and the Rover-Honda collaboration -- to highlight the conditions for the implementation and internalization of Japanese work systems. It draws on interviews with Japanese advisors, directors, UK team leaders, operators, electrical engineers, and managers across personnel and training, sales and marketing, product engineering, design and quality, finance, purchasing, logistics operations, the liaison office and manufacturing integration in the UK sites. One week's factory work experience in two of the UK sites provided complementary data and in particular enabled the researcher to be sensitive to the context-dependent nature of diffused work systems. Information was also gathered through factory tours and interviews with Japanese electrical engineers and managers in international operations, product development, general affairs, quality assurance, corporate finance, engineering, corporate planning and control, and design departments in Japan. The research methods employed in the three firms are detailed in table 1.

[Table 1 about here]

The field research draws on open-ended and semi-structured interviews conducted between August 1998 and April 2000 on the incorporation of Japanese continuous improvement techniques (operationalized as team-based work or change in authority relations) and philosophies (operationalized as the values of a team ethos and personal/cultural control) into the UK adopter firms. Information was sought on the meaning for individuals of events, relationships, social structures, roles and norms. Data on the degree of internalization were obtained from field observations and on-the-job discussions with the operators. The quotes in the findings and discussion sections are based on verbatim transcripts.

The degree of 'internalization' was measured as high where operators perceived value in the diffused practice, put their trust in the system and accepted it with little resistance. The interest was in highlighting the conditions underlying this level of acceptance and how it varied across the sampled firms. In other words, how close did the UK adopters come to understanding the original meaning of the diffused practices as found in the Japanese source companies? The assumption here was that the original meaning of these practices could be

understood and internalized where adopters were able to perceive value in the diffused practices and accept them with little resistance.

A 'method of difference' was adopted for comparing cases with different degrees of internalization of Japanese work systems. The objective was to track down regularities in patterns of conditions that, at least in part, accounted for common outcomes, and, by comparing divergent cases, to identify 'bundles of conditions' that were responsible for variations in outcomes (cf. Djelic, 1998: 15, based on John Stuart Mill's two-sided comparative method).

The research sites were selected to include a brownfield and a greenfield subsidiary, and a technical collaboration site. The aim was to cover a range of organizational contexts likely to influence the way in which practices were implemented and internalized. The brownfield site, Teniki UK (a pseudonym), had been owned by a British firm before being acquired by a Japanese car component manufacturer, Teniki, in 1996. Employing 170 people in 1999, it is located in a centre for tourism, where a large proportion of the labour force (nearly 40 per cent in 1997) is employed in the public sector. Teniki UK's senior management was replaced with a more market-oriented, quality-conscious team upon its acquisition. Since 1996, six Japanese advisors have been brought in to Teniki UK from the parent company. They act as technical experts in the technical and development, operations, sales and marketing areas, avoiding positions of direct control in the management hierarchy. The people side of management is left to local managers.

The greenfield case company, Nissera UK (also a pseudonym), was founded in 1988 as part of a strategy to serve major Japanese customers in Europe. It is located in an area in which manufacturing accounts for nearly 40 per cent of jobs. The company employed 300 people in 1999. The composition of the senior management team changed in the years after its foundation from 60 per cent Japanese employees initially to the current 6 per cent. Twelve Japanese managers -- two senior directors, eight managers in engineering and two managers in the financial area -- serve liaison roles between the subsidiary and the parent company. The production managers and supervisors are predominantly British and recruited locally.

[Repetition of what is stated on page 9]The Rover--Honda Collaboration is the technical collaboration site. The strategic alliance was formed in 1978. The Rover Group was looking for a partner to help restructure its organization and to remedy the lack of new projects, whilst Honda wanted to increase its sales volume in Europe. At the start of the collaboration, the two companies had comparable sales volumes. However, Honda was profitable and growing rapidly while Rover was loss-making and some of its previous projects had damaged the company's image. The study focuses on the collaboration over the

Rover 200/Honda Concerto (coded the R8/YY), as this constituted 'side-by-side' work rather than an arm's-length relationship, reflecting the similarity in the two companies' goals and the learning from the previous collaborative project. The R8/YY project was seen by Rover engineers and senior managers as the most successful project in terms of the degree of collaboration, quality and process improvement, problem resolution and learning benefits (cf. Mair, 1998). It was also a turning point for Rover in financial terms, marking the initiation of structural and cultural change and replacing a core product line.

## **Findings**

Teniki UK, Nissera UK and Rover faced similar environmental pressures to be innovative and competitive. They aimed to enhance manufacturing skills and the quality and productivity of their output by adopting lean manufacturing systems and continuous improvement. However, conscious efforts to institutionalize meanings, values and norms at these sites were not very effective in changing organizational behaviour. Although the major practices diffused were similar in all three companies, the degree to which they were infused with value and accepted in each site differed. The degree of implementation and internalization of work systems was significantly higher at Nissera UK and the Rover--Honda collaboration than at Teniki UK.

### **The Shift to Team Structure: The Change in Authority Relations**

There was a shift in work organization at all three sites towards a flatter team structure. The pattern of authority relations at the two subsidiaries was changed from one based on superintendents, supervisors and hourly-paid workers to one built around team leaders, team coaches and hourly-paid workers arranged in a production cell layout rather than assembly lines. At Rover, there was a shift from functional authority relations to a project-based structure in 1985. Formerly, Rover allocated resources to different functions, with individuals working on a number of projects. A core expertise could not be sustained within such a structure. By contrast, within a project-based structure, engineers who were assigned to project teams could consult a central pool of expertise on technical difficulties.

The shift in authority relations had an impact on worker response to diffused work systems. Although operators at both subsidiary firms were cynical about the structural shift, those at Nissera UK were more successful in adopting a team-based structure. Similarly, Rover engineers working on the R8/YY project were relatively successful in effecting a transition to a project-based organization.

