International transference of lean production systems: managerial lessons from Toyota transplants in the USA, Australia, and India

A thesis submitted in fulfilment of the requirements for the award of the degree

DOCTOR OF PHILOSOPHY

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by

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Abstract

The purpose of this thesis is to analyse how Toyota went about the process of transplanting its lean production system into three heavily unionized environments in the USA, Australia, and India, namely NUMMI (New United Motor Manufacturing Inc), TMCA (Toyota Motor Corporation of Australia), and TKM (Toyota Kirloskar Motors). Two research questions are embedded within this broad purpose, namely, what resistance did Toyota meet when attempting to transplant its production system into each of these three countries, and what strategies did it employ to manage this resistance? Toyota generally tries to avoid extremely pluralistic-unionised environments when choosing transplantation sites across the world. Its organisational culture is strongly aligned with a unitarist approach in which its operations are conducted within a family-like atmosphere. Therefore, how Toyota conducts its operations in circumstances dissimilar to this is of considerable interest. In this respect, the research conducted in this thesis provides an additional and unique aspect to the literature.

The thesis takes a qualitative, emergent approach to addressing this research purpose and research questions, employing the methodology of conceptual ordering within a framework of a comparative case study analysis.

The thesis identifies three distinct models of the transplantation process pursued by each of the Toyota transplants: hybrid (NUMMI), slow and piecemeal (TMCA), and authoritarian (TKM). Within the context of these three processes the thesis identifies five comparison features which characterise the transplantation pathways of the Toyota transplants – industrial peace, the extent and pace of TPS introduction, teamworking, cultural consonance, and organisational learning. By identifying these five comparison features the thesis then analyses why each of the transplants has attained different levels of success in achieving each of these features (for instance, industrial peace) within the context of their respective transplantation processes. The thesis has implications for understanding the forms of resistance, and the strategies to be adopted in managing such resistance, when organisations employing lean manufacturing techniques (such as Toyota) attempt to transplant these techniques across national borders into heavily pluralistic and unionised environments.
Acknowledgements

I wish to sincerely thank the following people who made it possible for me to complete my doctoral study.

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Dr Samir Shrivastava, for introducing me to academia, refining my perspective, immensely reducing my learning curve, constant intellectual and moral support, and for ‘being there’.

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Hayley, Natasha, and Peter, my family, for their many silent sacrifices and support all through

The Coopers, for their unfailing back-up when most needed

Above all I owe this thesis to my parents who provided me with the platform that everything else rests on and for the value they attached to education.
Declaration

I, Reynold Peter James, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy from the Faculty of Business and Enterprise, Swinburne University of technology, Melbourne, Australia:

1. Contains no material which has been accepted for the award to myself of any other degree or diploma, except where due reference is made in the text of this thesis;
2. To the best of my knowledge contains no material previously published or written by any other person except where due reference is made in the text of this thesis.

Ethics Approval

This thesis has been approved by the Swinburne University Human Research Ethics Committee in terms of SUHREC Project 2009/238

I certify that all conditions pertaining to this ethics clearance have been properly met and that annual reports and a final report have been submitted

Signed

Reynold Peter James
Dedicated to my parents
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Cultural consonance

Organisational learning

Implications of the thesis

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Chapter 1

Purpose, Significance, and Context of the Thesis

This chapter serves as an introduction to the thesis by examining the purpose, scope, significance, and context of the study. An analysis is undertaken of the Toyota Motor Corporation (TMC) and its associated production and management systems. The concept of lean manufacturing is also examined both from the viewpoint of its supporters and its critics. Various arguments are analysed on both sides of the debate as to whether these Toyota systems and lean manufacturing are capable of transplantation across national and cultural boundaries. Finally, a brief discussion ends the chapter looking at the background to the automobile industry in the three countries that form the topic of this thesis – USA, Australia, and India.

Purpose and scope of the thesis

The purpose of this thesis is to analyze how Toyota went about the process of transplanting its production system into three heavily unionized environments in the USA, Australia, and India, namely NUMMI (New United Motor Manufacturing Inc), TMCA (Toyota Motor Corporation of Australia), and TKM (Toyota Kirloskar Motors). Two research questions are embedded within this broad purpose, namely, what resistance did Toyota meet when attempting to transplant its production system into each of these three countries, and what strategies did it employ to manage this resistance?

As will be examined in chapter 2, this thesis takes a qualitative, emergent approach to addressing this research purpose and research questions. This means that over and above the broad purpose and questions as initially framed, the study is entered into without any pre-conceptions about hypotheses, themes, or concepts. These will be allowed to emerge from the data as it is collected, coded, and analyzed. These concepts are introduced into the thesis at a later point as relevant at the point of their emergence. They will not be specifically identified at this moment except to flag here that the thesis identifies three significant conceptual categories and five comparison features of the three Toyota plants, as
well as five integrative questions in regard to the different organizational journeys.

Toyota Motor Corporation (TMC) is a popular topic in the literature [Kamata (1983); Liker (2004); Mehri (2005); Liker and Meier (2007); Magee (2007); Liker and Hoseus (2008); Osono, Shimizu, and Takeuchi (2008); Sato (2008); Rother (2010); Gronning (1997); Liu and Brookfield (2006); Taylor (2006); Teresko (2006); Towill (2006); Kageyama (2004); Verma (2007); Kochnev (2007)]. Toyota came into existence in Japan prior to World War 2 and has since grown into a multinational motor vehicle manufacturer with unprecedented success since its formation. Outside Japan the company has a total of 51 overseas manufacturing companies in 26 countries (TMC, 2010). In 2009 it overtook General Motors to become the world’s largest motor vehicle producer, despite this also being the year when TMC made its first financial loss since 1950. Although recently being displaced as the world’s number one automobile producer by Volkswagen (VW) after the latter’s takeover of Porsche, it is widely believed to possess larger global production capacities than VW, which it is likely to exploit after recovery from the technical and quality defects-related slowdown it has suffered during 2009-2010 (James et al., 2011). In 2006 its production crossed the 8 million vehicles mark, during which its global workforce accounted for 350,000 people.

**Significance of the thesis**

The purpose of the thesis and the two associated research questions are significant because Toyota generally tries to avoid extremely pluralistic and unionized environments when choosing transplantation sites across the world. Toyota’s organizational culture is strongly aligned with a unitarist approach which regards all its varied operations as occurring with a family-like atmosphere. A gap exists in the literature of studies which compare and contrast the processes adopted by Toyota when confronted by the issue of transplanting its system into pluralistic-unionized contexts. This current thesis, by utilizing a comparative case study analysis, has the objective of casting additional light on the processes by means of which Toyota undertakes transplantation exercises across these contexts. Each of
these three different sites epitomise the same common factor, namely the presence of a strong trade union. However, in other aspects they differ from one another. For example, the USA and Australia are developed Westernized countries whilst India is a developing nation. Also the chronological time span of operations differs between the three countries: Toyota commenced production in Australia in the early 1960s, the USA in 1984, and India in 1999. In other words, the relative experience of Toyota in establishing and operating overseas transplants varied greatly between the three countries. Additionally, the degree of industrial disputation and industrial relations problems has varied between the three sites. For example, Toyota has traditionally enjoyed harmonious labour relations at its NUMMI site, whilst severe conflict has been experienced at its sites in Australia and India.

**Toyota Production System and the Toyota Way**

Liker and Hoseus (2010) opine that various programs like lean manufacturing, lean enterprise, and six-sigma owe their origin to Toyota-specific methods, now borrowed by organisations across the world. This especially holds good for all other leading motor vehicle producers across the globe. Three publications together comprise the essence of the formally approved technical, human, and philosophical bases for Toyota’s methods: *Workplace Management* (Ohno, 1982); *Toyota Production System* (Ohno, 1988), and *Toyota Way* (TMC, 2001). Ohno (1982) represents a sequence of 38 spoken narratives about Ohno’s ideas on management and the underlying experiences that sparked those ideas. Ohno (1988) represents the complete exposition of the Toyota Production System (TPS). Developed by the Vice-President of Toyota, Taiichi Ohno, during the 1950s TPS was founded on concepts designed to maximize flow, eliminate waste of all kinds, and ensure respect for people. According to Spear and Bowen (1999) some analysts regard TPS as the secret weapon of Toyota’s competitiveness. Efficient use of resources to produce materials with a repetitive, reliable system constitutes the basis of the concept. It was under Ohno’s guidance and the effort of many others, particularly the company’s founder Eiji Toyoda, that this production system has become deeply rooted within TMC during the past half century. The goal of TPS is achieved through the use of a range of scientific tools.
and techniques. Various versions of the TPS training programme have been
developed during different stages but the following have remained as the essential
elements of TPS – customer-first ideology, just-in-time production, jidoka,
standardised work, and kaizen (Moden, 1998; Womack and Jones, 1996; Zaman,
1993; Womack et al., 1990; Shigeho and Dillon, 1989; Graham, 1988; Moden,
1983). On the other hand, the Toyota Way (TMC, 2001) is represented by two
pillars, namely continuous improvement and respect for people. Whilst the first
pillar rests on three foundations (challenge, kaizen, and Genchi Genbutsu), the
second rests on two foundations (respect and teamwork). These are depicted in
Box 1.1.

**Box 1.1**

**Two pillars of the Toyota Way**

<table>
<thead>
<tr>
<th>Continuous improvement:</th>
<th>We are never satisfied with where we are and always improve our business by putting forth our best ideas and efforts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Challenge:</strong></td>
<td>We form a long-term vision, meeting challenges with courage and creativity to realize our dreams</td>
</tr>
<tr>
<td><strong>Kaizen:</strong></td>
<td>We improve our business operations continuously, always striving for innovation and evolution</td>
</tr>
<tr>
<td><strong>Genchi Genbutsu:</strong></td>
<td>We go to the source to find the facts to make correct decisions, build consensus, and achieve goals at our best speed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respect for people:</th>
<th>We respect all people touched by Toyota including employees, customers, investors, suppliers, dealers, the communities in which Toyota has operations, and society at large.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respect:</strong></td>
<td>We respect others, make every effort to understand each other, take responsibility, and do our best to build mutual trust</td>
</tr>
<tr>
<td><strong>Teamwork:</strong></td>
<td>We stimulate personal and professional growth, share the opportunities of development, and maximize individual and team performance.</td>
</tr>
</tbody>
</table>

Source: derived from The Toyota Way (2001)

Liker (2004) has taken a more comprehensive approach to articulating and
analyzing the various aspects of the Toyota Way. He has demarcated the approach
into fourteen principles, categorized under four main headings. Box 1.2 depicts
these principles.
Box 1.2

Principles of the Toyota Way

<table>
<thead>
<tr>
<th>Long-Term Philosophy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Base management decisions on a long-term philosophy, even at the expense of short-term financial goals</td>
</tr>
<tr>
<td>The Right Process Will Produce the Right Results</td>
</tr>
<tr>
<td>2. Create continuous process flow to bring problems to the surface</td>
</tr>
<tr>
<td>3. Use ‘pull’ systems to avoid overproduction</td>
</tr>
<tr>
<td>4. Level out the workload</td>
</tr>
<tr>
<td>5. Build a culture of stopping to fix problems, to get quality right the first time</td>
</tr>
<tr>
<td>6. Standardized tasks are the foundation for continuous improvement and employee empowerment</td>
</tr>
<tr>
<td>7. Use visual controls so no problems are hidden</td>
</tr>
<tr>
<td>8. Use only reliable, thoroughly tested technology that serves your people and processes</td>
</tr>
<tr>
<td>Add Value to the Organization by Developing Your People and Partners</td>
</tr>
<tr>
<td>9. Grow leaders who thoroughly understand the work, live the philosophy, and teach it to others</td>
</tr>
<tr>
<td>10. Develop exceptional people and teams who follow your company’s philosophy</td>
</tr>
<tr>
<td>11. Respect your extended network of partners and suppliers by challenging them and helping them improve</td>
</tr>
<tr>
<td>Continually Solving Root Problems Drives Organizational Learning</td>
</tr>
<tr>
<td>12. Go and see for yourself to thoroughly understand the situation</td>
</tr>
<tr>
<td>13. Make decisions slowly by consensus, thoroughly considering all options; implement decisions rapidly</td>
</tr>
<tr>
<td>14. Become a learning organization through relentless reflection and continuous improvement</td>
</tr>
</tbody>
</table>

Source: derived from Liker (2004: 37-41)

TMC describes the Toyota Way as ‘an ideal, a standard, and a guiding beacon for the people of the global Toyota organization. It expresses the beliefs and values shared by all of us’. According to this document, the concepts that constitute Toyota’s core set of values, beliefs, and behaviours ‘transcend language and nationality, finding application in every land and society’ (TMC, 2001: 3). Regarded from this viewpoint the Toyota Way would appear to represent a culture-neutral, prescriptive, one-best-way approach to doing business in manufacturing environments which can be reliably exported and transplanted into different cultures and countries around the world. The literature is rich with case studies and analyses of overseas Toyota transplants and the transfer of TPS into other countries and cultures. Examples include: USA (Wilms, Hardcastle, and Zell, 1994; Besser, 1996; Shook, 1998; Hiromichi Shibata, 2001; Vasilash, 1998;
Mishina, 1998); UK (Winfield, 1994; Pardi, 2005); China (Liu and Brookfield, 2006); Thailand (Petison and Johri, 2006); Turkey and Czech Republic (Kumon, 2007); India (Das and George, 2006).

**Lean production**

TPS is now widely regarded as the essence of a system of manufacturing known as lean production. The lean production model, besides successfully posing a challenge to the automotive industry’s widely-established mass production practices (Howleg, 2007), has facilitated a significant shift in the trade-off between productivity and quality and also a rethinking of a wide range of manufacturing and service operations beyond the high-volume repetitive manufacturing environment. The term ‘lean production’ first figured in the book *The Machine that Changed the World* (Womack et al., 1990). Although this book was instrumental in popularising the concept outside Japan, the manufacturing concept of just-in-time (JIT) had been known over a decade earlier and the technical aspects of lean production widely discussed. Womack et al. (1990: 13) state:

> ‘Lean production is lean because it uses less of everything compared with mass production – half the human effort in the factory, half the manufacturing space, half the investment in tools, half the engineering hours, to develop a new product in half the time. Also, it requires keeping far less than half the needed inventory on site, results in many fewer defects, and produces a greater and ever-growing variety of products’.

Liker and Hoseus (2010) maintain that what differentiates the lean model from mass production is its single-minded focus on eliminating waste in all aspects of the enterprise. Anything that does not produce value can be classified as waste. An enterprise exists to add value to customers through a series of activities that transform inputs into outputs and anything other than the minimum needed to perform that value-added function is waste. Ohno (1988) attributes waste to seven different sources: over-production, inventory, waiting, processing, motion, conveyancing, and correcting. Womack et al. (1990) maintain that lean production is fragile relative to the old mass production system that allowed for buffers everywhere by way of extra space, inventory, workers, and so on. This ensured that system disruption was minimal during exigencies such as parts not
arriving on time, workers calling in sick, or failure to detect problems. The system still ran. On the other hand the requirements of lean production do not factor in such slack, and demand that workers operating the system be fully indoctrinated into the core philosophy of lean – eliminating waste. Accordingly, the mass production system operates on the philosophy of just-in-case, whereas the lean system adopts a just-in-time ideology. Gough and Fastenau (2003) maintain that in a lean system the focus is on the human side of lean production (teams, kaizen, for example) and on the commitment of particular Japanese automobile manufacturing companies to pursue such practices, as well as the response of employees to management efforts to implement the same. Such systems purportedly deliver to employees opportunities for meaningful work and psychosocial benefits such as enhanced consultation and communication, multi-skilling, team-based work, and participation in the identification and implementation of quality improvements for which they are rewarded. All these aspects are lacking in the mass production model which emphasises individual work within a system where managers think and workers work.

