

HRM readjustment dynamics of an industrial transplant: the case of Toyota in India

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Abstract

This paper uses a case study of Toyota to analyse the transfer and hybridisation of lean production in a major motor vehicle manufacturing company located in India. Particular emphasis is placed on the dynamics of re-adjustment in relation to HRM practices. Using primary and secondary data in the form of interviews and company documentation, the paper traces the transplantation trajectory of the company over the ten year period between 1999 and 2009. Findings reveal that due to a range of contradictions in the initial configuration of the transplant the company undertook a sequential range of re-adjustment measures involving four strategies: localisation, imitation, hybridisation, and customisation. Several propositions are advanced with the aim of hypothesising which strategies are more likely to be successful in certain contextual situations.

Key words: industrial transplantation; HRM; Toyota; automobile industry; India

Introduction

In this paper we use a case study analysis of Toyota to analyse the transfer and hybridisation of lean production in a major motor vehicle manufacturing company located in India. In particular we place emphasis on the dynamics of readjustment in relation to HRM practices. The paper is arranged in five sections. In the introduction we discuss the background to the issues in the paper before developing our research question. This is followed by a discussion of lean production and our methodology and data collection. Our findings are presented in three sub-sections before we conclude our paper with our postulated model and some preliminary propositions.

The literature on institutional transplantation is rich (De Jong, Lalenis, and Mamadouh, 2002). The literature is also extensive in regards to the transfer of Japanese management techniques and lean production from Japan to other nations, but has tended to concentrate on developed countries such as USA and Europe (Berggren, 1994; Besser, 1996). The transfer to developing countries has been less extensively analysed (for a recent exception see Becker-Ritterspach, 2009). In view of the importance of rapidly developing countries such as China and India this is a gap which requires filling. The importance of our study lies in aiding theorists and practitioners to understand the forces inherent within such

hybridisation leading to smoother introduction of management practices across lean production companies, especially motor vehicle manufacturers in industrialising countries.

The Indian economy has been expanding rapidly during the post-liberalisation period since 1991. Liberalisation has supported a range of Multinational Corporations becoming established in the country which has introduced a variety of different business models (Sinha, 2004). One example of an imported model is lean production, a Japanese construct that has captured the imagination and application of the motor vehicle assembly industry during the past several decades. Two interpretations of this concept have emerged in the literature:

- Lean production is an efficient, humanistic machine. This viewpoint is popular amongst managerialists, engineers, consultants, and popular writers in an 'apologist' vein (see Liker and Hoseus, 2008)
- Lean production is a very sophisticated prison. This viewpoint is popular among critical theorists (see Parker and Slaughter, 1988, 1994)

However, both of these viewpoints share the same common belief, namely that lean production is capable of being transplanted from its original cultural base into other cultural and national bases, even if these environments are non-supportive, for example, between Japan and USA (Florida and Kenney, 1991). Accordingly, 'transplants' become clones of a superior and unique model. They represent technical objects without history or context. They are capable of being implemented everywhere by anybody (Pardi, 2005), even in enterprises such as services, education, marketing, public administration and so on.

An alternative viewpoint is that lean production is not capable of being transplanted wholesale into other national contexts, and must undergo various forms of hybridisation before it becomes viable in different contextual situations (Westney, 1999; Wilms, Hardcastel, and Zell, 1994). The distinctive environmental, social, and cultural differences must be recognised. Although the technical and operational aspects of lean production may be transplanted as is (eg, just-in-time, takt time, standardisation, etc) (Pil and MacDuffie, 1999), the human and cultural elements must be compromised as necessary (Liker, Fruin, and Adler,

1999). This observation has particular relevance for the transference of human resource management practices and policies (Adler, 1999).