At Teniki UK, the segregation between management and workers led to difficulties in instilling high levels of commitment among operators. Team-working was better received by operators in Nissera UK, where the shift to a team structure in 1997 was associated with the build-up of skills imparted by Japanese expatriates in the early years after the company's establishment. However, the fluid job descriptions evident in the Japanese parent companies were not widely observed in the UK subsidiaries. Operators perceived team leaders as above the work group rather than as members of the team: 'We had less number of supervisors, hence it was a cost-saving measure in that way. We had a lot who did not understand the difference between a team coach and a supervisor' (British personnel and training assistant, Teniki UK). Team leaders and assistants at Nissera UK had clearly defined responsibilities and their positions were treated as managerial ones. This is reflected in the production manager's claim that 'team leaders do not do the work. As long as they make sure the system is in, what comes out is efficiency, cost and quality'.

At Rover, the project-based structure adopted with R8/YY was seen as promoting a team effort to solve problems quickly and deliver projects on time. Nevertheless, from Honda's perspective the implementation of the project-based structure at Rover was not effectively carried out -- functional managers continued to have more control than project managers. Honda continued to uphold a project-based structure:

We always have a weekly meeting with every project leader. Rover had a problem, because its body engineers were in Cowley, interior engineers in Canley and other engineers in Longbridge. They tried to gather and established Gaydon [where the design centre is].

(Japanese Executive VP of Honda R&D Europe)

While communication then improved, the timing of the build phases still could not match that of Honda:

We agreed on a schedule. Rover could not understand this schedule, could not understand how to manage or carry out their own job. Honda sets up a project manager to manage the timing. They control the progress of the team. They also receive the services of a support function.



(Japanese Executive VP of Honda R&D Europe)

### **Commitment to Quality Improvement Schemes**

Teniki UK, Nissera UK and Rover all had difficulty in securing commitment of all parties to parent companies' continuous improvement schemes, such as quality circles, discipline in the workplace and the '5C' housekeeping principles (classifying, clarifying, cleanliness, clean-up and custom).

Operators and those enforcing the system at Teniki UK did not ascribe to the Japanese belief that good housekeeping improves work habits and quality of facilities. For instance, 'people do not read the quality audits. They just put a check. Somebody at the end of the day should look at the sheets' (senior operator in air element at Teniki UK). Older workers at Teniki UK worked according to their own rules and enjoyed the freedom created by weak control in the factory. They manhandled machines when they did not work properly, ate and drank in their cells, and failed to fill in production timesheets on an hourly basis: 'I do it at the end of the day and take an average. It looks better that way'. Production pressures led to the manipulation of scrap rate figures. An assembler commented: 'Quality Assurance is called over when there is a supplier-related problem. If there is a pressure to get the order out, then they will pass the item that I would normally scrap'. (However, a team coach at Teniki commented that the Japanese also manipulated their scrap rates.) The Teniki UK operations manager summarized the situation in the plant as follows:

The biggest thing, which we have not been successful in, I suppose, is the Kaizen, small group activity work. We all know the benefits of doing that but again, the managers and engineers can actually carry on these activities, but unless the people on the shop floor buy into them and understand them and want to be part of them, it is not sustainable. You can create Kaizen activity, get result and potentially walk away. And if the people do not buy into it and understand why they are doing it, it is wasted. Because we have not cascaded the information down and have not got the skills bottom up to top, we cannot achieve this sustainable continuous improvement within the plant.

Similarly, operators at Nissera UK failed to internalize continuous improvement schemes, owing to the way local management administered Kaizen initiatives:

We were forced to go on this course [on quality circles]. They called it 'family circle'. It is a big joke. Everything is a joke. It could be better if they were straighter with us. As far as we are concerned, they have deceived us. They will start with something and if it does not suit them, they will change it.

(Operator in cluster assembly at Nissera UK)

The author's own work experience in one of the production cells showed inconsistency in the application of quality standards. The researcher was shown how to conduct a quality control check on case assembly. This involved checking the strength of screw tightening/loosening and plotting the observed measure on a quality control chart. The assembler who was demonstrating the process recorded the measure as falling within the quality tolerance levels although the figure was clearly outside the limits. The low sense of responsibility for quality control processes could also be observed in the 'parts testing' phase of the assembly process. Tests on fuel and temperature indicators normally took seven minutes to complete. However, operators found this too long and halted the process after two or three minutes.

In the early years of the Rover--Honda collaboration, there seemed to be more emphasis on results than on processes. Underlying philosophies were learnt over time as more projects of a collaborative nature were carried out. The commitment to quality improvement schemes in car development was low until 1985. With the initiation of the R8/YY project, there was a step improvement in the level of commitment to such schemes. The dedication was even higher on subsequent projects, particularly with the launch of the Rover 200 model in 1989. On the whole, continuous improvement schemes were fully implemented but only partly internalized by Rover engineers.

For example, Honda's *gebba-kai* process was approximated and never fully realized. The *gebba-kai* process basically consisted of one or two days set aside in a project after a build sequence to iron out problems, to do, for example, with parts not fitting properly or with misunderstandings between engineering and manufacturing. Suppliers were also invited to these meetings where problems could not be resolved internally. Rover engineers were able to observe the *gebba-kai* process during their 6-12 months' joint engineering work with Honda engineers in Japan.

While *gebba-kai* was seen as valuable by Rover -- 'they forced us to use it but since they have left we have still used it' (team leader) -- implementation differed from Honda practice. Although the intention was to have an internal and an external *gebba-kai* as at Honda, Rover had 'changed it a little bit for the worst' (British senior manager in

manufacturing integration), with fewer days devoted to it and fewer people attending problem resolution sessions. The *gebba-kai* meetings failed to see things through to decisions.

The aim is to always arrive at a decision. I think if we followed it [*gebba-kai*] literally and the way some of the Honda engineers worked, then yes, we would always arrive at a decision because they would not leave without a decision.