Preece and Jones (2010) provide a summary of the characteristic tools and techniques that constitute a lean system. However, they caution that a successful transition towards a lean system involves a substantial change of direction with regard to HR requirements when compared with more traditional work systems. They base their findings on a comprehensive review of the relevant literature, including the contributions of Forrester (1995), Oliver, Delbridge, and Lowe (1996), Karlsson and Ahlstrom (1996), Worley and Doolen (2006), MacDuffie and Pii (1997), Delbridge (2003), and Genaidy and Karwowski (2003). Their findings are depicted in Box 1.3.
Box 1.3
Tools, techniques, and HR requirements in a lean system

<table>
<thead>
<tr>
<th>Tools and techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>5S (sort, straighten, shine, standardize, and sustain); customer pull production system; kaizen – continuous improvement; just-in-time production; kanban; minimal inventories; quick changeovers; value stream mapping; small lot production; quick set-up times; standardised work; takt time; production leveling; total preventative maintenance; visual control systems; zero defects; right-first-time; andon cord; general purpose machines; greater product variety; and more niche and customized products.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HR requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

Source: derived from Preece and Jones (2010)

There are two interpretations in the literature that the lean concept lends itself. These competing interpretations are now examined, although it is not the intention in this thesis to present a view on this controversy. Either lean production is viewed as an efficient, humanistic machine - a viewpoint popular amongst managerialists, engineers, consultants, and popular writers in an ‘apologist’ vein (Liker and Hoseus, 2008); or is viewed as a very sophisticated prison - a viewpoint popular among critical theorists (Parker and Slaughter, 1988, 1994). The literature is equally vociferous in its eulogising of lean production as possibly the only way forward in a world of repetitive mass production of goods (Adler and Cole, 1993) as it is in condemning it as an inhuman device that sacrifices human considerations for commercial gain (Stewart et al., 2009). The alternative offered to the lean model is the human-centred model (Berggren, 1994). Most comparisons between lean and human-centred models are based on analyses of the Toyota NUMMI plant in Fremont California and the Volvo Uddevalla plant in Sweden, as these plants arguably best exemplify the first and second models respectively. Resultantly therefore and often times, criticism of any aspect of
either model, is justified in light of the superiority of the other. A few of the main arguments supporting and vilifying lean as well as the human centred model, are provided below.

**Pro lean:** Proponents of lean manufacturing varyingly describe the model as efficient and humanistic, and lean rational organizations as ethical, with distributive justice flowing out of them (Liker and Hoseus, 2008; Hummels and Leede, 2000). TPS is often described as ‘democratic Taylorism’ (Adler and Cole, 1993) due to institutionalization of the practice of seeking worker input in determining preferred work methods and standards. Adler and Cole (1993) hold the view that in the course of implementing a lean model there is invariably a trade off between flexibility and efficiency. In this connection, they challenge the widely held assumption that world-class performance can only result from high intrinsic work satisfaction, which according to them is not practical in a world where cheap automation is unavailable as an alternative to cheap labour utilised in the production of standardised and mass production goods. Box 1.4 explains Adler and Cole’s (1993) argument.

**Box 1.4**

**Lean production and the constraints of the market environment**

‘It would be wonderful if we lived in a world where every job could be an opportunity for Maslovian self-actualisation. But when products are fairly standard and mass produced and when automation is still not cheap enough to eliminate labour intensive means of production, then efficiency needs narrowly specialised job assignments and formalized standard methods—a form of work organization that precludes the very high intrinsic work satisfaction, that would, for example, stimulate workers to come in without pay on a day off to tackle a production problem Is this equation merely the result of corporate greed as some critics contend? We think not: any community that needs such standardized goods will object to paying the exorbitant costs associated with an inefficient and poor-quality production organization.’

Source: Adler and Cole (1993: 168)

Academics and practitioners alike have eulogized the efficacies of lean and have described it as the only viable alternative to optimize productivity in the realm of mass produced, labour intensive, standardized goods (Adler and Cole, 1993; Womack et al., 1990; Wilms, 1994; Liker, 1998; Womack and Jones, 1996;
Lean production is regarded as being a superior system on a range of different indicators – quality, cost, productivity, delivery, industrial relations, and safety. In particular, Toyota as a company is regarded by a wide range of authors as having set the standards for other companies to follow. In some circles it enjoys almost cult-like status (Likier, 2004; Liker and Meier, 2007; Liker and Hoseus, 2008; Liker and Ogden, 2011; Rother, 2010; Sato, 2008; Magee, 2007; Osono et al., 2008).

Anti Lean: A popular connotation of lean amongst the anti-lean lobby describes the model as a very sophisticated prison (Parker and Slaughter, 1988, 1994). Equating ‘lean’ with ‘mean’ these constituents allude to it as a de-humanizing, stressful, and exploitative system that sacrifices human dignity and safety at the altar of productivity and commercial gains in an endless search for more from less (Parker and Slaughter, 1988; Babson, 1995; Elger and Smith, 1994). Several authors have given graphic insider accounts of the ethnographic realities of working in lean automobile plants: Toyota (Kamata, 1982; Mehri, 2005), Mazda (Fucini and Fucini, 1990), Subaru-Isuzu (Graham, 1995), GM-Suzuki CAMI (Rinehart et al., 1997), and Vauxhall-GM and Rover-BMW (Stewart et al., 2009).

In contrast, Berggren (1994) argues that the human-centred model places human needs at its core above productivity and commercial gains. He highlights the downside of lean whilst comparatively analysing the lean and human-centred models at the NUMMI and Uddevalla plants. He argues that lean manufacturing methods are most effective within environments with which they attain a good fit. The environments amenable to the features of lean production would typically be those of high unemployment, abundance of labour, large income inequalities, an absence of social protection, low labour standards, and high product demand for goods. As an example, NUMMI displayed several of these characteristics and as such NUMMI’s performance would not be replicable in Sweden. Adding credibility to such thinking are the arguments of several researchers (Ogasawara and Ueda, 1997; Hooper and Nathan, 1995; Gronning, 1995) who claim that the Japanese automobile manufacturers are increasingly being required within Japan itself to rehash operational aspects including their production processes and
people-related systems in order to better respond to a changing set of environmental demands.

Berggren (1994) argues further that from a shop-floor perspective the Toyota model of regimentation and standardisation, as opposed to the holistic, human-centred model, is focused on the fragmentation of work and does not allow for integrated design, manufacture and marketing, thus leading to destruction of innovativeness and flexibility. Democratic Taylorism is a façade and a management tool with worker input being mere symbolic tokens and actual methods pre-determined by specialists. In like vein, the true source of kaizen is not from workers but from those much higher up. Authors such as Kamata (1983) and Parker and Slaughter (1988, 1994) justify the term lean manufacturing being synonymous with mean manufacturing. They maintain that respect for workers through systems designed by management are in fact means to achieve productivity-related ends via management by stress. Technology is often used by management for surveillance of workers, adding to worker anxiety. For example, floor mat sensors can stop the line if a worker moves away from their assigned position, and photoelectric cells can also stop the line when tasks are not completed to specification. Management-created lean systems often result in ergonomic and repetitive stress injuries as well as widespread job insecurity amongst workers. Highly publicized success stories of quality-driven companies are often short-lived affairs, occurring within scenarios with weakened company-level unions and de-humanized conditions. TPS is nothing other than a total production system relying heavily on integration of teams with several interdependent elements, systematic speed up of the assembly line, extensive outsourcing, and elimination of indirect labour. Table 1.1 summarises some of the main myths and realities about lean production as seen from the point of view of the anti-lean critical school of thought.
Table 1.1
Myths and realities of lean production

<table>
<thead>
<tr>
<th>Myths</th>
<th>Realities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Work re-organization into teams results in greater worker control over jobs than traditional work organization</td>
<td>Teams result in greater peer control of individual workers, switching control of workers from management to fellow employees</td>
</tr>
<tr>
<td>2. Lean systems repudiate Taylorism</td>
<td>Lean systems facilitate and intensify Taylorism</td>
</tr>
<tr>
<td>3. High worker involvement leads to high motivation</td>
<td>Worker involvement occurs only at a cosmetic level of fine tuning systems that are designed, planned, and implemented by management.</td>
</tr>
<tr>
<td>4. JIT is a productivity and efficiency enhancing technique.</td>
<td>JIT creates both personal stress and system stress to attain productivity gains by subordinating human welfare to company objectives.</td>
</tr>
<tr>
<td>5. Andon facilitates worker control over their jobs</td>
<td>Andon is an instrument of management control to manipulate workers by shifting management responsibilities for quality from management to workers</td>
</tr>
<tr>
<td>6. Technology facilitates worker effort</td>
<td>Technology is a management control tool to manipulate workers through surveillance</td>
</tr>
<tr>
<td>7. Respect for people places individual dignity as central to the concept</td>
<td>Lean managers refer to ‘respect for the human system’ wherein human fulfilment is defined as workers striving to achieving management goals</td>
</tr>
<tr>
<td>8. Jidoka refers to building quality into the system so that defective items do not proceed to the next stage</td>
<td>Jidoka lends itself to easy automation since workers perform highly standardized work that can be used as a prototype for automation</td>
</tr>
<tr>
<td>9. Multi-skilling reduces worker monotony, increases motivation, and facilitates job enrichment</td>
<td>Multi-skilling removes obstacles to moving around workers and merely replaces one monotonous job for several monotonous jobs</td>
</tr>
</tbody>
</table>

Source: derived from Parker and Slaughter (1988a, 1994)

Transplanting TPS and lean production

With an unshakeable faith in its lean production approach Toyota believes that its approach represents a universal, acultural, one-best-way system for manufacturing environments which can be reliably exported and transplanted into different countries and cultures around the world. In contrast, other analysts would argue that the tools, techniques and philosophical aspects described thus far are better understood when analysed in light of the environmental context surrounding the evolution of these concepts. Jones et al. (2008) argue that Japan’s lack of natural resources, environmental constraints, and socio-cultural factors provided an
environment naturally conducive to the development of lean systems. The primary motivation towards striving for waste minimization in all forms was their organic response to achieving a fit with the environment. The values, beliefs, and behaviours of the Japanese workforce, and their common industry-wide collective dedication towards striving for excellence from senior executives down to shop floor workers, is mainly attributable to the factors described. The centrality of the role of Japanese cultural institutions to the growth and deployment of lean systems is well documented in the literature (Womack and Jones, 1996; Liu and Jones, 2005; Sugimore et al., 1977; Jones et al., 2009). These authors emphasize the role of the social context within which lean systems operate and argue that the efficacy of the latter is dependent on the former. Recht and Windorom (1998) contribute to this line of thinking by arguing that a broad linkage exists between the success of kaizen-related Japanese initiatives within the nation’s larger corporations and the ‘three treasures’ of Japanese management - lifetime employment, company welfarism, and seniority-based wages. The Japanese socio-cultural environment that supports efficacious deployment of lean work practices comprises factors including: the existence of a homogeneous culture; a single language and religious background (which facilitates close familiarity between Japanese people); family unity that extends itself into the larger community and workplace; and a command-and-control culture involving obedience by subordinates of superiors’ orders and directions.

Further, the existence of such an ideal environment has a rub-off effect on other critical institutions such as trade unions, their role and nature. This is because unitarist considerations are very important in lean organizations that see themselves as families characterized by high levels of trust, commitment, involvement, and concern for the company’s success as a consequence of pulling together in the same direction. Flowing from this argument is that working groups with a different agenda, including external trade unions, can be regarded as being inconsistent with the environment of lean. Resultantly, unionism is approached as a problem to be solved, as a non-value-adding wasteful activity to be eliminated, using traditional techniques such as 5 whys and root cause analysis). Elements including trust and commitment are compromised within unitarist lean cultures
when faced with entrenched and strong unions. Often the likely outcome is that trust and commitment are replaced by suspicion and resistance. As such, if and when unions are present, they usually take the form of company-aligned ‘sweetheart’ unions.

Toyota’s ethnocentric approach to doing business worldwide has prompted the company to insist that its subsidiaries in various parts of the world adopt the Toyota Way and Toyota Production System in their entirety with few if any deviations from the norm. Consistent with this belief, TMC has increased its production volume and sales over recent decades by establishing affiliate companies located across the industrialised and industrializing nations. Major affiliates are located in USA, Canada, Europe, Australia, Asia-Pacific, and China. A major new production facility has recently been rolled out in India. These production facilities have largely been responsible for securing Toyota’s ranking (until the recent VW takeover of Porsche) as the number one motor vehicle producer, with the expanded Indian facility likely to cement this scenario.

However, the above facts notwithstanding, very few, if any, of these overseas transplants have been successful in implementing the pure form of TPS despite the best efforts of large numbers of Japanese trainers and executives located within the facilities. Invariably some form of hybrid system has been implemented which sometimes amounts to a considerable compromising of the TPS system. Recently, the parent Japanese company has taken steps to reduce the prevalence of these compromised systems within its overseas affiliates and to commence the process of creating a stronger pure and standardised version of TPS across all its international affiliates. This is planned to be achieved through the implementation of the Floor Management Development System (FMDS). This system is aimed predominantly at group leaders within Toyota to ensure a standardised interpretation of continuous improvement systems through more emphasis on visualisation methodology and implementation as close as possible to the source of the action on the assembly floor.

The defect crisis that overcame TMC during 2009-2010 seriously impacted the reputation of the company. Between August 2009 and March 2010 Toyota recalled more than ten million vehicles for defects associated with acceleration
and other causes (Liker and Ogden, 2011). Toyota was accused of growing too rapidly in its ambitious pursuit of market leadership, leading to neglect of its fundamental principles, especially the customer-first principle. Box 1.5 elaborates on this issue.

Box 1.5

Losing track of the customer-first principle

‘[Toyota executives] found that they had lost the intense focus on understanding customer concerns that had defined the company for most of its history. When customer concerns were identified, it took too long to respond, as the company had grown into a large global company with too much bureaucracy. The bureaucracy and some decision making isolated in Japan had also fuelled the recall crisis and slowed Toyota’s responsiveness to legitimate complaints by customers and the US government…The wake-up call for Toyota was that each region, and even each country, is different, and that the local social and political context has to be considered in every decision. Having all the most important decisions made in Japan by Japanese engineers and executives who were isolated from the *gemba* (where the issues were really happening) was discovered to be a critical weakness for this global company and there was a great deal to be done to listen to customers in every country and to give team members who were locally at the *gemba* more authority.

Source: Liker and Ogden (2011: xviii, xxi).

In other words, the company had erred on the side of global centralization and needed to shift the balance more toward greater local control and authority. As the company grew its Japanese leaders ‘never relinquished the iron grip they exercised over the company’s worldwide operations…instead of globalizing, Toyota colonized’ (Quality Advisory Panel, 2011: 23). Toyota’s ability to maintain control from Japan was stretched to the limits. Giving evidence to the Quality Advisory Panel (2011), a former Toyota executive stated:

‘The company did not sufficiently change its mindset, structure, and governance processes as it grew from a national company serving overseas markets with Japan-built products into a company with large manufacturing operations all over the world. Instead of sufficiently training and fully empowering the non-Japanese managers of its growing overseas subsidiaries, the company continued to make most of the important decisions affecting major markets in Japan and then directed regional management to implement them. The divide-and-conquer structure separates decision making from execution, slowing the company down by hampering communication, planning, and cross-training among the company’s regional operations that could benefit Toyota’ (Quality Advisory Panel, 2011: 22).

In some ways TMC had already anticipated these problems by commencing the process of creating six regional hubs around the world, including in the USA and Europe. The recall crisis has somewhat increased the urgency of these
decentralization measures. However, significant problems exist. For example, the attempt to create an Asia-Pacific hub located in Bangkok, Thailand suffers from the problem of trying to unify an extremely diverse range of countries which includes countries such as Australia, Thailand, India, Pakistan, Indonesia, and Taiwan. Nevertheless, despite these decentralised structures and local empowerment measures, TMC still insists that the principles of the Toyota Way and TPS are sacrosanct. The only difference is that instead of being enforced from Japan they will now be enforced by regional authority. The company’s enunciation and belief in the universal applicability of TPS as representing the one-best-way remains undiminished.

However, this argument has been vigorously questioned by several researchers (Gough and Fastenau, 2003; Liu and Jones, 2005; Cooney and Sewell, 2000; Jones et al., 2008; Berggren, 1994). According to this genre of researchers lean production systems rather than being some form of universal best practice are in fact responses to a unique set of environmental conditions at a particular time in the industrial and societal history of Japan. Hence, efforts to replicate particular production and labour processes, such as lean production, without similar attendant environmental factors are unlikely to produce the significant competitive advantages enjoyed by the originators. They believe the extent of divergence between the demands of the ideal TPS Japanese socio-cultural environs and the realities of local workplace culture elsewhere induces stress on all constituents involved. Lending credibility to this aspect of the contextual embeddedness of lean production concepts is the argument of Yokozawa et al. (2010) who regard the successful transfer of kaizen as being a function of two national characteristics: first, ‘discipline’ (people who follow what they are asked to do by keeping to deadlines, quality control, and following standard operating procedures; second, ‘hungry mentality’ (eagerness to do the work which is above and beyond their responsibility). The extent of ‘belief and indoctrination’ in the system within Japan often fails to obtain in other contexts. Further, they suggest the existence of wide variations between the methods used and the extent of implementation of the lean model and question the popular perception of lean as being a monolithic, epoch-making production model. There is not one lean
production system but rather many variants of a lean production system (Cooney and Sewell, 2000). Thus, the characteristics which identify a lean production system are differently interpreted and realized by Japanese car manufacturers as well as by their overseas competitors. It can be argued that there is a clear consonance between how lean production is implemented and the context surrounding it, suggesting that there are several variations possible in the manner as well as the extent of implementation of lean production methods.