Research in this genre has found that managers can become prisoners of the contradictions produced by the initial configuration of the transplant (Pardi, 2005). There exist a set of internal dynamics of constant readjustment of the transplant within the context of the initial compromise. Initial hybridisation must therefore be placed within a dynamic model. Such a realisation sets up a theory which addresses a plurality of models defined in terms of: the dynamic on-going history; the nature of the initial hybridisation; and the specific constraints of viability caused by external developments and socio-economic conditions. In this paper we support this dynamic view of transplants. We adopt the following assumptions:

- Transplants should be regarded as historical objects, in the sense of being social and political organisations (Pil and MacDuffie, 1999a).
- There should be recognition of the contingent expression of the historical trajectory of each transplant depending upon the conditions of viability in relation to features of the different contexts of implementation (Pardi, 2005).
- Transplantation theory is predicated on the existence of a plurality of models, historically defined, and exposed to the specific constraints of the external political, social, and economic conditions of viability, internal political and social dynamics, and compatibility with national and local contexts of implementation.

This gives rise to our research question as follows: given the assumption that organisational transplants are historical objects, contingent on a plurality of contextual factors, how can we account for the transplantation trajectory of Toyota in the industrialising nation of India? This question suggests that transplantation theory can be profitably explored through the development of a process model of hybridisation. In this approach it will be useful to follow the terminology adopted by Becker-Ritterspach (2009) – *imitation*: adopting the practices of the parent country; *localisation*: adopting the practices of the host country;

hybridisation: adopting the practices of both the parent and host countries; *customisation*: adopting a completely novel solution outside of those in the host or parent country.

Nature and HRM implications of lean production

Lean production is a disciplined system that requires a systematic and measured approach to design and implementation. The essential starting point for lean thinking lies in the concept of *value*. Anything that does not produce value can be classified as waste, and hence the basis of lean production lies in the relentless focus on identifying and eliminating all sources of waste. Because waste adds to cost not value, a large number of tools and techniques have been devised with the purpose of detecting and reducing the magnitude of such waste (Preece and Jones, 2009). A lean system involves: 5S (sort, straighten, shine, standardise, sustain); customer pull system; kaizen – continuous improvement; just-in-time production; kanban; minimal inventories; pull production; quick changeovers; value stream mapping; small lot production; quick set-up times; standardised work; takt time; production levelling; total preventative maintenance; visual control systems; zero defects; right-first-time; andon cord; general purpose machines; greater product variety; more niche and customized products (Karlsson and Ahlstrom, 1996; Worley and Doolen, 2006; Forrester, 1995).

These technical innovations in lean production have dramatic implications for HR policies and practices across the whole spectrum of people management issues (Preece and Jones, 2009). Important HR-related developments under lean production include: integration of conception and execution of tasks within flexible cell-based production areas; devolved responsibilities and empowerment to multifunctional team-based direct workers on the workshop floor who take on many of the responsibilities that are the prerogative of specialist support functions in traditional mass production (maintenance, simple repairs, quality, indirect services); autonomation (automation with a human touch – stopping the machines when there is a defect); all workers multi-skilled and multi-tasked; job rotation; reduction in job classifications; fewer functional specialists; investment in the development of people; continuous improvement and learning processes through quality circles and suggestion schemes; group-based problem identification, resolution, and implementation; more lateral

communication across functional boundaries; multi-directional information systems; high trust; high commitment and sense of obligation to the company (Forrester, 1995; Genaidy and Karwowski, 2003; Worley and Doolen, 2006).

Methodology and Data Collection

A qualitative methodology has been adopted involving personal interviews, observation, and document analysis. During a field visit to Toyota India during April 2009 interviews were conducted with the Chairman of the joint venture company, two senior Indian managers, the Principal of the training institute, two trade union officials, a long-term employee from the shop floor, and five business/industrial journalists from local newspapers (a total of 12 interviews). All interviews were recorded and transcribed. In addition, tours were arranged for us around the production facilities and the training institute, during which time we made personal observations and wrote these up as field notes immediately afterwards. We have also acquired much information from company documentation, media reports, internet sources, and journal articles.