(Rover design and development engineer)

Thus there was an 'editing' of the work system once Honda members were not directly involved in its implementation. This was seen as reflecting the influence of people who had not been to Japan to see how the process worked. As UK-resident engineers had not had the experience of working 'side-by-side' with the Japanese, they could not relate to the concerns of the engineers based in Japan:

They obviously had other projects to work on. So I was saying no, forget about the other projects and give me the answer in the R8 project now, please. I would plead with them, and bribe them and use different carrots and sticks....

(Rover team leader)

Rover engineers tended to apply processes as they saw fit. 'I think we tend to look for compromise and modify as appropriate or we feel we have to because we have money constraints' (principal systems engineer at Rover). Honda members were perceived by Rover engineers as following instructions to the letter: 'The Japanese always comply with their orders. We will comply if the orders suit us' (principal systems engineer at Rover). By contrast, employees in the UK context would try to find an alternative method of carrying out a task rather than work to a rigid process. According to a senior manager in manufacturing integration, Rover lacked the self-discipline to rigorously prove a process, train people and introduce double checks to stabilize the system. This was observed in the way Rover raised Project Change Requests (PCRs).

Again we might not have the discipline that they adopt in terms of the PCR changes. PCRs are supposed to be all resolved and signed off at the [*gebba-kai*] event. But not everybody turns up. Sometimes it is quite difficult to judge whether you should invite all your suppliers, because some of our suppliers come a long way. So we might not have the discipline to fully do it but we still basically adopt it.

(Principal Electrical Engineer at Rover)

## **Degree of Involvement by the Japanese**

Although the extent to which Japanese expatriates were involved in the day-to-day running of the business and in manpower planning differs across the three cases, the pressure exerted by the Japanese company on technical and strategic issues was considerable in the two subsidiary firms. At Teniki UK, there was high indirect involvement by Japanese management in the activities of the subsidiary. There was considerable financial pressure from the parent company, in terms of demands for rapid profitability, despite the parent's interest in developing skills at the UK operation.

The way the company development has been financed has restricted [the adoption of Japanese practice]. Japanese normally take a very long-term view in any investment. They are always for the future. For some reason, the way this business has been financed is through short-term loans instead of a large-share capital by the parent company. And the request has been that we make a very quick return on the investment whereas normally you would have maybe a few years' grace.

*(Operations manager at Teniki UK [is this manager in UK or Japan HQ?? He is in the UK as indicated by 'Teniki UK'. The parent company in Japan is labelled Teniki (without the 'UK')])*

The type of control exercised was impersonal/technocratic through output control and planning with clear-cut quantitative objectives at both strategic and operational levels.

Similarly, the parent of Nissera UK was heavily involved in decisions on providing technology and investment finance for the subsidiary. However, Nissera did not exert stringent budgetary control over the UK firm, at least in the first three years of operation. Instead, it exercised personal/cultural control through direct supervision and the use of expatriates:

Sometimes we do not chase profit. Otherwise we would be money traders.

We invest. Our profit is generated from the products we manufacture. We sometimes try to forget about profitability. For the first three years, we do not expect a profit. We expect a profit in the fourth, fifth year.

*(Manager in corporate planning and control department at Nissera [assume this is a Japanese manager in Japan, so HQ added for clarity, OK?? Yes, this*

*is a Japanese manager in Japan but 'Nissera' without the 'UK' refers to the HQ. 'Nissera UK' refers to the subsidiary in the UK. ])*

As at Teniki, the responsibility for design rested with the parent company, and the subsidiary operated more as an assembly operation dependent on imports of manufactured inputs from Japan (cf. Elger and Smith, 1994).

At Rover, the pressure by [*\*\*seems to make more sense than 'pressure by' – or do you mean 'pressure by local JAPANESE management'? No, even though there was an element of this. I was told that Rover executives encouraged engineers to work to Honda standards]* local management on engineers to follow the 'Honda' way in design and development became apparent during the R8/YY project: 'As the project went on, we were more and more subtly encouraged to go the Honda way on everything. In essence, we adopted our specifications to meet theirs at the end of the day' (principal electrical engineer at Rover). Nevertheless, as Rover was not wholly owned by Honda, Honda's exercise of control did not take the form of direct supervision as in the other two firms. At Rover, personal/cultural control was exercised more through socialization, informal communication and management training.

The findings at the three companies on the nature of diffused work systems are summarized in Table 2.

[Table 2 about here]

## **Discussion: explaining the patterns of implementation and internalization**

The case study findings show that the diffusability of work systems from a highly co-ordinated national business system such as Japan to a compartmentalized one such as the UK is hindered by conflicting institutional legacies and the variation in emphasis on tacit and explicit work systems between Japan and the UK . Work systems are seen as of high tacitness in Japan due to firms' reliance on an environment of organizational learning, consensus decision-making and on-the-job and continuous education at the operational level. The human element of knowledge production is brought to the fore. However, UK managers tend to focus more on explicit knowledge that is relatively easy to measure, control and process.

As the cases indicate, there is a tendency for UK management to show interest in the diffusion of structure as opposed to the complex set of meanings attached to work systems. It is questionable to what degree local management understood the importance of intangible elements in continuous improvement schemes. The UK subsidiaries seemed to have a limited ability to generate 'organizational cultures involving high levels of worker commitment and flexibility' (Warner, 1994: 510) to team-based organisational structures. For example, significant differences existed in the translation of a team structure to the British context.