Based on this discussion one could suggest that, given the context-dependent nature of lean systems, any attempts to transplant the lean production institution from Japan into cross-border contexts are best done taking into account the broader environmental context describing the parent and host nations, rather than viewing lean as a technical object devoid of history or context. Of greater significance is the need to have a deeper understanding of the broader realm of institutional transplantation that concerns itself with the issues involved in the course of institutions that evolved within one national context being transplanted into a different institutional setting. Any analysis therefore of Toyota’s transplantation initiatives would be incomplete without some familiarity with the salient aspects relating to institutional transplantation.

**Background to the automobile industry in the USA, Australia, and India**

This section provides a brief background to the automobile industry in the three host countries of USA, Australia, and India. The purpose is to provide a contextual background in each country before, during, and after the arrival of Toyota paying attention to economic and social conditions, government policies and legislation, the competitive environment, and broad cultural aspects.

**Background to the US Automobile Industry**

The US automobile industry was for decades dominated by the so-called Big Three – Ford, General Motors, and Chrysler. Henry Ford started his own company in 1903 and introduced the Model T in 1908. From 1913 this model began to be produced using mass production, assembly-line techniques employing the
principles of Tayloristic scientific management (Taylor, 1911). Such techniques dramatically reduced the cost of the vehicle bringing it within the reach of a mass market. From then on Ford became synonymous with mass production. The Model T was replaced in 1927 by the Model A. However, Ford began to lose its overall dominance during this period to General Motors and Chrysler as consumers began to seek automobiles with more styling. General Motors was founded in 1908 and over the years has encompassed many brands and models within its stable including Buick, Oldsmobile, Pontiac, Cadillac, and Chevrolet. Chrysler was founded in 1925 and over the years has encompassed brands such as Dodge and Plymouth.

All three manufacturers granted recognition to the United Auto Workers between 1937 and 1941. Wages and working conditions increased dramatically and these companies soon became renowned for the extremely generous benefits offered to workers in areas such as pensions and health insurance. Despite these benefits, industrial relations in the automobile industry were always marked by conflict. The paradigm of mass production in the industry led some commentators to describe factories as ‘savage’ workplaces (Dewar, 2009) epitomised by meaningless drudgery and ‘nothingness’ (Hamper, 1986). Uncaring workers and management were perceived as colluding with one another to produce high priced, low quality vehicles whose excesses of over-the-top styling, large size, and high petrol consumption would soon see such vehicles driven off the market as soon as any meaningful competition arrived on the scene (Ingrassia, 2010; Taylor, 2010).

This competition started to arrive during the 1970s when Japanese automobile manufacturers achieved great success in world export markets. This success led to trade conflicts with the United States. In an attempt to diffuse these conflicts many Japanese automobile companies decided to build North American plants. The Japanese companies’ export success was often attributed to their highly efficient production system, later labelled ‘lean’ (Womack et al., 1990). Two questions were thus posed. First, could this Japanese lean production system be effective in the US transplants, or did its effectiveness depend upon a Japanese context? Second, to what extent would firms implement this system, or would they adapt it to the very different social context of the US (Adler et al., 1998)?
Toyota failed in its initial attempt to export compact cars to the US in 1958 due to poor quality and styling. At that time several US companies were also producing small cars but market demand was weak due to the prohibitive pricing of these models. The oil crises of 1973 and 1978-79 saw a spurt in the demand for compact and sub compact cars mainly due to sharp price increases in oil. Toyota, which by this time had redesigned their automobiles and improved on quality, were well suited, along with several other Japanese manufacturers, to satisfy the growing demand in the US for high quality, fuel efficient, and relatively lower priced vehicles. American automobile manufacturers who had traditionally concentrated on large vehicle manufacture were unable to produce small cars at the price and quality of those made in Japan. Japanese imported small cars therefore started to dominate the American small car market during the period of the oil crises. This resulted in job losses within the US automobile industry to the order of 33.6%, or 347,000 jobs (Wong, 1987, 1989). In 1981, the Reagan administration imposed a Voluntary Restraint Agreement (VRA), entailing imposition of restrictions on Japanese car imports into the USA to the order of 1.68 million units per annum, or 17.5% of the American market demand. In response, a raft of Japanese automobile manufacturers started to establish production operations in the US in the desire to increase their market share beyond the bounds of the VRA: 1982, Honda in Marysville Ohio; 1983, Nissan in Smyrna Tennessee; 1984, Toyota in Fremont California; 1985, Mazda in Flat Rock Michigan; and 1989, Subaru-Isuzu in Lafayette Indiana (Graham, 1995; Fucini and Fucini, 1990; Ghosn and Ries, 2005).

During the mid-1980s the VRA-related restriction limits detailed above were eased whilst still placing an absolute ceiling on the number of cars Japan could export. The Japanese factories in the USA soon exhibited their capability of producing cars of a higher quality and at a lower cost than their American counterparts. The earlier paradigm amongst American management had been that the Japanese success story depended on unfair competition from unreasonably hard working and exploited Japanese labour, as compared with the highly paid, better treated, and unionised workforce in America. However, the examples provided by Honda, Nissan, and Toyota in the US started to chip away at this
paradigm. It started to dawn upon American automobile manufacturers that at least part of the Japanese success was owing to management policies and production systems. Toyota started to enjoy immediate success in a joint venture with General Motors using American labour and recognising the existing trade union – the United Auto Workers. However, the reality was that most Japanese manufacturers in the US insisted on operating in a non-unionised environment, not only in the automobile industry but also in other industries as well, such as electronics (Duerr et al., 2004).

The progressive decline of the Big Three has been well documented in recent monographs (Ingrassia, 2010; Taylor, 2010). The American automobile industry has lost hundreds of thousands of jobs as restructuring has occurred. Keen competition now comes not only from Japanese manufacturers but also from Korea (Kia, Hyundai) as well as a revitalised Volkswagen. General Motors lost its position as the world’s largest automobile producer to Toyota in 2008 and was subsequently restructured with financial assistance from the US taxpayer. Owing to this event its joint venture with Toyota at NUMMI was terminated and the Fremont production facility was closed down in 2010.

**Background to the Australian Automobile Industry**

According to Cooney and Sewell (2000) it is a surprise to many that Australia has a viable automobile industry at all. They describe Australia’s automobile industry as being well established and internationalized, utilising the metaphor of ‘bonsai’ – small but well developed in detail. In 2011 there were three major manufacturers in Australia: Ford, General Motors-Holden, and Toyota. However, there exists a rich history of automobile production in the country. The history of the industry dates back to 1925 when the Ford Motor Company commenced assembling their Model T locally and later established a dedicated plant outside Melbourne in 1928 to build the Model A. General Motors followed with its local assembly-only operation in 1935 through acquisition of local car body builder Holden. Their manufacturing operations commenced in 1948 and allowed Australia to boast its own designed vehicle – the Holden. Ford’s second locally designed vehicle the Ford Falcon was produced in 1963. Toyota began selling
cars in Australia in 1959 and first started to assemble vehicles in 1963 in Melbourne.

Manufacturers that have previously operated in Australia, but have now ceased operating, include Austin, Nissan, Chrysler, and Mitsubishi. British Austin commenced production in 1949 and became the British Motor Corporation (Australia) in 1954 followed by the Leyland Motor Corporation (Australia) in 1969. Production ceased in 1975. A wide range of Austin and Morris vehicles were manufactured during this period. In addition, Nissan commenced production in 1973 but closed down in 1992. Chrysler commenced operations in 1951, took over Rootes in 1965, and ceased production in 1980 when it sold its manufacturing plant to Mitsubishi, which itself ceased production in 2008.

The period from the 1930s to the 1980s was characterized by state protectionism. Imports were restricted through institutional measures such as imposition of high import tariffs, quotas for import of complete vehicles, and local content regulations. The ‘infant industry protection’ doctrine underscored this phase. This stipulates provision of temporary protection to a domestic industry until such time it is sufficiently capable of competing internationally. Fujimoto (1998) has argued that protectionism in Australia failed to deliver the intended results and instead resulted in the industry becoming victim to a vicious cycle of dependency on protectionism. The most critical negative factor that resulted from protectionism was the retention of inefficient sectors, a typical trap of import substitution policies. One could also argue here that these inefficient sectors became a breeding ground for a complacent labour force with a work culture and ethic that hindered later modernisation efforts.

Import licensing was introduced in the early 1950s resulting in foreign companies setting up local assembly and manufacturing operations. Earlier, the majority of car bodies and chasses had been imported. The policy partially eased the trade imbalance of automotive products with European companies establishing subsidiaries in Australia to manufacture a wide range of parts for use in the local industry. Also introduced around the same time were plans to further increase local content and to increase import tariffs (Conlon and Perkins, 1994). According
to Riemen and Marceau (2001) Australian consumers from the 1960s started to develop a taste for smaller and more fuel-efficient Japanese-built cars. Their needs were satisfied through increased imports resulting in dwindling shares of domestic manufacturers, especially Chrysler and Leyland Australia. Leyland closed its Australian manufacturing operations in 1975. Tariffs were increased to 45 per cent whenever imports exceeded 20 per cent of total registrations (Capling and Galligan, 1992). Although tariffs were further increased to 57.5 per cent in 1978, protectionism through tariffs failed to maintain the market shares of the local manufacturers. In 1980 Mitsubishi bought out Chrysler and General Motors-Holden closed its Sydney plant. Resultantly, an export-facilitation scheme was put in place.

The early 1980s witnessed evidence of poor quality locally produced cars due to import restrictions. The earlier substantial level of exports fell to low levels. There was heavy reliance on overseas-based parent companies for technological change. Rather than resorting to ineffective old protectionist methods such as tariffs, major industry restructuring plans were announced under the so-called 1984 ‘Button plan’ named after the then Minister of Industry, John Button. This government plan sought to internationalize the Australian car industry by drastically changing the existing protectionist policy to one of relaxation of protectionism and increasing exports. It attempted to promote trade liberalization thereby rationalizing the product mixes and production systems of local producers besides improving quality, productivity, and lowering prices (Fujimoto 1998, Cooney and Sewell, 2000). Strategic responses of automakers in response to this policy initiative included such measures as consolidating models and factories, improving plant-level competitiveness, divestment moves, and inter-firm coalition building. For instance, within Toyota Australia the movement towards international competitiveness led to company-wide organisation-capacity building, facilitated both by its own evolutionary capability as well as through assistance provided by the mother plant at TMC Japan. The joint venture agreement between Toyota and General Motors at its Dandenong Melbourne plant was cancelled and the void addressed through increasing the level of exports from Australia to the Middle East. However, problems ensued. The export-led initiative failed to materialise smoothly as Middle Eastern markets sought to enforce a
requirement that Toyota’s products manufactured in Australia would match the quality of vehicles manufactured in Japan (Orihashi, 2009).

According to the Report on Review of QFleet in the Department of Public Works (2007) the Australian automotive industry can now be classified as a free market with few barriers to entry. In 2009, a total of 937,328 new motor vehicles were sold on the Australian market, up from 620,000 in 1995 (Key Automotive Statistics, 2009). Table 1.2 shows the market share of each automobile company in 2009.

<table>
<thead>
<tr>
<th>Company</th>
<th>% share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toyota</td>
<td>21</td>
</tr>
<tr>
<td>Holden</td>
<td>13</td>
</tr>
<tr>
<td>Ford</td>
<td>10</td>
</tr>
<tr>
<td>Mazda</td>
<td>8</td>
</tr>
<tr>
<td>Hyundai</td>
<td>7</td>
</tr>
<tr>
<td>Mitsubishi</td>
<td>6</td>
</tr>
<tr>
<td>Nissan</td>
<td>6</td>
</tr>
<tr>
<td>Honda</td>
<td>4</td>
</tr>
<tr>
<td>Subaru</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: Key Automotive Statistics (2009)

Some authoritative reports draw a less than optimistic conclusion about the future outlook for automobile manufacturing in the country. It is contended that:

- there exists a considerable gap between the existing and desired state of affairs within the automotive industry,
- overseas manufacturers wield greater influence than their local counterparts in the country,
- innovation is lacking and considerable scope for improvement exists within various aspects of the local automobile industry (Review of Australia’s Automotive Industry, 2008; Toyota Motor Corporation Australia, Submission to the Automotive Industry Review, 2008).

In the context of lean production in manufacturing in Australia, Cooney and Sewell (2000) describe the industry as one still trying to make sense of lean production as the model of manufacturing. Related to this are the findings in the
report Management Matters in Australia (2009) that (a) businesses with higher levels of education and skills in management and non-management positions exhibit superior management performance, and (b) that Australian levels of tertiary qualifications in manufacturing industry at both management and non-management levels are very low, as well as managers being poor at self-assessment and exhibiting a tendency to overestimate their own performance. Based on these findings it might be argued by some analysts that Australian manufacturing companies less capable of exploiting the potential of the lean model and lack the ability to effectively deploy lean philosophy and practices in their business.

**Background to the Indian Automobile Industry**

Goldman Sachs (2003) predicted that India had the potential to surpass Japan to become the third largest economy after the US and China by 2032. Reflecting the plausibility of this projection is the Indian automotive industry which just three decades ago had only two models of cars to choose from, both locally reproduced models of European cars that had disappeared after World War 2.

Today India is the second fastest growing automobile market in the world after China. Over two million passenger vehicles were produced from April 2009 to February 2010, representing growth of almost 25%. India is now the fourth largest car market in Asia. Output is expected to reach three million units by 2016. India is emerging as a major production base for small cars with a rapidly growing reputation for designing and manufacturing low cost cars, such as the Nano. The trigger for change has been the introduction of foreign technology and competition particularly noticeable after the liberalisation measures since 1991. Ironically however, domestic manufacturers such as Maruti, Tata, and Mahindra, rather than being overwhelmed, have emerged as market leaders. This has mainly been due to cost, engineering, and IT competencies, as well as through alliances with foreign companies for technology. On the other hand, several global manufacturers such as GM, Ford, and Toyota have struggled in India though they
have been present in the market for more than a decade. Table 1.3 shows the market share of each automobile company in 2010.

Table 1.3
Passenger vehicle market share by company: February 2010

<table>
<thead>
<tr>
<th>Company</th>
<th>% share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maruti-Suzuki</td>
<td>43.6</td>
</tr>
<tr>
<td>Hyundai</td>
<td>15.9</td>
</tr>
<tr>
<td>Tata</td>
<td>14.2</td>
</tr>
<tr>
<td>Mahindra</td>
<td>9.7</td>
</tr>
<tr>
<td>General Motors</td>
<td>5.7</td>
</tr>
<tr>
<td>Honda</td>
<td>3.2</td>
</tr>
<tr>
<td>Toyota</td>
<td>3.1</td>
</tr>
<tr>
<td>Ford</td>
<td>1.7</td>
</tr>
<tr>
<td>Fiat</td>
<td>1.2</td>
</tr>
<tr>
<td>Volkswagen</td>
<td>1.1</td>
</tr>
<tr>
<td>Others</td>
<td>0.6</td>
</tr>
</tbody>
</table>


Prior to India’s independence in 1947 there existed no car manufacturing units in the country. Domestic demand for cars was met through imports. Hindustan Motors, which earlier manufactured automobile components, commenced production of cars in 1949. Following independence the Indian automobile industry was government controlled and protected through a complex regulatory system that banned foreign-owned operations. These protectionist policies resulted in slow growth, lack of innovation, poor technical improvements, high prices, and inferior quality. Protectionist policies emphasised indigenisation and included restrictions on imports of raw materials, components, equipment, and foreign direct investment. Consequently, India’s car market lacked growth with the demand for cars in 1960 being only 15714 units. By 1980 this figure had risen to only 30900 units.

In 1980 the Indian government decided to launch a small car designed to suit the country’s growing middle class segment. A government supported enterprise called Maruti Technical Services was established in 1970 by Sanjay Gandhi, the son of the Prime Minister Indira Gandhi, with the aim of manufacturing a car for the people. Despite considerable financial support the enterprise never succeeded in its aim and was eventually nationalised in 1980 under the name of Maruti
Udyog. It was realised that without foreign collaboration this company would never be able to produce a people’s car. For this reason a joint venture was established in 1982 with the Japanese manufacturer Suzuki to form Maruti-Suzuki. The latter would provide advanced technology for a small affordably priced car. In 1983 the Maruti 800 was launched aimed at the growing Indian middle class segment. This car was 21% cheaper than any car produced by Hindustan Motors and helped Maruti-Suzuki to shape and dominate the domestic car market. By 1991 the company had emerged as the undisputed leader of the Indian car market with a market share of 85%.