Findings

This is an evolving study and only exploratory results are offered at this stage. We divide our analysis in this section into an examination of the initial configuration of the plant, followed by an analysis of the issues involved in the subsequent readjustments necessitated by the initial contradictions.

Initial configuration of the transplant

The initial configuration of the Toyota transplant involved three main design decisions: (i) a joint venture operation with majority Toyota control (ii) a niche product produced in a low volume, low automation plant, and (iii) a young, technically-trained workforce, within a union-free, green-field site. The causal conditions lying behind these decisions are explained by the context.

Toyota established its operations in India in the city of Bangalore in 1999 through a joint venture with the Kirloskar Group – a long-established Indian company which

manufactured a range of products including agricultural equipment, pumps, and small engines. Toyota held a controlling 89:11 share of the joint venture. Two reasons explain why Toyota chose a joint venture: first, Government regulations at the time prohibited 100% foreign ownership for companies operating in India, and second because India was a largely unknown country from Toyota's point of view, its local partner provided valuable expertise about the country's rules and regulations.

India is a burgeoning market and it would have appeared sensible if Toyota first targeted the mass volume small car market. However, this was unrealistic in 1999. At that time the Maruti-Suzuki joint venture had been operating in India for many years and had established dominance in the small car sector. Competing head-on with Suzuki from the beginning may have signalled failure. For this reason, Toyota's first product launch was the Qualis, a niche multi-utility vehicle aimed at the people-carrier market (Satyaki and Roy, 2006). This vehicle enjoyed some success and was eagerly purchased by companies in the growing business processing sector (for example, call centres) for transporting their employees to and from work, especially during unsocial hours. Because Toyota was not initially producing for the mass market, its volume production remained relatively low. As a result, the initial plant in Bangalore was commissioned with very low automation – in fact, one of the lowest automated Toyota plants in the world.

Toyota's experiences in the rest of the world had shown that employees are more amenable to learning and applying the Toyota Production System and Toyota Way if its work premises are union free on a green-field site, and if employees they have little or no experience in other work environments – in other words, if they carry 'no baggage'. This policy was applied from the beginning in the new plant. Workers in the production area and on the assembly line were selected on the basis of age (between 20-23 mainly) and education (ten years schooling plus two years technical institute training). Such young technically-educated workers were found to be more enthusiastic and malleable. No trade union was recognised. Table 1 summarises this discussion.

Table 1 here

Dynamic readjustment of the transplant – phase 1

As hypothesised by dynamic transplanted theory, managers can become prisoners of the contradictions involved in the initial configuration, leading to further re-adjustment. Toyota's initial configuration of its plant quickly started to unravel soon after its establishment. Most interviewees pointed to Toyota's lack of knowledge of the social and cultural aspects of Indian life and work as the primary factor. India is a complicated, heterogeneous country. In the words of one respondent: "India has 23 states, but really it has 23 different countries". Language and customs differ from region to region. Our respondents referred to such factors as the importance of the family, and respect for age and hierarchy. Indians were described as informal, emotional, sensitive, and with a lack of discipline in relation to the necessities of industrial life, such as the requirements to be punctual, precise, measured, and systematic. The literature contains several studies relating to the social, cultural, and work values to be found in India (Sinha and Sinha, 1990; Tripathi, 1990; Schwartz, 1999; Chatterjee, 2007; Becker-Ritterspach, 2005), as well as a number of articles concerned with Indian human resource management (Gupta, 2008; Jain, 1987; Chatterjee, 2007). Although we cannot enter into an exhaustive discussion of these aspects the literature has demarcated three major areas of difference between the Japanese and Indian work context: industrial relations, decision making, and work ethics and motivation.

Industrial relations. Japanese companies stress enterprise-level (company) unions that operate in an atmosphere of co-operation with management within a unitarist culture. Indian companies stress external unions, often affiliated to political parties, which operate in an atmosphere of confrontation with management within a pluralist culture.