This seems partly to reflect deep differences in national-institutional arrangements between Britain and Japan. There is a disjunction between the demands of a system that is strongly embedded in a network of mutual obligations and commitment, and those of a system that discourages co-operation between business partners. The ability of team leaders in the two subsidiary firms and the project leaders at Rover to maintain good communications within and across teams, and to motivate operators and engineers to engage in continuous improvement activities, was in part influenced by the institutional variation in worker commitment and flexibility between Japan and the UK. Unlike in Japan, a minimum involvement philosophy and low worker discretion have been the tradition in the UK (Dore, 1973). This is exemplified by the brownfield site in the study. 'In Japan, employees are grateful for being given a project to do. However, in the UK, there is demarcation, unionization. Employees will ask "why ask me to do the project?"' (personnel and training manager at Teniki UK). The resistance, especially among older Teniki UK operators, to alternative work systems was seen as deriving partly from the preference for traditional British work organization based on craft demarcations and union activity [*is the presence of union relevant to the Teniki case? perhaps delete the phrase 'and the presence of unions' No, it is not relevant to the Teniki UK case but there is a reference here to the traditional 'British model' which is based on craft demarcation and union activity rather than Teniki UK's regional setting*]. Thus a senior carbon canister assembler perceived problems in the diffusion of 5C housekeeping principles as resulting from different institutional processes in Japan and the UK: 'it [housekeeping] is ingrained in Japan. It goes back a long way. The European, continental approach is different. Production, sweeping and paperwork represent three separate jobs'. In other words, production was carried out by the operator, sweeping by the apprentice and paperwork by the supervisor.

However, the variation in outcomes among the three case-study firms implies that national-institutional differences cannot provide a full explanation of patterns of work systems diffusion. In addition, key features of the local institutional contexts, such as local labour market conditions, and of organizational contexts, including company characteristics, explain the varying degree to which alternative work systems are internalized.

## Local Institutional Context

In contrast to the findings of the Japanization literature (e.g. Oliver and Wilkinson, 1992), this study did not find that and [*added because level of disputes is not the same as unionisation-OK? I do not have figures on unionization in the region, hence I would refrain from using this term. I would like to focus only on the level of disputes*] the level of industrial disputes (in terms of the working days lost per 1,000 employees through strikes and stoppages) in a region had a significant impact on the degree of internalization of Japanese work systems. A low level of industrial disputes in the region in which Teniki UK is located did not facilitate the internalization of Japanese work systems. Similarly, high levels of industrial disputes in the regions in which Nissera UK and Rover are located did not impede internalization. On the contrary, the Teniki UK workforce displayed resistance to new methods of work despite the low level of industrial disputes in the area. This was due to the dominant effect of a pre-existing culture. Education and skill levels were low at Teniki UK, reflecting the fact that it was located in an agricultural region without a strong manufacturing base: according to the personnel and training manager, 60 per cent of employees had no more than three GCSEs. This had a negative impact on the internalization of parent-company practices.

The pattern of low skills in the local labour market was reinforced by government regional policy. State support for inward investment was low in the tourist region in which Teniki UK was located, whilst it was high in the location sites of Nissera UK and Rover--Honda. This reflected government policy of allocating resources to regions most affected by industrial restructuring and most dependent on manufacturing (Byers, 2001). The resulting low inward investment in Teniki UK's region helped maintain the low skills level of local labour compared with areas that received government support for investment. However, given that the regions with high skills in manufacturing were favourable to the adoption of continuous improvement schemes, a future increase in the skills level in less-developed regions might facilitate their adoption of manufacturing philosophies and techniques.

This study also shows that location in a greenfield site, in association with high skills in manufacturing, facilitated the internalization of highly institutionalized Japanese practices, as the new workforce had fewer preconceptions (cf. Sharpe, 1997). Hence, a new set of work procedures could be introduced with less resistance. This was not necessarily related to the recruitment of older, experienced workers with 'a basic work ethic of attendance, obeying orders and not quitting' (Elger and Smith, 1998: 541; Hallier and Leopold, 2000). The

argument here is not that greenfield firms are better able to impose their practices on local labour market conditions. It is that organizational factors such as the attention paid by Japanese expatriates to the implementation of continuous improvement schemes can play a more prominent role than local institutional factors in the internalization process. The point to note is that the impact of local institutional factors on the internalization process needs to be considered in conjunction with that of organizational factors.

In a brownfield site like Teniki UK, organizational inertia tends to lead to practices that more closely resemble local practices. To a degree this also applies to Rover--Honda. Strong lines of demarcation at Rover had led to the defence of job territory and challenged the drive towards increased flexibility in the manufacturing area. However, the engineers, on whom this study focuses, showed less resistance to the internalization of Japanese work systems owing to the different nature of their work, skills base and learning resulting from the previous collaborative work with Honda.

Thus the degree of internalization of Japanese work systems tends to be high where there is a favourable local institutional context, characterized by high inward investment and location on a greenfield site [*but don't you argue two paragraphs earlier that greenfield location operates more as an organizational than a local-institutional factor?? I regard it as a local institutional factor, but feel obliged to alert the reader to the need to consider its impact on adoption in association with organizational factors rather than as a stand-alone factor*], as at Nissera UK. In addition, the absence of a pre-existing culture is more conducive to the internalization of Japanese work systems than a non-unionized labour market. In other words, location in a region with a high level of industrial disputes and strong manufacturing base is not necessarily an obstacle to the internalization of diffused work systems where there is a large supply of skilled labour, as illustrated by the Rover--Honda case. In contrast to previous research (e.g. Elger and Smith, 1994), a large supply of unskilled workers and location in a tourist region (as with Teniki UK), where labour can be expected to be relatively free of preconceived ideas in manufacturing, do not facilitate the internalization of Japanese work systems. Thus the local institutional factors that are of significance here are skills levels, type of industrial base [*'location of the firm' is a vague phrase here - what influencing factor does refer to that isn't included in skills levels and state support? - does it mean e.g. type of industrial base? in which case say this directly Location of a firm, as shown in Table 3, refers to the 'colour' of the site or type of industrial base*] and state support for investment. The key national and local institutional characteristics are summarized in Table 3.