In 1991 the Indian government commenced its liberalisation agenda. The automobile industry was de-licensed in 1993 opening it up to foreign car manufacturers. Between 1994 and 2004, 17 new ventures commenced operations in India, including such global giants as GM, Ford, Toyota, Honda, Fiat, and Hyundai. In 2004, the Indian ‘big three’ (Maruti, Tata, and Mahindra) cumulatively accounted for 65% of the car market and possessed independent design and development capabilities. Hyundai with 17% of the market was the leading foreign manufacturer. By 2005 the Indian car market growth rate was 22%, as compared with 2-3% in Spain and UK, and negative growth in North America, Germany, Japan, France, and Germany. The automobile industry in India is now the ninth largest in the world. In 2009, India emerged as the fourth largest exporter of automobiles behind Japan, South Korea, and Thailand. In 2008, Hyundai Motors alone exported 240,000 cars made in India, and Nissan plans to export 250,000 vehicles manufactured in its India plant by 2011. Table 1.4 shows some of the major advantages, challenges, and implications for the Indian automobile industry as it moves forward into the second decade of the 21st century.
Table 1.4
Advantages, challenges, and implications for the Indian automobile industry

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Challenges</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Low cost manufacturing and design</td>
<td>*Managing complex global supply chain logistics</td>
<td>*The ability to understand and attract untapped buyers</td>
</tr>
<tr>
<td>*English language proficiency</td>
<td>*Understanding export markets, foreign consumers, and dealer networks etc</td>
<td>*The significant impact of infrastructure on the domestic market</td>
</tr>
<tr>
<td>*Intellectual property-adequate protection</td>
<td>*Developing products that will succeed in developing and developed economies</td>
<td>*The role of status in Indian buying patterns</td>
</tr>
<tr>
<td>*Government support</td>
<td>*Upgrading port facilities to handle higher volumes</td>
<td>*Need for steady not exponential economic growth to complement infrastructure</td>
</tr>
<tr>
<td>*Young, talented workforce</td>
<td>*Increasing manufacturing scale to global levels</td>
<td>*Small cars as key growth strategy.</td>
</tr>
<tr>
<td>*Raw material availability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Potential to build world-class quality at low prices.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


The IBM Global Businesses Report (2007) states that although the potential of the overall Indian automobile industry is impressive, several challenges could restrict future growth. Since the demand for automobiles is directly linked to overall economic growth and rising personal incomes industry growth will slow if the economy weakens. Also, any delay in the development of highway networks could slow down domestic demand growth. Further, the possibility of the government favouring mass transport systems for the large cities could restrict the demand for personal vehicles. With most Indian cities likely to have better quality public transportation systems in the near future, this is likely to slow the domestic demand for car ownership. Not least the intense competition in the industry is likely to erode the profitability of manufacturers especially in the passenger car segment.

Structure of the thesis

The thesis is divided into seven chapters:

Chapter 1 – this chapter deals with the purpose, significance, and context of the thesis. An analysis is undertaken of the Toyota Motor Corporation (TMC) and its associated production and management systems. The concept of lean
manufacturing is also examined both from the viewpoint of its supporters and its critics. Various arguments are analysed on both sides of the debate as to whether these Toyota systems and lean manufacturing are capable of transplantation across national and cultural boundaries. Finally, a brief discussion ends the chapter looking at the background to the automobile industry in the three countries that form the topic of this thesis – USA, Australia, and India.

Chapter 2 – this chapter deals with the literature, methodology, and data collection and analysis. The chapter serves two purposes. First, it examines some of the more significant literature with regard to the diffusion of production and management systems from one country to another with particular emphasis on the literature relating to the transplantation of Japanese practices overseas. Second, the chapter examines the research methodology adopted in the thesis together with the methods of data collection and analysis. This discussion is undertaken with regard to the three case studies that are analysed in this thesis: NUMMI, TMCA, and TKM.

Chapter 3 – this chapter deals with Toyota’s journey in the USA at NUMMI (New United Motor Manufacturing Inc). The chapter critically examines how TMC Japan went about implementing TPS in NUMMI’s environment and socio-cultural context, the specific issues and barriers encountered in the process, and the overall extent of success achieved.

Chapter 4 – this chapter deals with Toyota’s journey in Australia at TMCA (Toyota Motor Corporation of Australia). The chapter critically examines how TMC Japan went about implementing TPS in the Australian socio-cultural environmental context, the specific issues and barriers encountered in the process, and the overall extent of success achieved.

Chapter 5 – this chapter deals with Toyota’s journey in India at TKM (Toyota Kirloskar Motors). The chapter critically examines how TMC Japan went about implementing TPS in the Indian socio-cultural environmental context, the specific issues and barriers encountered in the process, and the overall extent of success achieved.
Chapter 6 – this chapter deals with similarities, differences, comparison features, and integrative questions at the three separate plants: NUMMI, TMCA, and TKM. The chapter examines the key features of the similarities and differences marking the organizational journey of the three different plants.

Chapter 7 – this chapter concludes the thesis and deals with the uniqueness, significance, and implications of the thesis.
Chapter 2

Literature, Methodology, and Data Collection and Analysis

This chapter serves two purposes. First, it examines some of the more significant literature with regard to the diffusion of production and management systems from one country to another with particular emphasis on the literature relating to the transplantation of Japanese practices overseas. This literature serves as the background against which the purpose of the thesis is conceived together with two associated research questions. Second, the chapter examines the research methodology adopted in the thesis together with the methods of data collection and analysis. This discussion is undertaken with regard to the three case studies that are analysed in this thesis: NUMMI, TMCA, and TKM.

Significant research studies in the transplantation literature

Chapter 1 concentrated on the literature specifically in relation to lean production and the transferability of the Toyota production and management systems to countries outside Japan. In chapter 2 I adopt a wider perspective by examining some of the more well-known and widely-cited literature relating to the transference of organizational systems and practices across national and cultural boundaries. The transference of Japanese management policies overseas, both specifically in relation to the automobile industry and more widely in relation to industries in general, has been subject to extensive analysis in the literature. Most studies have been conducted in the US context, as well as in UK and Canada, but a range of other countries have also figured in the literature such as Poland, Thailand, Singapore, India, Malaysia, Turkey, China, Australia, and Brazil. An illustrative list of such studies is shown in Box 2.1.
### Box 2.1

**Transfer of Japanese systems overseas**

<table>
<thead>
<tr>
<th>Japanese automobile plants overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA (Cole and Deskins, 1988; Florida and Kenney, 1991; Florida and Kenney, 1991a; Graham, 1995; Parker, 1990)</td>
</tr>
<tr>
<td>North America (Rutherford, 2001; Mair, Florida, and Kenney, 1988; Pil and MacDuffie, 1999; Pil and MacDuffie, 1999a; Rutherford, Parker, and Koshiba, 2001; Sanford and Olson, 2001; Gough and Fastenau, 2003)</td>
</tr>
<tr>
<td>Canada (Rinehart, Huxley, and Robertson, 1997)</td>
</tr>
<tr>
<td>Poland (Majek, 2002)</td>
</tr>
<tr>
<td>Western Europe (Jones and North, 1991; Wilkinson et al., 1995)</td>
</tr>
<tr>
<td>India (Becker-Ritterspach, 2009; Bhargava and Seetha, 2010)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transfer of Japanese management policies and transplants overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA (Young, 1992; Abo, 1994; Watanabe, 1998; Liker, Fruin, and Adler, 1999; Toulich, Kenney, and Biggart, 1999)</td>
</tr>
<tr>
<td>UK (Reitsperger, 1986; Wilkinson, Morris, and Munday, 1995)</td>
</tr>
<tr>
<td>Canada (Tremblay and Rolland, 2003)</td>
</tr>
<tr>
<td>Thailand (Taira, 1980; Swierczek and Onishi, 2003; Onishi, 2006; Shibata, 2008)</td>
</tr>
<tr>
<td>Singapore (Rodgers and Wong, 1996; Gill and Wong, 1998)</td>
</tr>
<tr>
<td>Malaysia (Rose and Kumar, 2007)</td>
</tr>
<tr>
<td>Turkey (Wasti, 1998)</td>
</tr>
<tr>
<td>Australia (Purcell, Nicholas, Merrett, and Whitwell, 1999)</td>
</tr>
<tr>
<td>China and Taiwan (Takeuchi and Ziguang, 2001)</td>
</tr>
<tr>
<td>Brazil and Mexico (Sparkes and Miyake, 2000; Humphrey, 1995)</td>
</tr>
<tr>
<td>India (Jain, 1987; Kumar and Sankaran, 2007; Farooquie and Mohapatra, 2009)</td>
</tr>
<tr>
<td>Other (Rehder, 1992; Beechler, Bird, and Taylor, 1998)</td>
</tr>
</tbody>
</table>

For the purpose of providing a conceptual background to my methodological approach in the second part of this chapter I will analyse the contributions made by five separate publications that between them have introduced some of the more useful and widely-cited concepts and ideas currently in the literature. These publications are those of Ward (1999), De Jong et al. (2002), Abo (1994), Elger
and Smith (1994), and Westney (1999). Between them these publications have introduced the following concepts to the literature: imposition versus borrowing, actors pulling in and goodness of fit, application-adaptation dilemma model, avoiding needless duality between context-free and context-bound systems, and the importance of simultaneous perceptions of strategic, social, and political aspects within organizations.

**Ward (1999)**

Ward (1999) presents a typology of diffusional episodes based on the power relations between the exporting and importing nations:

- Authoritarian imposition
- Contested imposition
- Negotiated imposition
- Undiluted borrowing
- Selective borrowing
- Synthetic innovation

There are two primary characteristics of this typology – imposition or borrowing. The former refers to the donor nation as being the driving force whilst the latter refers to the host nation as being the driving force. The stronger the donor nation and the weaker the host nation the greater will be the tendency for authoritarian imposition. As the balance of power swings away from such extremes then imposition can gradually take on the characteristics of being contested or negotiated. On the other hand, a host nation can borrow ideas from elsewhere and implement these either in full (undiluted) or in part (selective). Where an innovation occurs that is of a hybrid nature combining elements from both the donor and host nations, then the diffusion can be referred to as synthetic

**De Jong et al. (2002)**

De Jong et al. (2002: 283) state that ‘institutional transplantation always involves a conscious attempt to alter existing institutions and replace or complement them with new institutions (or transplants) borrowed from another country or another context’. As such, many new institutions that arise are inspired by experiences
elsewhere. They become borrowed phenomena. Senior organizational personalities are quite often intrigued with the effectiveness, efficiency, and innovativeness of various concepts and models they chance upon elsewhere, often through media stories, informal talks at conferences, and so on, and succumb to the urge to copy or utilize such ideas within their own organizations. Disregarded, is the need for deliberation on the efficacy of the models for their specific domestic situation, and the question regarding which models are worth following. In like vein, donor nations often gloss over the practicalities associated with day to day implementation of models they wish to introduce into host nations. Such matters, on the other hand, are of little relevance to the political institutions and powers who throw their weight behind ideas and ideologies that further their own agendas, regardless of the local applicability of borrowed ideas. The end results encountered could often be either ineffective or counterproductive. Thus, skepticism is often expressed about whether transplants indeed bring about what initiators and adaptors expect from them. Using the analogy of transplantation as applicable in the medical sense, they argue that surgical transplants fail because the host body rejects the new organ. Although institutional transplants do not involve physical removal of entities from donor to host society, they are more about emulation and imitation and are often hasty and messy. Compatibility is often comprised by a number of aspects, such as conflicts, resistance, rejection, and unexpected effects during implementation. As a result, ‘institutional transplantations are often perceived as failed attempts to reproduce the original model, even if they were a significant step in the right direction in the search of a better and more efficient institutional system’ (De Jong et al., 2002: 5).

Transplants can take the form of institutions, policies, programs, ideologies, procedures and so on, constituting formal and informal aspects which when combined together form an institutional complex. Formal aspects comprise factors including legal rules, spheres of accountability, competencies, obligations, and so on. Informal aspects constitute social practices and rituals based on underlying cultural values and mores and aspects such as modes of behavior deemed appropriate. Institutional transplantation features a friction between both these aspects as it is not feasible for a donor nation to transplant the entire institutional complex into the host nation. The best that might be hoped for is that the
transplantation of the formal aspects in the first place could eventually lead to the accrual of the informal aspects at a later stage. However, this is often belied. The authors cite Castles (1993) who coined the term ‘families of nations’ - the notion that some countries display more similar features than others. Institutional transplants, broadly speaking, are more likely to succeed, when effected between nations belonging to the same family of nations. When the transacting nations are from different families the authors argue that:

‘[c]haracteristics from diverse origins will be at total variance with one another…The application, sequence and prioritization of rules will become dubious and ambiguous. The system will end up incorporating two or more institutions, which sometimes have quite the same aim, but are not clearly connected. Players will become confused and start squabbling about the scope of the rules and even about which underlying philosophy or ideology should predominate’ (De Jong et al., 2002: 28).

Whilst stressing that transplants should be fitting for their new environment, the authors state that for this to happen the systemic characteristics of the host nation play a key role. The host nation’s underlying value systems and structures evolve over a period of time and thus have a historical dimension to them. Transplants with differing value systems and structures therefore, are likely not to take root, the soil not being fertile. This is a critical factor for consideration by those involved with pulling in transplants. Also critical, is the process of adjustment, which is about leaving room for local players to maneuver. The extent to which this adjustment takes place determines whether the transplantation exercise would be facilitated or hindered by the host country. Resulting from this analysis are two overall aspects:

‘Actors pulling in’ is a warning against transplantation that leaves no room for local actors to maneuver. The less opportunities that local actors possess for adapting models to their situation, the higher the likelihood of resistance, non-compliance, and ineffective outcomes. This leads to three propositions:

- Imposition of a transplant by an external force makes the transplantation process less easy than voluntary adoption by domestic actors.
- Xeroxing makes the transplantation process less easy than ‘bricolage’
  (adaptation to local circumstances)
• Considering only one definite model makes the transplantation process less easy than considering a more loosely defined model, or even multiple models.

‘Goodness of fit’ is a warning against transplantation that neglects the local situation in the setting where the transplant will be adopted. Models must be carefully chosen with the characteristics of the host country in mind. This leads to a further three propositions:

• Similarities between host and donor facilitate the transplantation process, compared to differences
• Specific legal frameworks or procedures are more problematical to adopt than more general and abstract policy lessons, ideas, and ideologies
• Situations involving urgency and emergency create opportunity windows and critical junctures that facilitate transplantation compared to periods of stability (De Jong et al., 2002: 30)

Abo (1994)

Abo (1994) studied Japanese automotive and electronics manufacturing operations in the US to explore the potential for transferring the Japanese production and management systems to a different national culture. The study analysed which specific elements of the production systems employed in Japan can be successfully transferred to the US. At the corporate level, business practices, methods of administration, and types of organisation more directly reflect the history, society, and culture from which they originate. Abo (1994) quotes the research of Yoshino (1976) who argued that the strengths of Japanese management derive from special characteristics within Japanese society, such as group orientation and ethnic homogeneity, which cannot be transferred across national boundaries without considerable difficulty. Thus, when systems or methods of organisation or behaviour are transferred to a foreign social environment there will inevitably be a certain amount of friction so that the systems undergo a certain amount of revision as a result. Within multinational corporations there is a dynamism that springs from the ‘strained relationship
between the integration logic of parent companies and the localisation logic of subsidiaries’ (Abo, 1994: 11). Subsidiaries cannot simply apply original overseas business strategies developed by their parent companies but must modify the system in order to adapt. Box 2.2 expands on these arguments.

**Box 2.2**

**Transferring systems across national boundaries**

The enduring importance of place in shaping the character of production innovation suggests that models of innovation are not readily transferable from one country to the next…technological development and production innovation emerge out of distinct institutional and industrial contexts…[we] challenge the notion that such systems can be transferred to other national contexts without being significantly shaped by the conditions existing in each country…the core elements of the Japanese production model developed within the context of a specific national system. In attempting to introduce this model into the US context a tension arises between application and the parameters set by national-specific conditions, resulting in a model that differs significantly from the original. In key areas of the production system…the tradeoffs between application and adaptation result in a revised, or hybrid, Japanese system or even, in some cases, the adoption of American-style practices…Hence, US firms can adopt lean practices and Japanese companies can even introduce lean innovations into their production operations in the US [but] the outcome of these practices will unlikely resemble lean production in Japan. Rather, those practices are likely to take on a particular character, to be transformed by the industrial architecture of the United States.