Decision making. The concepts of education, communication, consultation, participation, involvement, empowerment, facilitation, and support are all evident within the Japanese (Ringi) system of group-oriented, consensus-seeking decision-making, designed to integrate worker and company interests. Group work and cohesion are stressed. Responsibility is delegated to groups to perform and design tasks, identify problems, make improvements, and monitor quality. Exploring and learning together between managers,

supervisors, and employees is a critical objective. On the other hand, Indian companies prefer centralised decision making, emphasising bureaucratic and hierarchical relationships between different groups. There tends to be limited delegation and tight controls. Decisions are made by authority figures, often surrounded by strict secrecy (Jain, 1987). The common style of leadership is paternalism, invariably exhibited by superiors who are older, more experienced, and 'wiser', and is concerned with guidance, protection, nurturance, and care towards the subordinate. In return, the subordinate offers deference, loyalty, and respect to the superior.

Work ethics and motivation. The concepts of loyalty and identification with the company are stressed in Japanese systems, accompanied by devotion to one's work. However, in Indian culture, loyalty to one's family is the main priority. Employees are oriented more towards personalised relationships than productivity (Gupta, 2008). Motivational tools in Indian companies are less oriented to increases in productivity, cost reductions, or quality improvements; rather they emphasise social, interpersonal, and even spiritual relationships with one's colleagues.

In the early days, Toyota management was found wanting in its ability to understand and appreciate these differences. One respondent commented that when Toyota came to India it produced an excellent product but displayed poor people management skills. For the sake of brevity we will mention only three examples.

First, the joint venture partner (Kirloskar), although situated in Bangalore (Karnataka) has family roots in the neighbouring state of Maharashtra. Complaints soon surfaced in the new joint venture with Toyota that employees from Maharashtra were receiving favouritism in such areas as promotion to team leader over local people from Karnataka. Historically there have existed animosities between people from these two states (something Japanese managers and trainers may have been unaware of) which caused disputes within the plant, especially when Maharashtra employees were given team leader positions, despite being the same age or younger than their Karnataka colleagues. Although Toyota is renowned for screening all its employees (Saltzman, 1995), this is one critical area that appears to have been overlooked

when establishing the joint venture, perhaps because, given the homogeneous nature of Japanese culture, this factor that lay outside their management paradigm.

Second, in the words of one senior manager, the young employees soon found themselves with “money jingling in their pockets”, leading to a heightened set of unrealistic expectations and troublesome behaviour. Lack of discipline was seen in the form of absenteeism and poor punctuality. Because labour laws in Karnataka are extremely inflexible this means that such employees are classed as permanent from day one and cannot be dismissed without Government permission. Presumably Toyota management followed the same system as instituted in Thailand (young male workers), overlooking the fact that in Thailand the labour laws are different and all starting employees can be taken on as ‘casual contract’ workers subject to dismissal at any time. This leads to a different work ethic and more tenuous employment status in Thailand compared with India.

Third, the new plant had an annual capacity of 20,000 vehicles but due to the success of the Qualis (plus the commencement of production of Corolla and Camry cars in 2003) this production was stepped up to 35,000 and then 50,000 vehicles within a few years (Mikkilineni, 2006). The pressure on the young workforce increased in terms of all main parameters – quality, volume, cost, and safety. An extra shift was introduced, plus compulsory overtime of four hours per day per employee, and the speed of the assembly line increased. These extra demands revealed the deficiencies of the Indian approach to work in terms of their relative indiscipline towards industrial work, especially within the confines of the Toyota Production System. Tales surfaced of ‘over-enthusiastic’ Japanese managers and trainers abusing Indian employees, and showing disrespect for their country and culture. Employees demanded that the company recognise an external trade union, which was opposed by management. Some employees were dismissed for poor performance, disruptive behaviour, and assaulting a supervisor. These problems were ongoing. Between 1999-2006 the company experienced four strikes and two lockouts (Majumdar, 2006).