[Table 3 about here]



## **Organizational Context**

In line with the literature (e.g. Fligstein, 1990), firms' pre-existing strategies, structures and technologies shape the pattern of change towards the 'Japanese model'. In the case-study companies, actual practices do not conform to the prescriptions implemented in Japan, and diffused work systems are renegotiated and adapted. Although all three firms found it difficult to develop and replicate 'esprit de corps', Nissera UK and Rover were relatively more successful in implementing a team-based structure and continuous improvement activities such as quality circles. In Nissera UK, the team structure had been in place for some time, the workforce was more skilled, and the parent company provided long-term financing. In contrast to Teniki UK, Japanese managers at Nissera UK offered hands-on training to older operators and were heavily involved in shop-floor activities. In other words, Japanese expatriates attempted to carry over to the UK the characteristic Japanese pattern of institutional co-operation encouraging investment in skills development (cf. Orrù, 1997).

At Nissera UK, management had a strong approach to discipline until 1997, which marked the end of the Japanese managing director's employment contract. The attention paid to the implementation of continuous improvement schemes, in addition to the availability of financial and human resources, meant that the level of commitment to such schemes was higher at Nissera UK than at Teniki UK.. [Although relevant, it is an old reference]. At Nissera UK, hands-on training of operators by the Japanese in the early years resembled the master--apprentice relationship in which 'craft' skills were acquired, 'not through language but through observation, imitation and practice' (Nonaka and Takeuchi, 1995: 63). However, Japanese management's training, supervisory and advisory roles had diminished over the years as the phase of implementing new management systems and practices had been completed. Subsequently, with the replacement of Japanese expatriates by local management, less attention was paid to continuous improvement principles: 'Although they had more strict rules, Japanese managers would help you work. They would go to the source of the problem. British managers make up titles and waste money' (operator in printed circuit board manufacture at Nissera UK).

Teniki UK had not yet achieved economies of scale and this put financial pressure on local management in its efforts to impart continuous improvement philosophies to operators. Moreover, 57 per cent of its parent company's shares were held by a Japanese car manufacturer -- Teniki's biggest customer . This arrangement further constrained Teniki

UK's financial flexibility. Given its recent acquisition, the UK subsidiary had not been under Japanese ownership long enough to be fully imbued with a continuous improvement culture.

The cases demonstrate that the nature of Japanese management intervention in the implementation of diffused work systems is crucial in shaping the internalization process. In particular, whether management involvement in meeting strategic and operational aims is hands-on or indirect, and the degree of involvement of Japanese expatriate management in strategic and operational decisions (including supervision on the shop floor) are factors influencing how the adopter firm perceives the exercise of control by the source firm. This in turn shapes actors' decisions on whether or not to accept new ideas.

In line with the arguments in the literature (e.g. Lincoln and Kalleberg, 1990), large organizations can offer greater financial resources for the implementation and internalization of Japanese work systems than small organizations. For example, the Rover--Honda collaboration's large size and the associated economies of scale in production allowed more resources to be allocated to the employee training necessary for the internalization of alternative work practices. By the same token, the passage of time (11 years at Nissera UK and Rover--Honda sites from the year of foundation to the time of data collection or project completion) and the experience of a previous working relationship encouraged an emphasis on worker training and learning. For example, the secondment of Rover engineers to Japan for 6-12 months, the establishment of a liaison office in 1985 and joint engineering team meetings with Honda engineers facilitated the implementation and internalization of Honda's continuous improvement techniques and philosophies at Rover.

Personal relations and the accompanying trust embedded in social networks were important means by which Rover acquired and shared tacit knowledge. Company visits and boundary-spanning individuals encouraged socialization, allowing tacit knowledge to be acquired through experience (cf. Nonaka and Takeuchi, 1995). Habitual routines were redesigned in order to integrate Honda practices. Some of the integration mechanisms involved staff dedicated to the development of the collaboration, enabling co-ordination through lateral communication and negotiation rather than hierarchy. Furthermore, inter-personal, inter-firm networks were used for co-ordination and integration (cf. Grandori and Soda, 1995). Nevertheless, the interpretation and use of Honda practices were far from smooth. It was difficult to break 'method[s that were] embedded in individual expression' (manufacturing integration manager at Rover). Doing so necessitated intensive training. There was a high level of training in quality skills and the car development system at Rover. Direct involvement with the Japanese and emphasis on training by local management were two means of avoiding the 'watering down' of Honda practices. However, the diffusion of know-how from Honda to Rover was not as smooth as that to Honda's wholly-owned subsidiary in

the US. This was partly the result of issues of commercial confidentiality. Thus, while Rover engineers could be shown the assembly line or order of tasks for a given process, they could not receive any information on measurements or dimensions. Honda felt that such information was too sensitive to be disclosed to technical collaborators, for the two companies were competing in the same markets.

Both Nissera UK and Rover-Honda invested considerable effort in diffusing tacit and explicit components of continuous improvement schemes by providing financial resources and employing high numbers of Japanese expatriates in the early years of operation. The cases indicate that tacit philosophies like 'team spirit' were more difficult for the UK workforce to internalize than explicit techniques like team-based structures.

The key company and organizational characteristics that have an impact on the diffusion process across the three firms are summarized in table 4.

[Table 4 about here]

## **Conclusions**

Teniki UK, Nissera UK and the Rover--Honda Collaboration in the automotive industry exemplify the way in which firms draw only selectively upon production practices associated with the 'Japanese model'. Compromise solutions are common in which only explicit aspects of the Japanese model are adopted (cf. Delbridge, 1998), and conflicting institutional legacies hinder the diffusability of work systems. The brownfield site displayed a relatively low degree of implementation as well as low internalization of Japanese work systems. By contrast, the greenfield and technical collaboration sites had a high degree of implementation and medium level of internalization owing to the availability of more financial and human (i.e. Japanese expatriate) resources, direct and high involvement by Japanese management, exercising direct personal/cultural control and providing hands-on training, longer period in operation and higher skills levels (see table 4).