Source: Abo (1994: xxi-xxii)

Thus, the hypothesis advanced by Abo (1994) is that there are serious reservations about how effectively Japanese production and management systems can be transplanted to a society like the US where the historical and cultural environments are radically different. Transplants face a dilemma – on the one hand they attempt to introduce superior elements of their system(s) to the maximum extent possible (*application*) but on the other hand they must modify those same systems in an effort to adapt to various local environmental conditions (*adaptation*). This is called the Application-Adaptation Dilemma model. Abo’s research team awarded evaluation ratings to 34 Japanese transplants in the US to calculate their relative positioning on a 5 point continuum where 5 represented total Japanese application and 1 represented total American adaptation. Overall, the average of the 34 transplants was 3.3 indicating a hybrid evaluation that leaned slightly towards the Japanese application side. The automobile assembly
transplants received a score of 3.5. However, these overall averages concealed wider variations once the different aggregates were deconstructed. Nevertheless, Abo’s research team was able to show that considerable hybridisation occurs when Japanese system(s) are transferred into the US context.

**Elger and Smith (1994)**

Elger and Smith (1994: 55) argue that ‘the notion of Japanization needs to be deconstructed in order to advance our understanding of the complex processes involved in the development, generalization, and adaptation of new models of work organization and employment relations’. They propose a theoretical perspective that argues that the organisation of the labour process is neither context-bound nor context-free. They argue against propositions that are ‘needlessly dualistic in their treatment of contextual conditions and/or universalizable work practices’ (Elger and Smith, 1994: 31). The debate between cultural uniqueness and universalism epitomises this dualism. Cultural uniqueness suggests that each society is relatively unique and unchanging in terms of its historical and cultural development, so that it is not possible to export the products of these conditions to other environments. On the other hand, universalism suggests that ideas relating to scientific and technological efficiency can traverse societal borders in the sense that they remain culture-free aspects of any efficient capitalistic system. In contrast, the authors argue in favour of a more nuanced approach:

‘Whereas certain innovations within capitalism, such as new technologies, are capable of being detached from their original context and sold in the original state through markets on a global scale, others, such as social or organisational processes, are harder to detach, harder to put together in a different environment and inevitably open to conflicting and competing mediation and interpretation’ (Elger and Smith, 1994: 34)

This approach is particularly the case in regard to the so-called Japanese model which is the embodiment of complex state-capital-labour features which are difficult to transfer. The spread of Japanese transplants to other countries is made difficult because of a tight coupling to a logic which suits Japanese capital. The initial innovations of companies such as Toyota in relation to production organization were conditioned by specific economic and social structures of post-
war Japan. This scenario undermines universalistic approaches which focus on transferring Japanese practices as a discrete package of expertise. Such diffusion is inevitably conditioned by its host environments. The Japanization approach (Oliver and Wilkinson, 1988, 1992) identifies a ‘whole package’ of techniques which have been developed within the Japanese context and are seen as more or less transferable to other contexts. This approach, however, glosses over the variety of agencies and forms of adoption and adaptation involved. Partial adoption in other contexts is seen as a deviation from the ideal form. However, it might be argued that such dilution is not viewed as a deviation, but rather as conformity to a strategy to construct diversity across global operations. According to Elger and Smith (1994: 38) diffusion may involve active processes of selective appropriation and re-working of Japanese techniques whereby advantage is taken ‘of different regions of the globe for market and cost reasons [to] selectively adjust their factory regimes to fit into these local conditions’ – a process called disaggregated Japanization. Such processes may differ between sectors and regions, vary across firms, and evolve over time. Globalizing Japanese companies operate ‘with significantly varied repertoires and mixes of management practice, coloured by specific sectoral and corporate patterns of innovation’ (Elger and Smith, 1994: 41). Box 2.3 shows the essence of the authors’ thesis.

**Box 2.3**

**Context-bound and context-free nature of diffusion**

An appreciation of the socially located character of innovation should serve as a constant reminder that processes of adaptation and transformation in the light of local circumstances, resources, and constraints, will inevitably characterise the diffusion of Japanese models. Thus, we cannot assume that packages of measures developed in specific conditions can simply be taken up and generalized across the globe, but neither can we argue that such innovations must be forever bounded by the particular social circumstances of their origination.

However, such an anodyne injunction to treat the development and diffusion of new management initiatives in a symmetrical fashion, each as creative and adaptive processes, does not take us very far. To go beyond this we need to specify more clearly the particular character of the social conditions which have been critical to the viability of these innovations in work organization, both in terms of their survival and in terms of their contribution to any competitive advantages enjoyed by Japanese corporations.

Source: Elger and Smith (1994: 42)
Elger and Smith (1994) stress that any analysis of the influential roles of Japanese models outside Japan must distinguish between the innovating transplant firms and the host nation adopting firms. The former carry a version of their own national practice and carry new standards and repertoires that can shape conditions within the host environment. However, these standards and repertoires can also be shaped by the conditions in their host environments. The relative forces of shaping, and being shaped by, are crucial in this dynamic. Japanese diffusions of necessity interact with, and are mediated by, home-grown conditions. Elger and Smith (1994) stress that the constraining forces of different cultural and institutional contingencies in the host environment vary according to political and economic conditions. New innovations are ‘mediated by existing practices, the agencies responsible for managing innovation and what they interpret as the key features of the particular social innovation, and what the power holders want from the innovation’ (Elger and Smith, 1994: 46). Of critical significance is the nature of the agents who select, interpret, codify, and manage the innovation.

Elger and Smith’s (1994) overall argument is not that the processes of adoption and adaptation are complex and uneven, but rather that the contours of this complexity and unevenness reflect key features of the host environment’s differing circumstances. With regards to future research the authors make a plea for:

- More dispassionate middle-range analyses of the actual agencies and mechanisms of transmission of models of good practice by Japanese companies and their emulators.
- The utilisation of more comparative case studies including studies from developed and developing countries. These could analyse the potential influence of societies and regions on the reception and mediation of the Japanese model.
- These case studies should be appropriately performed by treating Japanese practices in their historical national setting, and their diffusion through the agencies and sector dynamics they engage.
Such research should consider national, enterprise, sectoral, regional, and temporal contingencies and their impact on the ways in which elements of the corporate repertoire are selectively received, adapted, and deployed.

More analysis of the role of propagandists and mediators who manage the processes of codification and dissemination of specific packages of techniques.

**Westney (1999)**

Westney (1999) reflected on previous studies and reached the conclusion that Japanese production and management systems do not ‘work’ in the US environment and that adaptations are required to do so. The author expresses some disappointment with the state of organization theory with regard to this topic. She opines that although organization theory provides several useful perspectives on cross-societal transfers there have been few systematic studies of the specific issues involved in such transfers and the subsequent change processes. In this regard Westney (1999: 386) structures her study around three perspectives on organization-environment relations (strategic design, social construct, and political system) and then confronts each perspective with three different questions – what patterns are most likely to be transferred across borders, what changes are likely to take place in those transfers, and what are the processes by which such adaptations take place?

The strategic design perspective regards organizations as systems consciously constructed for the efficient accomplishment of certain tasks. The social construct perspective sees organizations primarily as ideational constructs defined by shared interpretations, meaning, and value. The political construct portrays organizations as arenas for and tools of power and interests. However, Westney (1999) argues that these perspectives are not mutually exclusive theoretical domains; they are potentially complementary ways of viewing the complex processes of organizational change and organization-environment interactions.

**Strategic design:** this perspective focuses on aspects of organizational structure, systems, rules, regulations, processes and so on, and how these activities are linked together to ensure that an organization efficiently and effectively reaches
its goals. In effect, this perspective represents an input-output systems view of the organization. At the micro level, this approach assumes that individual behaviour is basically utilitarian and means-rational. The key features of an organization are its design and the relationships between its component parts and the outside environment. Thus the concept of fit is of crucial significance. Fit has two dimensions: the manner in which internal components of the organisation fit together in a synergetic manner, and the fit between the organization and its external environment. Whenever an organization is diagnosed as suffering from a lack of fit on any of these two dimensions then this acts as a signal for the creation of necessary changes to bring the organization back into fit again.

Social construct: this perspective focuses on how participants view and interpret the organization and how organizations are viewed and interpreted in their larger social context. This perspective views individuals as sense-makers who draw on shared collective models of how the world works and should work. This is based on both cognitive aspects about how organizations work (captured through such concepts as schemas and mental maps) and also on normative aspects based on what is believed to be right and appropriate (captured through value sets). Viewed through this perspective organizational change is very difficult to achieve because cognitive and normative patterns are notoriously slow in their adaptation.

Political: this perspective views organizations as arenas where struggles for power and conflicting interests are played out. Important areas of analysis include power, influence, conflict, interests, negotiation, and coalition-building. Resources are important not because they aid the efficient design of the organization but because they confer power on those people and groups who control them. This perspective views individuals as being subject to the drive for power, control, and influence amongst the various organisational stakeholders who are cast in the role of potential ‘allies or foes in the internal struggles for ascendancy’ (Westney, 1999: 389).

- With regard to the question of what patterns are most likely to be transferred across borders, the strategic design perspective would argue that a parent company would transfer those organizational patterns that optimize the company’s efficiency and effectiveness and give it a
competitive advantage. The social construct perspective would argue that a company will try to transfer the patterns that are deeply valued in its home environment and do not conflict with patterns that are deeply institutionalized in the host environment. The political perspective would argue that a parent company would try to transfer those patterns that serve the interests of powerful stakeholders.

- With regard to the question of *what changes are likely to take place*, all three perspectives would predict that transferring complex organizational systems across societies will change those systems. Within the literature these changes are generally referred to as *hybridization*. Each perspective, however, has a different logic for this hybridization. The arguments behind these different logics are extremely nuanced and contingent and will not be pursued here. However, Westney (1999) identifies three separate drivers of hybridization which are viewed differently by each of the three perspectives: the interaction of foreign and local patterns within the organization, the impact of imperfect information, and the interaction between internal patterns and key elements of the environment.

- With regard to the question of *how hybridization is actually carried out*, the strategic design perspective views hybridization as the consequence of managerial-driven organizational redesign activities to improve performance by means of better internal and external fit. The key processes are the identification and analysis of organizational problems and the development of design solutions. The social construct perspective views hybridization as a slow and ongoing change in shared cognitive and normative concepts. The process is emergent. Interaction between different groups in various settings would gradually set the scene for making tacit assumptions of culture explicit and for articulating the cognitive maps of different organizational groups. Such processes can be accelerated by managerial activities, for example providing venues for surfacing assumptions, but not determined by them. The political perspective views hybridization as being driven by competing interests and occurring through conflict and negotiation. Outcomes are determined by the relative power of internal and external agents. Identifying solutions
and engineering re-design (strategic design) and providing venues for surfacing cognitive maps (social construct) as both seen as tactical ploys in the quest of dominating the political process. Both shape the process of hybridization by mobilising stakeholder initiatives with the objective of negotiating or imposing hybrid outcomes.

Westney (1999) argues that these three perspectives are complementary, directing attention to different but useful things. An organization is simultaneously a strategic design, a social construct, and a political entity and processes are most illuminated when attention is paid to all three.

**Summary of key points from the literature**

Based upon these studies from the transplantation literature, several key summary points can be advanced:

- Institutional diffusion can be either imposed or borrowed. The relative strengths of donor and host nations must be assessed. Innovations are often hybrid in the sense that they borrow aspects from both the donor and host environments.

- Successful transplantation adjustments should take cognisance of two aspects: leaving room for local actors to manoeuvre (actors pulling in) and making careful choices with the characteristics of the host country in mind (goodness of fit).

- Production and management systems cannot be transferred across national boundaries without considerable difficulty. The importance of place has an enduring quality. Friction and strained relationships create dynamism between the integration logic of parent companies and the localization logic of subsidiaries forcing systems to undergo some degree of revision. This can be referred to as the application-adaptation dilemma.

- The dichotomy between the concepts of context-free and context-based is needlessly dualistic. The relative forces of shaping, and being shaped by, are critical in this dynamic. However, merely to state that each transfer is a unique creative and adaptive process does not take us very far. We need to go beyond this by analysing more clearly those mediating practices of
agents who select, interpret, codify, and manage the innovating diffusion. Studies should concentrate on comparative case studies in developing and developed nations paying attention to enterprise, sectoral, regional, and temporal contingencies.

- Previous studies have reached the conclusion that Japanese production and management systems do not work in the US environment and that adaptations are required to do so. Greater insight can be obtained into the processes of hybridization by regarding an organization as the simultaneous embodiment of a strategic design, a social construct, and a political entity.

It is against the background of these significant studies and the broader literature that my thesis is conceived. The purpose of the thesis has already been stated in chapter 1, namely, to analyse how Toyota went about transplanting its production system into the three heavily unionized environments in the USA, Australia, and India. In view of the observation that Toyota is generally regarded as being hostile to strongly pluralistic and unionized contexts, the literature has underplayed any detailed comparative analysis of the processes by which the company has attempted to transplant its systems into these ‘alien’ environments. Two specific research questions constitute the a priori directional structure of the thesis:

- What resistance has Toyota met in these unionized environments?
- What strategies has Toyota employed to manage this resistance?

These two broad research questions tip their hat towards an acceptance that the underlying process of diffusion from one country to the next takes the form of hybridization, rather than total imposition or total localization. Therefore, following the literature, a number of aspects have to be borne in mind, such as: actors pulling in and goodness of fit; application-adaptation dilemma; shaping, and being shaped by; and the importance of strategic, constructionist, and political views of the organization. These aspects are returned to in chapter 7.

**Methodology and data collection and analysis**

In order to address the purpose and research questions of this thesis a qualitative methodology has been adopted. More specifically, an emergent approach has been
adopted, within a comparative case study framework, employing the technique of conceptual ordering. These four concepts (qualitative methodology, emergent approach, comparative case study framework, and conceptual ordering) now need to be elaborated.

**Qualitative methodology**

Denzin and Lincoln (2000: 3) offer the following definition of qualitative research:

> ‘a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them’.

Miles and Huberman (1994: 1) explain that qualitative data is usually in the form of words rather than numbers:

> ‘They are a source of well-grounded, rich descriptions and explanations of processes in identifiable local contexts. With qualitative data one can preserve chronological flow, see precisely which events led to which consequences, and derive fruitful explanations. Then, too, good qualitative data are more likely to lead to serendipitous findings and to new integrations; they help researchers to get beyond initial conceptions and to generate or revise conceptual frameworks. Finally, the findings from qualitative studies have a quality of ‘undeniability’. Words, especially organized into incidents or stories, have a concrete, vivid, meaningful flavour that often proves far more convincing to a reader – another researcher, a policymaker, a practitioner – than pages of summarized numbers’.

Wertz et al. (2011: 2) explain that the essence of qualitative research methodology is associated with addressing the twin questions of ‘what’ and ‘how’.

> Qualitative research addresses the question of ‘what’. Knowing what something is entails a conceptualization of the matter under investigation as a whole and in its various parts, the way these parts are related and organized as a whole, and how the whole is similar to and different from other things. Knowing what something is may also involve the conceptualization of its ‘how’ – its process and temporal unfolding in time. Qualitative knowledge may also include an understanding of the context, the consequences / outcomes, and even the significance of what is investigated in the larger world.

In view of these definitions, a qualitative research methodology is appropriate for this thesis because I am examining ‘what’ and ‘how’ questions in relation to aspects of processes unfolding over time within their context. Analysing how
Toyota went about transplanting its production system into the three sites in USA, Australia, and India involves me in trying to understand the processes by making sense of them through interpretation within their contextual richness. I am looking to preserve chronological flow in order to trace consequential developments and derive fruitful explanations.

**Emergent approach**

The concept of emergence relates to the practice of desisting from excessive reliance on pre-conceived notions or hypotheses, in favour of allowing ideas and concepts to emerge from the analysis of our data. An emergent framework is structured around the approach that the processes of data collection, coding, and analysis are performed simultaneously, and guide the subsequent analytical processes, rather than following a linear progression from data collection to analysis. Glaser (2001: 176) states: ‘our questions are constantly changing, our sample is unpredictable…we do not know what we are looking for when we start’. In other words, everything emerges. We do not preconceive anything. ‘the research problem emerges, our sample emerges, concepts emerge, the relevant literature emerges, and finally the theory emerges. We simply cannot say prior to the collection and analysis of data what our study will look like’ (Glaser, 2001: 176).

The concept of emergence is associated with other associated practices of qualitative research such as site spreading and varied interviewing (Glaser, 2001). Thus, data collection most often starts off in a concentration site, a unit where the area of interest goes on in concentration. Early participants are chosen because they are judged to have some knowledge of the domain being studied. Early questions should be very broad, of the form ‘tell me about…’ instead of being focused, pre-conceived questions. When these respondents’ answers are coded and analysed they provide initial themes, categories, and properties which can then be extended upon and densified by asking other questions of later respondents structured around these themes. This form of sampling is known as theoretical sampling and refers to the practice of researchers seeking out the next respondents according to the nature of the emerging themes and concepts. Theoretical sampling can give rise to site-spreading. Site-spreading is emergent
and guides the researcher away from the concentration site towards similar units in other contexts with the aim of taking the research to other places for comparisons. During this process the researcher writes analytical memos which keep track of emerging concepts and hunches. Memoing in this manner will raise other questions in the researcher’s mind aimed at filling in gaps in the analysis and densifying the theorizing. As the process moves on these questions become more focused as they move away from the open-ended nature of the early questions.