The discussion above leads us to state the following proposition:

Proposition 1: “the larger the contradiction in the initial configuration of an industrial transplant, the stronger the intensity of the subsequent dynamic re-adjustment of that configuration” Figure 1 shows our arguments in diagrammatic form.

Figure 1 here

Toyota’s strategy was to respond to these difficulties through a range of measures, aimed at changing the people practices of the company whilst making more stringent attempts to mould its Indian employees to the Japanese discipline of production.

First, (a *localisation* readjustment) - Toyota recognised an external trade union (Toyota Kirloskar Motor Employees Union) which affiliated itself with the Centre for Indian Trade Unions (CITU), a union grouping that is politically attached to the Communist Party of India.

Second, (an *imitation* readjustment) - The company replaced the Managing Director with a new recruit from Japan in 2007. Interviewees described this incumbent as ‘coming up through the ranks from the shop floor’ and hence somebody who was more attuned to, and empathetic with, the needs of production employees. This is a traditional Japanese practice. Soon afterwards a long-standing senior Indian manager, closely associated with the Indian joint venture partner and who had been instrumental in paving the way for Toyota’s entry into India, left the company after a disagreement with management, complaining that the company did not trust senior Indian managers. Was this incident connected with Japanese perceptions of how (poorly?) senior-level Indian managers had handled the labour problems besetting the company?

Third, (a *hybridisation* readjustment) - In 2007 the company established the Toyota Technical Training Institute adjacent to its main plant in Bangalore. This was touted as part of the company’s corporate social responsibility initiative. The institute trains young boys from rural schools only in readiness skills for industrial work over a three year period. The boys board on the premises and are allowed home only occasionally. Part of their training involves work experience in the Toyota plant. After graduation they can be employed in any work setting, not just Toyota, although employment is not guaranteed. A local newspaper described

the training institute in these terms “clockwork routine and regimental discipline; this is not a school in a military camp, but a training institute for the have-nots, run by Toyota” (Times of India, Bangalore, 13/4/2009). This institute obviously is designed to play a major role in ensuring the continuous flow of young recruits into Toyota who possess the necessary work ethic, discipline, and industrial skills. We regard this development as a hybridised readjustment because it combines the traditional Indian system of technical training institutes with the Toyota demand for disciplined workers by situating the premises of the institute within the confines of its own campus, and offering work experience within the ‘indoctrinating’ environment of its own plant.

Fourth, (a *customisation* readjustment) - As these events progressed, the global financial crisis hit the company resulting in a 30% drop in production. The speed of the line decreased from one car every 4.5 minutes to one car every 6.3 minutes, thus taking the pressure off over-taxed workers. The company also phased out the successful Qualis vehicle (on the grounds that it did not want to encourage an image of producing for the commercial taxi sector) and replaced it with the Innova, also a people-carrier but with a more saloon car appearance. Initial sales of the Innova were hoped to equal those of the Qualis. In actuality they barely reached 50% of Qualis sales, exacerbating the slowdown.

Dynamic readjustment of the transplant – phase 2

As a result of these adaptations over a ten-year period Toyota announced that in 2010 it would open its second plant in India (next door to the existing plant) to produce up to 100,000 compact cars. The company had learned enough about the Indian context and the management of its Indian workforce to enter the competitive small car segment, utilising a state-of-the-art plant in terms of automation that could handle the full TPS. For a company that made its first ever loss in 2008-2009, this is a major investment, and one of the company’s few expansion projects globally.

Conclusion

In this paper we have argued that the design of an industrial transplant is never static. It is destined to move through a succession of iterations as it reacts to both contradictions in

the initial configuration and to on-going changes in its environmental context. This suggests that transplantation theory would be better served by adopting a dynamic and processual approach over extended longitudinal periods of time. In our case study we have seen that each of four mechanisms – localisation, imitation, hybridisation, and customisation - appear to have been employed to react to the contradictions of the initial configuration. We have also argued that in phase 2 of the readjustment process, the Toyota joint venture in India appears to have employed these four mechanisms as learning processes in an overall trajectory that seems to be headed towards a new configuration of the planned 2010 plant. Our argument is summarised in Figure 2.