The findings highlight the structural and processual limits to the diffusion of Japanese work systems. The diffusion process is examined in relation to, first, the institutional embeddedness of work systems at national and local level, and second, the embeddedness of

tacit aspects of work systems at the firm level. [OK? Yes, this is fine.] The original meaning of Japanese source firms' practices is difficult for UK adopter firms to understand. Where practices could be easily codified or structured into a set of identifiable rules and procedures, such as the *gebba-kai* problem-solving technique (as opposed to the *gebba-kai* philosophy), they could be diffused relatively easily to a different institutional setting. But in the case of hard-to-articulate tacit practices, it was more difficult to implement and internalize work systems in a similar manner to the source company.

The paper shows the following influences on work systems diffusion: the characteristics of the adopter firm; the nature of the diffused work systems; and the institutional context to which the work systems belong. At the firm level, the highly context-dependent Japanese work systems can be blended and redesigned upon their diffusion to a different national business system. At the national level, those work systems that are close to institutional norms and practices of the adopter firms may be more widely diffused. In contrast to isomorphism and convergence arguments (e.g. DiMaggio and Powell, 1983), adopter firms do not necessarily mimic a particular work system that they consider highly effective and efficient. Firms attempt locally to interpret diffused work systems rather than submit to environmental pressures towards isomorphism. Incompatibility in institutionalized patterns of operating is not shaped by technical efficiency criteria alone.

The case-study findings contribute to the debate on the divergence of capitalist systems (e.g. Campbell *et al.*, 1991; Hollingsworth and Boyer, 1997); they do not support the argument that convergence is taking place in response to the pressures of globalization. At the same time, the study differs from existing observations in the literature on neo-institutionalism in that empirical evidence is provided on different regional institutional systems within the UK. There is 'persistent differentiation' when local institutional differences and the role of actors at the firm level are taken into consideration.

The generalization of findings to other sectors of manufacturing or to the service sector should be approached with caution. If the meanings attached to the use of Japanese work systems can vary across sites within the same sector, then differences can be expected between different manufacturing sectors. However, the salient organizational characteristics identified in the study as explanatory factors -- particularly the interplay of actors, resources and the nature of the diffused practices -- may be expected to have wider applicability.

The institutional gap between the source and the adopter firm observed in this study can influence the pattern of diffusion to Japanese affiliate firms in other business systems. For example, employment stability, the acquisition of skills through heavy investments in training, and long-term strategic planning characteristic of the German business system might

be expected to present less of a challenge to the diffusion of Japanese work systems. However, there are also institutional constraints to such transfer within the German system, not least the ability of unions and powerful works councils to influence work practice innovation. For example, Dore (2000) argues that in the 1990s, despite the growing pressures on German firms to cut costs, there was strong resistance from German unions both to 'teamwork', which would blur the connection between individual effort and reward, and to any unpaid worker contribution, through mechanisms such as 'quality circles', to the firm's prosperity (see also Streeck, 1997).

With continuing national institutional diversity, variations in the implementation and internalization of Japanese work systems between source and adopter firms can be expected to persist. However, the impact of national institutional diversity on the diffusion of work systems needs to be considered in conjunction with local institutional diversity and organizational initiative. For instance, in institutional contexts where there is a strong emphasis on non-unionism and performance-based pay systems, as in the USA, the level of industrial disputes would not be expected to explain local variations in the implementation and internalization of Japanese work systems. The reshaping of alternative work systems in a new institutional setting rests on differences between practices that are embedded in distinct local and national contexts, as well as organizational factors such as workforce characteristics, financial stability and managerial emphasis on the nature of diffused work systems.

## REFERENCES

- Abo, T. (1994) *Hybrid factory: The Japanese production system in the United States*. Oxford: Oxford University Press.
- Byers, S. (2001) 'Extending Manufacturing Excellence', *AEEU Seminar*, <http://www.dti.gov.uk/ministers/speeches/byers230101.html>, 23 January.
- Campbell, J. L., Hollingsworth, J. R. and Lindberg, L. N. (1991) *Governance of the American Economy*. Cambridge: Cambridge University Press.
- Cutcher-Gershenfeld, J., Nitta, M., Barret, B. J., Belhedi, N., Chow, S. S., Inaba, T., Ishino, I., Lin, W., Moore, M. L, Mothersell, W. M., Palthe, J., Ramanand, S., Strolle, M. E.,

- and Wheaton, A. C. (1998) *Knowledge-driven Work: Unexpected Lessons from Japanese and United States Work Practices*. Oxford: Oxford University Press.
- Delbridge, R. (1998) *Life on the Line in Contemporary Manufacturing: The Workplace Experience of Lean Production and the 'Japanese' Model*. Oxford: Oxford University Press.
- DiMaggio, P. J. and Powell, W. W. (1983) 'The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields', *American Sociological Review* 48: 147-60.
- Djelic, M.-L. (1998) *Exporting the American Model: The Post-war Transformation of European Business*. Oxford: Oxford University Press.
- Djelic, M.-L. (1999) 'From a Typology of Neo-institutional Arguments to their Cross-fertilisation', *Research Paper*, ESSEC.
- Dore, R. (1973) *British Factory-Japanese Factory: The Origins of National Diversity in Industrial Relations*. Oxford: University of California Press.
- Dore, R. (2000). *Stock Market Capitalism--Welfare Capitalism: Japan and Germany versus the Anglo-Saxons*. London: Oxford University Press.
- Dore, R. and Sako, M. (1997) *How the Japanese Learn to Work*. London: Routledge.
- Elger, T. and Smith, C. (1994) *Global Japanisation? The Transnational Transformation of the Labour Process*. London: Routledge.
- Elger, T. and Smith, C. (1998) 'New Town, New Capital, New Workplace? The Employment Relations of Japanese Inward Investors in a West Midlands New Town', *Economy and Society* 27(4): 523-53.
- Fligstein, N. (1990) *The Transformation of Corporate Control*. Cambridge, Massachusetts: Harvard University Press.
- Grandori, A. and Soda, G. (1995) 'Inter-firm Networks: Antecedents, Mechanisms and Forms', *Organization Studies* 16(2): 183-214.
- Hallier, J. and Leopold, J. (2000) 'Managing Employment on Greenfield Sites: Attempts to Replicate High Commitment Practices in the UK and New Zealand', *Industrial Relations Journal* 31(3): 177-91.
- Hollingsworth, J. R. and Boyer, R. (1997) *Contemporary Capitalism: The Embeddedness of Institutions*. Cambridge: Cambridge University Press.