**Case study framework**

My purpose in the thesis of comparing Toyota transplantation processes across three different unionized sites lends itself to analysis through a comparative case study approach. Creswell (1998: 61) defines a case study as ‘an exploration of a bounded system…over time through detailed, in-depth data collection involving multiple sources of information rich in context’. A case can be a programme, event, activity, or individuals. In choosing what case to study Creswell (1998) advises a purposive approach according to what is most promising and useful. He prefers to select cases that show different perspectives on the problem, process, or event. With this aim in mind, case selection can involve ordinary cases, accessible cases, or unusual cases.

Yin (1993: 3) states that ‘the case study is the method of choice when the phenomenon under study is not readily distinguishable from its context’. He distinguishes three types of case studies: exploratory, descriptive, and explanatory. In an exploratory case study, fieldwork and data collection are undertaken prior to the final definition of study questions and hypotheses. In a descriptive case study, the facts about the case are simply stated as recorded by the researcher. In an explanatory case study, the researcher attempts to find the causal conditions and variables that explain the phenomenon under study. Yin also explains that there are also five types of research questions of the form: what, how, why, where or when. ‘What’ questions are usually exploratory in nature, whereas ‘how’ and ‘why’ questions are more explanatory because they ‘deal with operational links needing to be traced over time, rather than mere frequencies or incidences (Yin, 1994: 6).
Stake (1995: xi) states that we study cases when they are of ‘special interest’ to us. Our basic aim is to seek to understand. We are usually interested in understanding cases both for their uniqueness and their commonality. Stake (1995) reminds us that a case study seems a poor basis for generalization, in the sense that only a single case or just a few cases will be studied. However, what distinguishes case studies is that they can be studied at length. ‘Certain activities or problems or responses will come up again and again. Thus, certain generalizations can be drawn. Perhaps the case is a child, a child repeatedly facing a certain difficulty such as being unable to let others take the initiative in group work. That itself is a generalization’ (Stake, 1995: 7). However, Stake prefers to use the ‘petite generalizations’ when they are about one case or a few cases in the sense that they are generalizations that regularly occur all along the way in the case study. Stake contrasts petite generalizations with grand generalizations, the latter being the outcomes from wider comparative and correlational studies. However, what case studies can do is modify or refine grand generalizations rather than coming up with completely new generalizations.

Understanding the complexities and interactions within a case also allows us to make assertions. Researchers draw their own conclusions on the basis of their data analysis. Erickson (1986) called these assertions’ – a form of generalization. Creswell (1998: 249) defines an assertion as ‘the last step in the analysis where the researcher makes sense of the data and provides an interpretation of the ‘lessons learned’. The assertions may be couched in terms of personal views or in terms of theories or constructs in the literature’. Stake (1995: 11-12) expands on this definition, as below:

‘How to arrive at assertions is an ordinary process of interpretation…We do not have adequate guides for transforming observations into assertions – yet people regularly do it…For assertions, we draw from understandings deep within us, understandings whose derivation may be some hidden mix of personal experience, scholarship, assertions of other researchers…By custom, researchers are privileged to assert what they find meaningful as a result of their inquiries. Their reports and consultations will include strictly determined findings and loosely determined assertions’.

However, Stake is sometimes ambiguous in his use and definition of terminology. For instance, assertions are equated with petite generalizations (p. 20) and also with ‘propositional generalizations’ (p. 86).
**Conceptual ordering**

Conceptual ordering ‘refers to the organization of data into discrete categories according to their properties and dimensions and then using description to elucidate these categories’ (Strauss and Corbin, 1998: 19). It is a common approach in qualitative research for researchers to attempt to make sense of their data by organizing them into some sort of classificatory scheme. Classificatory schemes can be pre-ordained or emergent. With conceptual ordering ‘the final presentation is organized around well-developed and ordered themes, but the themes are not connected to form an integrated theoretical scheme (Strauss and Corbin, 1998: 20-21).

In order to arrive at emergent classificatory themes the researcher would code the raw data. The lowest form of coding is referred to as open coding, which is defined as ‘the process of breaking down, examining, comparing, conceptualizing, and categorizing data…[it] is the part of analysis that pertains specifically to the naming and categorizing of phenomena through close examination of data’ (Strauss and Corbin, 1990: 61-62). Open coding ‘begins with the fracturing of data into analytic pieces’ sometimes called ‘running the data open’ (Glaser, 1978: 56). Two analytical procedures are basic to the coding process: making comparisons and asking question (Strauss and Corbin, 1990: 62):

‘By breaking down and conceptualising we mean taking apart an observation, a sentence, a paragraph, and giving each discrete incident, idea, or event, a name, something that stands for or represents a phenomenon. Just how do we do this? We ask questions about each one like: what is this? What does it represent? We compare incident with incident as we go along so that similar phenomena can be given the same name’ (Strauss and Corbin, 1990: 63)

**Data collection, coding, and analysis**

In order to commence the data collection it was necessary for me to choose an initial concentration site ‘where the area of interest goes on in concentration’. The initial site chosen was the New United Motor Manufacturing Inc (NUMMI).

**NUMMI (New United Motor Manufacturing Inc)**

This site has been the subject of numerous case studies and analyses with an established literature in existence. I decided to use this literature as my initial
focus in order to analyse each of the major studies and create some emergent categories and themes that would be used as the basis for further theoretical sampling. In other words, I commenced my analysis by using secondary data from the literature rather than primary data. Due to the tyranny of distance it was not possible for me to travel to the US for the purpose of primary data collection in this instance. However, this mixture of data sources can be justified from the point of Creswell’s exortation to ‘use multiple sources of information’ (1998: 61). I conducted a literature search to identify academic studies that had already been published about NUMMI. There are literally dozens of studies on this topic but my final choice was guided by the citation record of the most well-known and comprehensive publications on the topic. I was able to identify 25 separate academic publications which are shown in Box 2.4.

**Box 2.4**

**Major publications about NUMMI**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parker &amp; Slaughter</td>
<td>1988</td>
</tr>
<tr>
<td>Shook</td>
<td>2010</td>
</tr>
<tr>
<td>Adler</td>
<td>1999</td>
</tr>
<tr>
<td>Parker &amp; Slaughter</td>
<td>1988</td>
</tr>
<tr>
<td>Hummels &amp; Leede</td>
<td>2000</td>
</tr>
<tr>
<td>Niland</td>
<td>1989</td>
</tr>
<tr>
<td>Novak &amp; Fine</td>
<td>1996</td>
</tr>
<tr>
<td>Duerr &amp; Duerr</td>
<td>2005</td>
</tr>
<tr>
<td>Rothenberg</td>
<td>2003</td>
</tr>
<tr>
<td>Adler</td>
<td>1996</td>
</tr>
<tr>
<td>Inkpen</td>
<td>2008</td>
</tr>
<tr>
<td>Inkpen</td>
<td>2005</td>
</tr>
<tr>
<td>Koike</td>
<td>1998</td>
</tr>
<tr>
<td>Strategic Direction</td>
<td>2006</td>
</tr>
<tr>
<td>Adler, Goldoftas &amp; Levine</td>
<td>1999</td>
</tr>
<tr>
<td>Adler, Goldoftas &amp; Levine</td>
<td>1997</td>
</tr>
<tr>
<td>Brown &amp; Reich</td>
<td>1989</td>
</tr>
</tbody>
</table>
These articles were read, coded, and analysed. I asked the questions: how did Toyota go about introducing TPS into NUMMI; what were the barriers; how were these barriers overcome; what is going on here? Whilst asking these questions I was not oblivious to other issues and concepts arising through the analysis of the publications. Following the processes of open coding and conceptual ordering, as I analysed each publication I was able to fracture the data into analytical pieces and allocate each incident, idea, or event a specific name. This name was designed to represent a certain phenomenon. Initially, this naming process was not particularly sophisticated. For example, there is consensus in the literature that the primary motivation for TMC to establish the NUMMI joint venture with GM was to protect its market share in the face of rising competition from other automobile producers in the USA and to circumvent the import restrictions that USA authorities had placed on vehicle importation. I coded these incidents ‘protect market share’, ‘rising competition’, and ‘circumvent US import restrictions’. I then wrote a simple memo titled ‘motivation for entry’ as shown in Box 2.5.

**Box 2.5**

**Memo: Motivation for Toyota’s entry into the USA**

It is a risky venture for a motor vehicle manufacturer to enter a foreign country in order to build an assembly plant in that country. Why should manufacturers do this? What is the motivation? In the case of TMC and NUMMI, Toyota and other Japanese vehicle exporters had been adversely affected by import restrictions placed by USA authorities. Honda and Nissan had already made the move to establish manufacturing operations in the USA. Toyota could not afford to be left behind otherwise its market share would have been severely impacted. In the face of this competition Toyota’s move into the USA had a certain degree of urgency about it.
Within the first day of coding I had read three separate articles and generated 146 different codes. I made two specific observations. First, some codes appeared over and over again, but in different contexts (for example, ‘communication’, ‘participation’, ‘learning’, and ‘trust’). As a result, I was able to use the one code but place it under separate categories (for example, ‘trust in relation to job security’ and ‘trust in relation to management communication’). Second, I found myself able to group different codes under different categories and sub-categories. The earliest such categories to emerge were:

1. Cooperative management
2. Cooperative labour
3. Rollout of TPS
4. Acceptance of TPS
5. Problems with teamwork
6. Cultural aspects
7. Organizational learning

Each of these categories contained different levels of complexity. For example, the category ‘cooperative management’ contained three different levels: reason(s), strategy(s), and tactic(s). I wrote the following memo as shown in Box 2.6.

**Box 2.6**

**Memo: Initial category of ‘co-operative management’**

I detect a category called ‘cooperative management’. This category refers to the attitude of NUMMI management to create an atmosphere whereby it is perceived as being cooperative by the rest of the organisation.

The *reason* for this attitude of cooperation is that Toyota wishes to protect and increase its global market share.

The *strategy* which Toyota has pursued is that of creating a hybrid American-Japanese culture.

The *tactics* which Toyota has pursued include recognising the old trade union and publicly pledging to create an environment of harmonious relations.
After I had finished coding all 25 articles, the seven broad categories above were still more or less intact. However, many questions and ambiguities existed in my mind forcing me to realize that these categories were still emergent and fluid and that I must keep an open mind for changes. For instance, I realized that the two categories of ‘cooperative management’ and ‘cooperative labour’ mutually feed off one another and were reinforced by joint feelings of respect and trust. Consequently, I tentatively grouped these two categories under a broader heading called ‘union-management relations’. This gave rise to the observation that union-management relations at NUMMI seemed to have been of a cordial nature since the formation of the organization in 1984. This cordial relationship was driven by the interaction of two separate but inter-connected categories, namely ‘cooperative management’ and ‘cooperative labour’. This broader category of ‘union-management relations’ contained 28 open codes shown below in table 2.1 in no particular order

<table>
<thead>
<tr>
<th>Many years of prolonged conflict</th>
<th>Hardship</th>
<th>Re-opened old factory</th>
<th>Letter of intent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire to learn</td>
<td>Re-hired old workforce</td>
<td>Recognized trade union</td>
<td>Re-hired old union bosses</td>
</tr>
<tr>
<td>Job security</td>
<td>New management style</td>
<td>Management role-modelling</td>
<td>Trust</td>
</tr>
<tr>
<td>Cooperation</td>
<td>Test of first crisis</td>
<td>Harmonious employee relations</td>
<td>Consensus decision making</td>
</tr>
<tr>
<td>Egalitarianism</td>
<td>Communication</td>
<td>Job screening</td>
<td>Participation</td>
</tr>
<tr>
<td>Hybrid culture</td>
<td>Fair treatment</td>
<td>Protect market share</td>
<td>Rising competition</td>
</tr>
<tr>
<td>Circumvent US import restrictions</td>
<td>Gratitude</td>
<td>Indebtedness</td>
<td>Prolonged unemployment</td>
</tr>
</tbody>
</table>

- Further interrogation of this data gave rise to the observation that cordial union-management relations had resulted in a long consecutive period of industrial peace. But is industrial peace a feature of other environments where TMC has recognized an external trade union? If not, why?
- Further observations emerged. For example, NUMMI had enjoyed a rapid rollout of TPS and seemed to experience few problems with establishing a
teamwork atmosphere. Are these also features of other environments where TMC has recognized an external trade union? If not, why?

- Additionally, NUMMI seemed to enjoy the status of being an efficient learning environment, quickly learning from mistakes, and instituting improvements. Are these also features of other environments where TMC has recognized an external trade union? If not, why?

In order to address these emergent questions I found it necessary to study other sites in TMC’s overseas operations where union recognition had not been accompanied by such favourable features as observed at NUMMI. This process of shifting sites is a well recognized element of this form of qualitative analysis whereby the researcher searches for comparisons induced from the emergent analysis (Glaser, 1978). Such a process also satisfies the concept of theoretical sampling. This form of sampling addresses the question ‘where can I go next in order to obtain more data about these emergent themes?’ Strauss and Corbin (1998: 201) define theoretical sampling as:

‘Data gathering driven by concepts derived from the evolving theory and based on the concept of making comparisons, whose purpose is to go to places, people, or events that will maximize opportunities to discover variations among concepts and to densify categories in terms of their properties and dimensions’.

The sites chosen to satisfy these elements of site spreading and theoretical sampling were Toyota’s operation in Melbourne Australia in the form of TMCA (Toyota Motor Corporation of Australia), and also Toyota’s operation in Bangalore India in the form of TKM (Toyota Kirloskar Motors). TMCA was established more than twenty years before the formation of NUMMI and has been bedeviled by conflictual industrial relations. Industrial peace has not been a feature of the employee relations landscape. Rollout of TPS has been fraught and piecemeal. Organizational learning has been hampered by an ongoing climate of blaming and scapegoating. Strikes have occurred on numerous occasions. On the other hand, TKM was established during the late 1990s and was immediately beset by industrial relations problems which commenced in 2001 and culminated in 2006 with strikes and violence. These two sites were considered to be favourable comparisons to the context at NUMMI and were duly selected for further study. They also satisfy the plea from Elger and Smith (1994) to utilize
more comparative case studies from developed and developing countries in order to analyse the potential influence of societies and regions on the reception and mediation of the Japanese model.

**TMCA (Toyota Motor Corporation Australia)**

In similar vein to my data collection and analysis of the NUMMI case study I relied on the literature and secondary data as my source of information. The extant literature on TMCA is not as comprehensive as that pertaining to NUMMI but could still be described as fairly rich. My literature search found 16 publications as shown in Box 2.7 and constituted a mixture of academic journal publications, conference papers, media opinion pieces, trade journals, and union publications.

**Box 2.7**

**Major publications about TMCA**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAI</td>
<td>2010</td>
</tr>
<tr>
<td>Courtice</td>
<td>2007</td>
</tr>
<tr>
<td>Fujimoto and Orihashi</td>
<td>2002</td>
</tr>
<tr>
<td>Fujimoto</td>
<td>1998</td>
</tr>
<tr>
<td>TMCA</td>
<td>2008</td>
</tr>
<tr>
<td>Liu and McMurray</td>
<td>2003</td>
</tr>
<tr>
<td>Sohal, Samson, and Ramsay</td>
<td>1994</td>
</tr>
<tr>
<td>Kinsey</td>
<td>1989</td>
</tr>
<tr>
<td>Liu</td>
<td>2009</td>
</tr>
<tr>
<td>Orihashi</td>
<td>2008</td>
</tr>
<tr>
<td>Jones, Betta, and Latham</td>
<td>2009</td>
</tr>
<tr>
<td>Jones, Latham, and Betta</td>
<td>2008</td>
</tr>
<tr>
<td>Latham, Liu, Jones, and Betta</td>
<td>2009</td>
</tr>
<tr>
<td>Liu and Jones</td>
<td>2005</td>
</tr>
<tr>
<td>Davis</td>
<td>1999</td>
</tr>
<tr>
<td>Kinsey</td>
<td>2007</td>
</tr>
<tr>
<td>AMWU</td>
<td>2010</td>
</tr>
</tbody>
</table>

The information and data found in these publications was coded in the same manner as for NUMMI and the additional densification was woven into the developing codes and categories. In particular, Kinsey (2007) and AMWU (2010) contained rich narrative information. The former was a senior manager at TMCA (now retired) who progressed up through the ranks over a 25 year period from the
early 1970s and who provides a detailed insight into some of his career reflections. The latter represents a wide range of views from four senior trade union personnel – three union conveners and an external union organizer – about their past and current experiences at TMCA, in conversation with an external commentator. One of the conveners is now retired after serving 30 years with the company. The other two conveners are current members of the company with up to 20 years service each. The union organizer possessed broad ranging knowledge not only of TMCA but also of other similar organizations that he covered in his role as union organizer. Coding of the data contained in these 16 publications was fairly focused around the categories that had emerged from the NUMMI analysis, namely: cooperative management, cooperative labour, rollout of TPS, acceptance of TPS, problems with teamwork, cultural aspects, and organizational learning, although I was also vigilant in looking for new emergent codes. Table 2.2 shows some of these codes as I recorded them across a range of categories.