Figure 2 here

With regard to our substantive case study are we able to advance any propositions about when and where a particular strategy might work? In other words, what works in what situation? With regard to our limited findings in this one case study of one specific company in one particular developing country, we advance the following propositions:

Proposition 2a: localisation strategies are more relevant when a transplant has to urgently restore its bona fides in a host country after severe initial contradictions (for example, following prolonged strike actions)

Proposition 2b: imitation strategies are more relevant when local managers can be shown to have acted ineffectively to the detriment of local and international stakeholders (for example, failing to address pressing concerns of local workers)

Proposition 2c: Hybridisation strategies are more relevant when local advantages (such as corporate social responsibility) can be shown to effectively co-exist and prosper when combined with foreign values (such as work discipline).

Proposition 2d: customisation strategies are more relevant when unforeseen external developments have to be addressed as a matter of urgency (for example, the GFC).

However, we caution that these findings should be regarded in contingency terms rather than universalist terms. Nor, from a historical or longitudinal viewpoint, should this be regarded as an inevitable and static equilibrium end-point in the trajectory journey. No doubt

further readjustments will continue to occur. More data collection and analysis will be needed to add further nuances to this process of dynamic readjustment. The important research objective from our point of view will be to add more clarity to the relative nature of the different factors that influence the adoption of imitation, localisation, hybridisation, and customisation readjustments within any given context. Not only should the model possess dynamic and processual qualities, but should also highlight the critical importance of contingency-based and contextual factors in the movement of the readjustment trajectory. Successful progress towards this achievement could add to the claim for making a significant advancement in transplantation literature.

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Table 1
Initial configuration of the Toyota transplant

Causal Condition	Consequence
(a) Government regulations did not permit 100% foreign ownership (b) Little knowledge of an unknown country	Joint venture with majority Toyota control
Strong existing competition in mass market small car sector	Niche product in a low volume, low automation plant
Learning from previous experience	Young, technically-trained workforce, on a union-free, green-field site

Figure 1
Contradictions in Initial Configuration Leading to Dynamic Re-adjustment

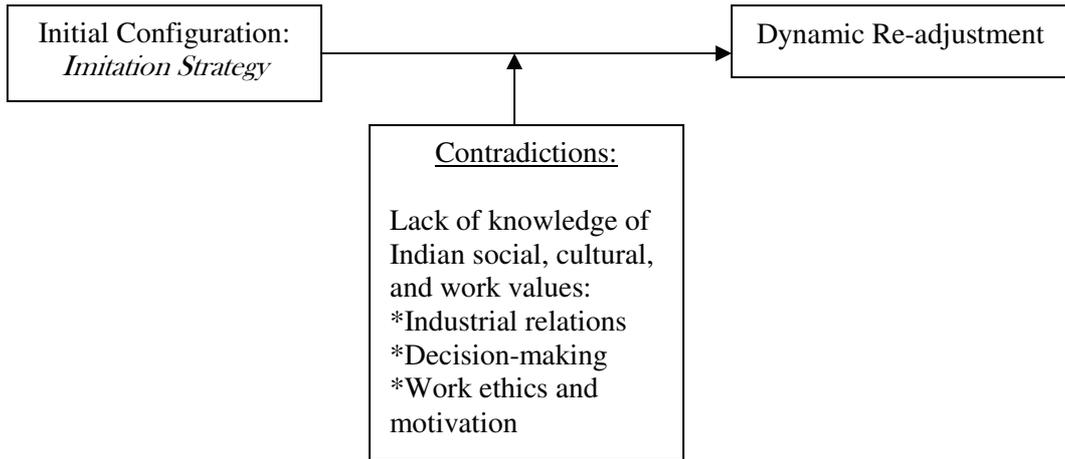


Figure 2
Dynamic Re-adjustment in the Transplantation Trajectory