- Kostova, T. (1999) 'Transnational Transfer of Strategic Organizational Practices: A Contextual Perspective', *Academy of Management Review* 24(2): 308-24.
- Lane, C. (1996) 'The Social Constitution of Supplier Relations in Britain and Germany: An Institutional Analysis' in R. Whitley and P. H. Kristensen (eds) *The Changing European Firm: Limits to Convergence*, 271-304. London: Routledge..
- Lillrank, P. (1995) 'The Transfer of Management Innovations from Japan', *Organization Studies* 16(6): 971-89.
- Lincoln, J. R. and Kalleberg, A. (1990) *Culture, Control and Commitment: A Study of Work Organization and Work Attitudes in the United States and Japan*. Cambridge/New York: Cambridge University Press.
- Mair, A. (1998) 'Internationalisation at Honda: Transfer and Adaptation of Management Systems', *Employee Relations* 20(3): 285-302.
- McMillan, C. J. (1996) *The Japanese Industrial System*, 3<sup>rd</sup> edition. Berlin: Walter de Gruyter.
- Nonaka, I. and Takeuchi, H. (1995) *The Knowledge-creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press.
- Oliver, N. and Wilkinson, B. (1992) *The Japanisation of British Industry: New Developments in the 1990s*. Oxford: Blackwell.
- Orrù, M.(1997) 'Institutional Co-operation in Japanese and German Capitalism' in W. W. Powell and P. J. DiMaggio (eds) *The New Institutionalism in Organizational Analysis*, 311-39. Chicago: University of Chicago Press.
- Sako, M (1992). *Prices, quality and trust: Inter-firm relations in Britain and Japan*. Cambridge: Cambridge University Press.
- Sharpe, D. R. (1997) 'Compromise Solutions: A Japanese Multinational Comes to the UK' in R. Whitley and P. H. Kristensen (eds) *Governance at Work: The Social Regulation of Economic Relations*, 171-89. Oxford: Oxford University Press.
- Streeck, W. (1997). 'German Capitalism: Does it Exist? Can it Survive?' in C. Crouch and W. Streeck (eds) *Political Economy of Modern Capitalism*, 33-54. London: Sage.
- Warner, M. (1994) 'Japanese Culture, Western Management: Taylorism and Human Resources in Japan', *Organization Studies* 15(4): 509-33.
- Whitley, R. (1996) 'The Social Construction of Economic Actors: Institutions and Types of Firm in Europe and Other Market Economies' in R. D. Whitley and P. H. Kristensen

(eds) *The Changing European Firm: Limits to Convergence*, 39-66. London: Routledge.

Whitley, R. (1999a) *Divergent Capitalisms: The Social Structuring and Change of Business Systems*. Oxford: Oxford University Press.

Whitley, R. (1999b) 'How and Why are International Firms Different? The Consequences of Cross-border Managerial Co-ordination for Firm Characteristics and Behaviour'. Paper presented at the 15<sup>th</sup> EGOS Colloquium, 4-6 July, University of Warwick, Coventry.

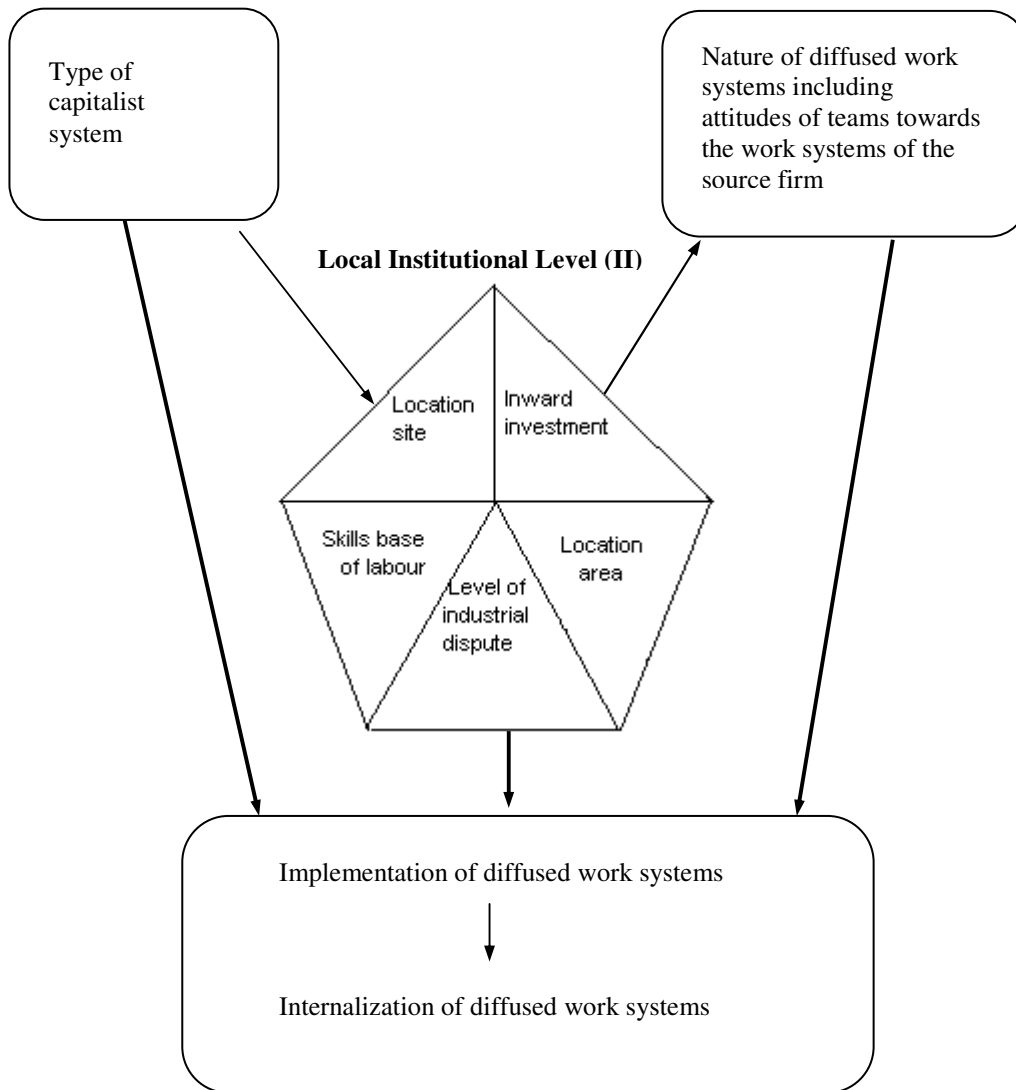
Womack, J. P., Jones, D. T. and Roos, D. (1990) *The Machine that Changed the World*. New York: Macmillan.