Table 2.2

<table>
<thead>
<tr>
<th>Extent of equity ownership</th>
<th>Piecemeal TPS rollout</th>
<th>Clash of cultures</th>
<th>Old baggage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xenophobia</td>
<td>Conflictual industrial relations</td>
<td>Strong trade unions</td>
<td>Poor communications</td>
</tr>
<tr>
<td>Blaming</td>
<td>HR scapegoats</td>
<td>Epiphany event</td>
<td>TPS common sense</td>
</tr>
<tr>
<td>TPS only for unsophisticated workers</td>
<td>Inherent pluralism</td>
<td>Hegemony</td>
<td>Non-learning organization</td>
</tr>
<tr>
<td>Lack of urgency</td>
<td>Poor management</td>
<td>Stressful conditions</td>
<td>Australia: non-critical market</td>
</tr>
</tbody>
</table>

It is noteworthy that several of these codes covered a number of sub-codes, For example, ‘clash of cultures’ covered four separate observable clashes:

a. Lean manufacturing versus mass production paradigms
b. Japanese, Australian, UK, and USA national cultures
c. Holden, Toyota, Standard Motors etc ‘car’ cultures
d. Heterogeneous workplace cultures engendered through many different migrant groups
TKM (Toyota Kirloskar Motors)

Information was gathered from TKM over a similar time period as I was gathering information from TMCA. This afforded the advantage of being able to make immediate comparisons between TKM and TMCA and also with the data and categorizations that had emerged from NUMMI. Unlike with NUMMI and TMCA I also collected a wide range of primary data from TKM in addition to data from secondary sources and the extant literature. 31 personal interviews were conducted face-to-face with a range of personnel which were tape recorded and transcribed. The extant literature on TKM is extremely sparse. I was able to identify only 7 publications as shown in Box 2.8. These constitute a mixture of practitioner case studies and book chapters. Little or no serious academic study appears to have been published about TKM.

Box 2.8

Major publications about TKM

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basu, Miroshnik, and Uchida</td>
<td>2008</td>
</tr>
<tr>
<td>Das and George</td>
<td>2006</td>
</tr>
<tr>
<td>Sinha</td>
<td>2004</td>
</tr>
<tr>
<td>Mooij</td>
<td>2005</td>
</tr>
<tr>
<td>Majumdar</td>
<td>2006</td>
</tr>
<tr>
<td>Mikkilineni</td>
<td>2006</td>
</tr>
<tr>
<td>Ray and Roy</td>
<td>2006</td>
</tr>
</tbody>
</table>

In a similar manner to previously, the information and data found in these publications was coded and the additional densification was woven into the developing codes and categories. Because of the sparseness of this information I also conducted an internet search of media sources. The Indian press is very interested in developments at TKM and reports on them regularly. Once I identified a media source or opinion piece about TKM I downloaded the information and arranged it in chronological order. This provided me with a good overview of the progression of events over the period of TKM’s operations. Again this information was coded and categorized in order to further densify the developing themes. Further information was also obtained through observation and field notes taken during a tour around the factory. However, most of the
detailed information I obtained about TKM came from a total of 31 personal interviews obtained during three separate field trips to Bangalore between 2009 and 2010, as well as a field trip to the regional headquarters of Toyota in January 2010 when three interviews were conducted with personnel who possessed knowledge and contacts with TKM. These interviews are shown in table 2.3.

Table 2.3

Interviews at TKM

<table>
<thead>
<tr>
<th>No.</th>
<th>Position / Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ex-maintenance worker at TKM</td>
</tr>
<tr>
<td>2</td>
<td>Bangalore-based journalist</td>
</tr>
<tr>
<td>3</td>
<td>Bangalore-based journalist</td>
</tr>
<tr>
<td>4</td>
<td>Bangalore-based journalist</td>
</tr>
<tr>
<td>5</td>
<td>Bangalore-based journalist</td>
</tr>
<tr>
<td>6</td>
<td>Bangalore-based journalist</td>
</tr>
<tr>
<td>7</td>
<td>Bangalore-based journalist</td>
</tr>
<tr>
<td>8</td>
<td>Bangalore-based journalist</td>
</tr>
<tr>
<td>9</td>
<td>Bangalore-based journalist</td>
</tr>
<tr>
<td>10</td>
<td>General Secretary of external trade union body</td>
</tr>
<tr>
<td>11</td>
<td>Assistant General Secretary of external trade union</td>
</tr>
<tr>
<td>12</td>
<td>Vice-chairman of TKM</td>
</tr>
<tr>
<td>13</td>
<td>Senior manager TKM</td>
</tr>
<tr>
<td>14</td>
<td>Senior manager TKM</td>
</tr>
<tr>
<td>15</td>
<td>Middle manager - Administrative – TKM</td>
</tr>
<tr>
<td>16</td>
<td>General Secretary of external trade union body</td>
</tr>
<tr>
<td>17</td>
<td>Senior manager – TKM supplier company</td>
</tr>
<tr>
<td>18</td>
<td>Senior manager – TKM supplier company</td>
</tr>
<tr>
<td>19</td>
<td>Middle manager – production – TKM</td>
</tr>
<tr>
<td>20</td>
<td>Senior trainer, Toyota Asia-Pacific, Bangkok</td>
</tr>
<tr>
<td>21</td>
<td>Senior manager, Toyota Asia-Pacific, Bangkok</td>
</tr>
<tr>
<td>22</td>
<td>Standardised work manager, Toyota Asia-Pacific, Bangkok</td>
</tr>
<tr>
<td>23</td>
<td>Assistant General Secretary of external trade union</td>
</tr>
<tr>
<td>24</td>
<td>Ex-senior manager TKM</td>
</tr>
<tr>
<td>25</td>
<td>General Secretary of external trade union body</td>
</tr>
<tr>
<td>26</td>
<td>Senior manager TKM</td>
</tr>
<tr>
<td>27</td>
<td>Trade union shop steward TKM</td>
</tr>
<tr>
<td>28</td>
<td>Trade union shop steward TKM</td>
</tr>
<tr>
<td>29</td>
<td>Trade union shop steward TKM</td>
</tr>
<tr>
<td>30</td>
<td>India based German senior executive-auto industry</td>
</tr>
<tr>
<td>31</td>
<td>Senior Indian academic</td>
</tr>
</tbody>
</table>

The three separate trips to Bangalore, plus one to Bangkok, acted as an excellent opportunity to apply the concept of theoretical sampling to my ongoing data collection and analysis. The first interview occurred with an ex-TKM worker now
living in Australia. From this interview emerged several important concepts about industrial disputation and cultural clashes which formed part of the more focused questioning when I went on my first trip to India in 2009. Interviews 2-9 were held with a range of journalists who were able to give detailed information about many aspects of TKM’s market strategy, leadership style, and disputations with workers. This was followed up with interviews 10-14 in which I interviewed two senior officials of the external trade union plus meetings with senior managers. These interviews provided interesting and contrasting viewpoints with regard to the developing themes of the research. During this trip I was also taken on a guided tour of the plant. Once these interviews were coded and analysed further information was obtained through another trip to India later in 2009. During this trip, further extensive information was obtained from the union General Secretary as well as a middle-ranking manager in the plant. Additionally, during a trip to Bangkok in early 2010 interviews were held with trainers and managers who were based in Bangkok but who had jurisdiction over the TKM operation. Finally, during a third trip to India in late 2010 more information was obtained by way of filling in the gaps from previous data. Interviews were held with the main shop stewards from the plant as well as the union General Secretary again. The opportunity was also taken to talk with two senior Indian managers, one current and one who had left on promotion to another vehicle manufacturer. Numerous codes were generated from this analysis, with some of the more significant codes shown in table 2.4.

Table 2.4
Emergent codes from TKM interviews

<table>
<thead>
<tr>
<th>Hubris</th>
<th>Hegemony</th>
<th>Market share</th>
<th>Abuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clash of cultures</td>
<td>Non-union</td>
<td>Strict discipline</td>
<td>Management threats</td>
</tr>
<tr>
<td></td>
<td>recognition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequent strikes</td>
<td>Pluralism</td>
<td>Domination</td>
<td>Community unrest</td>
</tr>
<tr>
<td>Indian managers held back</td>
<td>State intervention</td>
<td>Worker suspensions</td>
<td>Epiphany event</td>
</tr>
<tr>
<td>Cooperation follows conflict</td>
<td>Performance objectives not met</td>
<td>TIPS – hybrid culture</td>
<td>Misreading the market</td>
</tr>
</tbody>
</table>
Summary of the overall analysis

By continually working with the different codes and categories I was able to develop a list of the significant themes that depicted the similarities and differences between the journeys taken by the three separate unionized plants in the quest to incorporate lean manufacturing as the dominant paradigm. My aim was to take each of the separate themes and attempt to collapse them into as few overarching categories as possible. Eventually I decided on three different categories which appeared to be as exclusive as possible whilst realizing that it was not possible to eliminate every item of overlap. These categories relate to: industrial harmony in the form of union-management relations; various issues concerned with the implementation of the Toyota Production System; and the interacting factors associated with cultural issues, as below:

- Union-management relations
- Toyota Production System, lean manufacturing, and teams
- Culture and organizational learning

In examining each of these categories I found it possible to isolate five different comparison features which in total embrace the major relative differences between the three plants in regard to the organizational journey of each of them:

(i) Industrial peace
(ii) Extent and pace of TPS introduction
(iii) Teamworking
(iv) Cultural consonance
(v) Organizational learning

Box 2.9 depicts the relationship between the three major emergent categories and the five different comparative features.
Chapters 3, 4, and 5 of the thesis now follow. These chapters deal respectively with the organisational journeys at the three plants: NUMMI, TMCA, and TMK. Each chapter is structured in the same manner, according to the three categories of union-management relations; TPS, lean manufacturing, and teams; and culture and organisational learning. In turn these chapters will provide the analytical material which sets up five separate integrative questions, each of them analysing why the organisational journeys varied between the respective plants. In chapters 3-5 it will be shown that the NUMMI journey was quite different from that experienced by TMCA and TKM in regard to the five comparison features. The integrative questions that reflect these differences are shown in Box 2.10 and examined in chapter 6.
Box 2.10

Integrative questions in regard to the different organisational journeys

| I. | Why was there relatively greater *industrial peace* at NUMMI than TMCA or TKM? |
| II. | Why was there relatively greater success in the *extent and pace of TPS introduction* and adoption at NUMMI than at TMCA or TKM? |
| III. | Why was there relatively greater success in the implementation of *teamworking* at NUMMI than at TMCA or TKM? |
| IV. | Why was there relatively greater *cultural consonance* at NUMMI than at TMCA or TKM? |
| V. | Why was there relatively greater *organizational learning* at NUMMI than at TMCA or TKM? |

Evaluation criteria

Morrow (2005) notes that qualitative research embraces multiple standards of quality under various guises known as validity, credibility, rigor, or trustworthiness. However, Morse et al. (2002) make a plea for evaluation criteria that are implemented during the research process itself and in this sense they argue that reliability and validity remain appropriate concepts for attaining rigor in qualitative research. In this way verification strategies become integral and self-correcting during the conduct of the research itself. Box 2.11 explains this argument in more detail.
Box 2.11

The nature of verification in qualitative research

Verification is the process of checking, confirming, making sure, and being certain. In qualitative research, verification refers to the mechanisms used during the process of research to incrementally contribute to ensuring reliability and validity and thus the rigor of a study. These mechanisms are woven into every step of the inquiry to construct a solid product by identifying and correcting errors before they are built into the developing model and before they subvert the analysis. If the principles of qualitative inquiry are followed, the analysis is self-correcting. In other words, qualitative research is iterative rather than linear, so that a good qualitative researcher moves back and forth between design and implementation to ensure congruence among question formulation, literature, recruitment, data collection strategies, and analysis. Data are systematically checked, focus is maintained, and the fit of data and the conceptual work of analysis and interpretation are monitored and confirmed constantly. Verification strategies help the researcher identify when to continue, stop, or modify the research process in order to achieve reliability and validity and ensure rigor.

Morse et al. (2005) put forward five verification strategies that ensure both reliability and validity of the completed project: methodological coherence; sampling sufficiency; concurrent collection and analysis of data; thinking theoretically; and theory development. In the analysis below I use each of these strategies as evaluation criteria for the thesis.

(i) Methodological coherence: ‘This ensures congruence between the research question and the components of the method. The interdependence of qualitative research demands that the question match the method, which matches the data and the analytic procedures. As the research unfolds, the process may not be linear. Data may demand to be treated differently so that the question may have to be changed or methods modified. Sampling plans may be expanded or change course altogether’ (Morse et al., 2005: 12).

Methodological coherence is displayed in the thesis in several ways. The purpose of the thesis is to investigate how Toyota went about the process of transplanting its production system into the contexts of the USA (NUMMI), Australia (TMCA), and India (TKM). The two associated research questions deal with the nature of the resistance experienced and the strategies employed to manage this resistance.
As argued earlier in this chapter, these ‘how’ and ‘what’ questions are ideally answered by a qualitative research methodology using an emergent approach within the framework of a comparative case study analysis. The research was allowed to unfold in an emergent, non-linear manner. Ideas, themes, and categories were never allowed to assume a hegemonic status but were always regarded as initial or unfinished, to be further refined as necessary by subsequent data. The sampling plan was not pre-ordained from the beginning but rather left to be determined by the nature of the evolving analysis. Thus, although NUMMI was chosen as the initial concentration site ‘where the topic is observed in concentration’ no decision was made in advance about the nature of the sites to be studied subsequently. This was decided only after the concept of ‘industrial peace’ had emerged from the NUMMI analysis and a comparison site(s) was chosen which would provide different data.

(ii) Sampling sufficiency: ‘The sampling must be appropriate, consisting of participants who best represent or have knowledge of the research topic. This ensures efficient and effective saturation of categories, with optimal quality data and minimum dross. Sampling adequacy, evidenced by saturation and replication, means that sufficient data to account for all aspects of the phenomenon have been obtained. Seeking negative cases is essential’ (Morse et al., 2005: 12).

Sampling sufficiency is displayed in the thesis through the adoption of an emergent approach in addition to the techniques of varied questioning and site spreading. Using participants who best represent or have knowledge of the research topic was firstly ensured by using the well researched site of NUMMI as the initial concentration site in the knowledge that this first American transplant site of Toyota’s had been exhaustively investigated in the literature. 25 of the best cited academic publications were read and coded. As already indicated earlier in this chapter, the first three articles yielded 146 different codes and seven broad categories. A number of interesting themes emerged from the NUMMI analysis such as industrial peace, a rapid rollout of TPS, good teamwork, and organisational learning. The follow-up sites of TMCA and TKM represent negative cases in the sense that they provide contrasting experiences to that of NUMMI and hence can be relied upon to provide different data allowing the
compilation of denser analysis. The initial categories emerging from the NUMMI analysis were not held to be sacrosanct but rather to be used in constant comparison with other emergent data to saturate categories so that no new concepts were found to be emerging.

(iii) Collecting and analysing data concurrently: ‘This ensures a mutual interaction between what is known and what one needs to know. This pacing and the iterative interaction between data and analysis is the essence of attaining reliability and validity’ (Morse et al., 2005: 12).

Concurrent collection and analysis of data is displayed in the thesis through the use of theoretical sampling throughout. The movement from NUMMI to TMCA to TKM exhibited theoretical sampling through the use of comparison cases. Similarly, a range of data was employed throughout the thesis including data from the extant literature, personal interviews, field notes and observation on a factory tour, company documentation, union documentation, and internet sources of media comments and opinion pieces. This variety of data sources provided good checks amongst one another that would otherwise not have been possible through using single sources of data. In addition, theoretical sampling was used to good effect during my four separate field trips to Bangalore and Bangkok. The 31 interviews used in the thesis represent a wide range of sources and opinions from ordinary workers to middle and senior managers; from trade union officials and shop stewards; from current managers and managers who had left the Toyota employment; as well as from managers operating in a remote site (Bangkok). I was careful to always seek further interviews from people who could provide extra information about emergent themes, as well as sources that may provide contrasting information and viewpoints.