**Figure 1. Implementation and Internalization of Japanese Work Systems**

**National Institutional Level (I)**

**Organizational Level (III)**



Source: Adapted from Kostova (1999)

**Table 1. Data Collection at Case-study Companies**

	<b>Teniki (UK)</b>	<b>Nissera (UK)</b>	<b>Rover--Honda R8/YY Project</b>
Interviews in the UK	18 (Aug 1998--Jan 2000)	14 (Apr--Sep 1999)	25 (Jan--Sep 1999)
Interviews in Japan	2 (April 2000)	6 (April 2000)	8 (March--April 2000)
<i>Total interviews</i>	<i>20</i>	<i>20</i>	<i>33</i>
Factory work experience (in the UK)	1 week as operator in air element, air cleaner and carbon canister assembly (July 1999)	1 week as operator in cluster assembly and PCB manufacture (June 1999)	----
Factory tours in Japan	Saitama plant; air cleaner assembly, injection and blow moulding and press shops (April 2000)	LCD production, case assembly, R&D Centre (April 2000)	[Tour of Rover's Longbridge plant (June 1999)]

**Table 2. Nature of Diffused Work Systems in Case-Study Companies**

		<b>Teniki UK</b>	<b>Nissera UK</b>	<b>Rover--Honda R8/YY Project</b>
Nature of diffused work systems	<i>*Participation through teams</i>	Shift to team structure in 1999	Shift to team structure in 1997	Shift to team structure in 1985
	<i>* Commitment to continuous improvement schemes</i>	Low	Medium	Low till 1985/Medium till 1989/High thereafter
	<i>*Degree of involvement by Japanese</i>	Impersonal/ technocratic through output control	Personal/cultural through direct supervision and expatriate control	Personal/cultural through socialization, informal communication and management training

**Table 3. Key National and Local Institutional Characteristics**

		<b>Teniki UK</b>	<b>Nissera UK</b>	<b>Rover--Honda R8/YY Project</b>
National institutional context	Institutional gap between compartmentalized UK business system and highly co-ordinated Japanese business system Variation in emphasis on tacit and explicit work systems between Japan and UK			
Local institutional Context	<i>Location: Site</i>	Brownfield	Greenfield	Traditional home of Britain's car manufacturing base
	<i>Area</i>	Centre for tourism	Centre for manufacturing	
	<i>Skills base</i>	Low in manufacturing	High in manufacturing	Medium in engineering*
	<i>Inward investment</i>	Low	High	High
	<i>Level of industrial conflict (working days lost per 1,000 employees)</i>	Low	High	High

\* Perceived level in comparison to that of Honda.

**Table 4. Key Company and Organizational Characteristics**

	<b>Teniki UK</b>	<b>Nissera UK</b>	<b>Rover--Honda R8/YY Project</b>
<i>Size (in 1999)</i>	Medium (170 employees)	Medium (300 employees)	Large (~39,000 employees)
<i>Age (year of acquisition or establishment)</i>	1996-9	1988-99	1978-89
<i>Nature of work</i>	Assembly of carbon canister, air intake systems (Factory workers)	Assembly of vehicle instrument clusters (Factory workers)	Automobile design, engineering and manufacture (Professional engineers)
<i>Form of ownership</i>	Subsidiary, 57% of parent-company shares held by Japanese car manufacturer	Subsidiary	Technical collaboration, 20% mutual shareholding arrangement in 1990
<i>Financial orientation</i>	Short-term	Long-term	Long-term
<i>Number of Japanese expatriates and roles in the UK</i>	4 (MD is British) Advisory role	12 (including MD) Mainly director role	Regular visits by Honda engineers (1986-9), liaison office established in 1985 Advisory role
<i>Workforce skills level</i>	Low	Medium	Medium [compared with Honda]
<i>Nature of and emphasis on training</i>	Hands-off, Low	Hands-on, High (until 1997)/Medium thereafter	Hands-on, High in quality skills and car development system
<i>Degree of Japanese involvement</i>	High, indirect	High, direct	High, direct
<i>Nature of diffused work systems</i>	Emphasis on explicit practices (i.e. shift to team structure)	Emphasis on both tacit and explicit practices	Emphasis on both tacit and explicit practices