(iv) Thinking theoretically: ‘This ensures that ideas emerging from data are reconfirmed in new data; this gives rise to new ideas that, in turn, must be verified in data already collected. Thinking theoretically requires macro-micro perspectives, inching forward without making cognitive leaps, constantly checking and rechecking, and building a solid foundation’ (Morse et al., 2005: 13).
I was careful to think theoretically by always seeking to move data to higher conceptual levels thus satisfying the interface between micro and macro movements. Thus, 146 different codes were generated from the NUMMI case study within the first day of analysing three academic journal articles. Seven categories subsequently emerged, each of them at a higher level of conceptualisation than the initial open codes. This allowed memos to be written about the nature of the emerging ideas. Subsequent analysis at TMCA and TKM refined and deepened these categories through the process of densification until three overall categories emerged from the analysis together with five different comparison features, as shown in Box 2.9. This analysis in turn gave rise to the posing of five integrative questions with regard to the different organisational journeys of the three plants, as shown in Box 2.10. These outcomes clearly reflect the process of ‘inching forward without making cognitive leaps’ as required by Morse et al. (2005).

(v) Theory development: ‘This entails moving with deliberation between a micro perspective of the data and a macro conceptual understanding. In this way theory is developed through two mechanisms: first, as an outcome of the research process rather than being adopted as a framework to move the analysis along, and second, as a template for comparisons and further development of the theory’ (Morse et al, 2005: 13).

Theory development was not an explicit goal of this thesis. Rather I sought to investigate and understand the nature of the transplantation process in heavily unionised Toyota sites. For this reason the approach of conceptual ordering was employed as an alternative to generating a theory of the transplantation process. Nevertheless, I did follow the dictum of allowing ideas and concepts to emerge during the course of the research rather than using a pre-ordained theoretical model as the framework for moving the analysis along. Rather than develop a theory of the transplantation process, my approach in this thesis has been to seek to understand the difference between the three organisational journeys of NUMMI, TMCA, and TKM and make certain assertions about these differences. As will be shown in the analysis in chapter 6 and the concluding remarks in chapter 7, the thesis is able to advance three models of the transplantation process,
namely, hybrid (NUMMI), slow and piecemeal (TMCA), and authoritarian (TKM), and to use these models as the basis for making 27 assertions about the nature of the transplantation process. These outcomes are merely mentioned at this point, but unfold in detail during the remaining chapters of this thesis.
Chapter 3

Toyota in the USA: New United Motor Manufacturing Inc (NUMMI)

The aim of this chapter is to critically examine how TMC Japan went about implementing TPS in NUMMI’s environment and socio-cultural context, the specific issues and barriers encountered in the process, and the overall extent of success achieved in doing so. The outcomes emerging out of this analysis are subsequently compared and contrasted in chapter 6 with outcomes emerging out of similar analyses of TMC’s transplantation exercises in the unionized environs of Australia and India, which is the main concern of this research.

This chapter is structured into four main sections as below:

1. A chronological listing of significant events
2. Union-management relations
3. Toyota Production System, lean manufacturing, and teams
4. Culture and organisational learning

1. A chronological listing of significant events

Although NUMMI’s formal establishment occurred in 1984, Toyota’s decision to establish its own manufacturing facility in the US was taken in 1982-1983 with the primary objective of protecting and increasing market share. Honda and Nissan were already producing cars in the USA. Concerned that the US plant would be its first overseas facility, Toyota believed a joint venture would lower its risks. By 1983 Toyota had discussed with GM a proposed joint venture manufacturing plant to be set up in a GM facility closed down since 1982. Resultantly, it signed a letter of intent in 1983 with the United Auto Workers (UAW), the labour union that represented GM’s employees prior to the shut down in 1982. The discussion centered around a new cooperative approach towards union-management relations.
February: NUMMI was formed as an independent Californian corporation in Fremont with permission of the Federal Trade Commission to operate it as a joint venture for a period of twelve years. GM and TMC contributed equity of $100 million each, TMC in cash and GM largely through provision of its Fremont plant. An additional $250 million was raised by TMC as an independent corporation. TMC contributed a core staff of about 35 managers on deputation for 3-5 years and a further 30-60 lower end managers and engineers deputed as trainers on three month rotations. GM contributed only 16 managers, due to FTC restrictions, who would be reassigned to GM after three years.

May: NUMMI commenced hiring and training of workers. With a mandatory three-day assessment for managers as well as workers, the average age of workers was 41, mostly with a high school level of education. All new hires were rotated through four days of orientation on aspects including the production system, safety, housekeeping, and attendance.

June: Several batches of 32 members each were sent for classroom and on-the-job training for periods of three weeks each to Toyota’s Takaoka plant in Japan.

December: NUMMI produced its first Chevrolet Nova. The model was produced on the same assembly line by the same workers who had been laid off by the old GM company management. As plant employees at NUMMI were new to TPS, only seventeen Novas were produced in the first month. Significant statistics relating to the NUMMI operation at the time are as follows:

- Facility size: (plant) 5.3 million square feet: (property) 380 acres
- Annual volume: (cars) 250,000: (trucks) 170,000
- Employment: (hourly) 4550: (salaried) 890
- North American suppliers: 3600
• Total jobs supported by NUMMI: 50000
• Assembly process: stamping, welding, painting, assembling, inspecting.

Source: Austenfeld (2006)

1985

*64,764 Novas produced (5,397 per month)
*Commencement of Corolla FX production (14,246 produced)
*Collective Bargaining Agreement signed between UAW and Toyota-GM management offering the highest level of security in the US automobile industry. The unique feature of this contract was in its commitment not to lay off employees unless compelled to do so by severe conditions.

1986-87

*The first Toyota Corolla FX 16 was produced
*The no-lay-offs policy was put to the test when reduced demand resulted in excess workers and line slowdowns. No workers were laid off through deployment of innovative means
*Labour relations improved dramatically as compared with the period of GM management. Attendance 98% with only one outstanding grievance as compared to GM’s 1000 grievances, 60 dispute firings, and absenteeism over 20% in 1982
*NUMMI 40% more productive than the average American automobile facility, exceeding that of all American-owned automobile plants, with the exception of Ford’s Taurus facility
*By 1987, NUMMI had matched Toyota’s quality and nearly matched its productivity.
1988

March: NUMMI forced to cut production by 40% resulting from the slump in sales of Chevrolet Nova. This was attributed to GM’s poor marketing and a slightly higher price. The situation was stabilized when Toyota authorized the production of some Toyota Corolla FX cars at the NUMMI plant and a new model of Toyota Corolla, as the Corolla FX was nearing the end of its life cycle. This resulted in a change in the old role sharing structure of Toyota handling only production and GM marketing.

1990

August: NUMMI demonstrated its commitment to quality by shutting down the plant for three days to rectify a problem with defective parts. Workers received full salary for these days.

1991

Toyota selected NUMMI to build its pick-up truck. Additional assembly line added.

1993

*GM, Toyota, and NUMMI jointly petitioned the FTC to waive the original order placing various restrictions on the plant, most significant being the twelve year life period of the plant.
*1993 model changeover, although impressive on an overall basis, was not fully successful. Major ergonomic problems; scores of workers injured, some permanently; degradation in labour-management relations
*CAL-OSHA issued two serious citations against NUMMI on ergonomic grounds
*JD Power’s Initial Quality Survey ranks the main products of NUMMI either first or second in their respective market segments.
1994

*NUMMI and CAL-OSHA reach settlement on the citations, resulting in NUMMI being obliged to institute suitable ergonomic monitoring measures
*In union local elections, the more militant ‘People’s Caucus’ replaces the more compliant and cooperative ‘Administrative Caucus’.
*NUMMI’s first work stoppage - a two-hour walk out during contract negotiations.

1995

*Redesigned model of the compact pickup truck produced, the Tacoma
*1995 model changeover far superior to that of 1993, taking only 48 days compared with 77 days in 1993, and with an enhanced safety performance

2000

Stamping line introduced for producing parts costing $47 million and replacing parts previously sourced from outside

2002

*NUMMI’s five millionth vehicle rolled out.
*Production of the Pontiac Vibe commenced.
*80% of Toyota’s profits accrued from its sales in the US market
*Launch of the new model Corolla did not go smoothly despite 1000 new workers hired who seemed to have failed in picking up TPS knowledge.
*Need to re-emphasize the importance of adherence to TPS, resulting in the hiring of Ernesto Gonzalez-Beltran as VP Manufacturing.
*Manufacturing costs in California prohibitive, approximately 40% higher than other states where NUMMI’s competitors are located
2003

Toyota becomes the world’s third largest car maker

2007

Toyota becomes the largest automobile manufacturer and fifth largest industrial company in the world

2010

April: Official closure of NUMMI, mainly due to GM filing for bankruptcy.

2. Union-management relations

Chapter 1 of this thesis examined the centrality of cooperative union-labour management relations to the efficacious implementation of TPS. This section analyses the degree of success with which NUMMI handled employee relations since 1984 and the impact of this on the implementation of TPS. Comparisons of labor management styles and related outcomes are analysed between the pre-NUMMI (1962-1982) and the post-NUMMI (1984-2010) periods.

An interesting feature of this topic is that despite TMC’s lack of prior experience in dealing with American unionized labour it seems to have achieved significant results in its handling of union-management relations during the 25 year period it acted as the joint venture partner responsible for manufacturing and plant management. This is despite the fact that TMC wanted little to do with the United Auto Workers (UAW) during the formative stages, since this was the union that had represented workers during the previous period with General Motors (Adler, 1993a).
NUMMI inherited a workforce that was almost wholly constituted of former workers from the earlier GM-owned plant. The key reasons for the closure of this plant were cost and quality deficiencies stemming from poor labour-management relations. How and why the metamorphosis of employee relations took place within the same framework of constraints has been a significant area of research in the literature.

US automobile manufacturing companies, including GM, had traditionally failed to compete with their US-based Japanese competitors in the small car segment. This was attributed to two main reasons: (i) American car manufacturing companies employed unionized labour, unlike most Japanese companies that used non-union labour; (ii) Japanese companies utilized elaborate employee selection processes in their plants (Koike, 1998; Adler, 1993b).

The case of NUMMI, however, appears to do some damage to this argument. Despite having to contend with the same union as the old GM plant and having inherited almost the same workforce, the new joint venture was more successful in establishing harmonious employee relations and transforming the facility, often referred to as the worst car plant in the world, into the most productive unionized car manufacturing company in America (Koike, 1998; Adler, 1993). Analysts had explained NUMMI’s early productivity gains and positive performance outcomes to its production systems (TPS) and high cooperation levels from a workforce which felt indebted to the company for re-hiring them following two years of joblessness. This logically leads to an examination of what seems to be a stark contrast between the unproductive nature of the industrial relations relationship that characterized the old GM plant from 1962 to 1982 on the one hand, and the subsequent productive relationship at NUMMI, established from its early stages of formation and further developed and nurtured over the next two decades (Duerr and Duerr, 2005). Table 3.1 presents six broad differences between the two systems.
### Table 3.1

**Differences in employee relations characteristics pre and post-NUMMI**

<table>
<thead>
<tr>
<th>GM labour-management system: Old Fremont plant and elsewhere.</th>
<th>Broader Toyota &amp; Japanese labour relations model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-NUMMI</strong></td>
<td><strong>Post-NUMMI</strong></td>
</tr>
<tr>
<td>01 One of the most militant unions in the country, variously described as confrontational, adversarial, and an ongoing war</td>
<td>Best described as cooperative or collaborative</td>
</tr>
<tr>
<td>02 Poor labour relations in all plants with entrenched unions and management resistant to change. Lordstown plant set up to beat Japanese (small car) competition was declared a failure owing to labour strife.</td>
<td>Good to excellent labor relations developed from outset, based on aspects including consensus /consultative decision making, emphasizing and demonstrating trust (walking the talk) and ‘gain sharing’</td>
</tr>
</tbody>
</table>
| 03 History of heavy-handed management. Us-them mentality. Workers and managers have long histories of confrontational relations and distrust of each other. Examples:  
  - Arbitrary actions of managers / playing favourites  
  - Ignorance of safety issues  
  - Union support of indisciplined workers, including drunkenness at work and theft | Stress on egalitarianism and low power distance approach. Emphasis on mutual trust and good faith, commonness of purpose, open communication, and decision making. Examples:  
  - Common parking facility,  
  - Common cafeteria.  
**Note:** Most of the above were not common to either American or Japanese management practices, and are perhaps products of a third hybrid culture |
| 04 The earlier GM contract constituted 80 job classifications. Roughly 80% of the 2200 hourly employees worked directly on the production line, and the remaining 20% on maintenance. | The new UAW-Management contract allowed for only 4 labor classifications, a single classification for all production workers, and three for skilled tradesmen. Also, the Supplemental Unemployment Benefits (SUB) were dispensed with and replaced with a no layoffs policy. |
| 05 Increases in productivity perceived as a threat to job security. This perception was reinforced by GM’s policy of laying off excess workers on an as required basis. Restricted productivity was thus the | High priority to employment security policy was made the norm, with practical demonstration of commitment to this. This, coupled with equitable reward sharing |

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75
norm. practices and establishment of clear linkages between individual and company successes, led to high productivity.

During 20 years of conflict, sick-outs, slow-downs, and wildcat strikes often disrupted production. Alcohol and drug abuse were common in the plant. When the Fremont plant closed there was a backlog of 1000 grievances and 60 disputed firings. Absenteeism exceeded 20% and on several days the plant did not start work due to insufficient workers.

During the first 2 years under NUMMI management, attendance was 98% and only one grievance remained unresolved. The same conditions generally prevailed in 2004.

Source: Duerr et al., 2005; Brown & Reich, 1989

Box 3.1 provides some elaboration in support of the pre-NUMMI labour relations scenario to better assist our understanding of the difference made by NUMMI after its takeover from GM.

**Box 3.1**

**Employee relations scenario at the Fremont plant under GM management**

- Employment peaked in 1978 at 6,800, and shrank to 5,700 at the time of closing in 1982.
- Productivity and quality were among the lowest of any GM plant.
- 20% more workers hired at any given time to make up for absenteeism, especially Mondays and Fridays.
- Plant closure on four occasions.
- Unresolved grievances often exceeded 5000.
- Arbitrary actions of managers who asked complaining employees to write up grievances if wanting to complain with no action to redress the same.
- Unions complicity in poor employee relations through their support of worker indiscipline of all kinds.

Source: Adler, 1993a; Adler, 1993b; Levine et al., 1995

Further supporting the argument of NUMMI’s superior handling of employee relations are aspects such as reduced absenteeism and substance abuse and increased participation of employees in the suggestion program. Absenteeism dropped from 20-25% at the old Fremont plant to 3-4% at NUMMI; substance abuse became minimal, and participation in the suggestion program steadily rose from 26% in 1986 to 92% in
1991 (Adler 1993, in Austenfeld, 2006). Also, at the time when the Fremont plant closed down it had more than 2,000 grievances outstanding. Opposed to this is that as of the end of 1991, some 700 grievances had been filed at NUMMI in total over a period of eight years. The overall proportion of employees describing themselves as “satisfied” or “very satisfied” had risen progressively to more than 90%.

Several interpretations and arguments have been offered about the marked changes in the employee relations scenario under the newly constituted NUMMI management. Although the approaches and style of handling of labour-management relations are a study in contrast, there are arguments that the phenomenal change was mainly owing to the gratitude and cooperativeness of a workforce with painful memories of hardships faced due to being out of employment for over two years. Waurzyniak (2005) cites an account provided by Ernesto Gonzales-Beltran (NUMMI’s VP Manufacturing from the year 2002), who argues that although the expectations and demands placed on the erstwhile GM-Fremont workers were onerous, and required them to adapt to a totally different overall system, ‘instead of resisting lean and TPS, the workers at NUMMI embraced the changes…they were desperate for the change. The traditional combative or antagonistic relationship between union and management was something they didn’t want to go through again, so they embraced the new concept of working together, mutual trust and respect, and the level of involvement in the TPS that was required of them’. Box 3.2 shows an excerpt of yet another argument consistent with this line of reasoning.
Box 3.2

GM versus NUMMI

First, working for GM was no picnic either. NUMMI workers very much want to hold on to management promises of job security and dignity and respect as long as they have the slightest credibility. Second, the two years between the closing of GM Fremont and hiring at NUMMI was for most workers truly a significant emotional moment. When unemployment compensation and supplemental unemployment benefits began to run out, workers were forced to choose between moving to plants in Kansas and Oklahoma or being dropped from safety net programs. High paid industrial jobs on the west coast were disappearing. The former GM workers were faced with the prospect of a vastly reduced standard of living. When the letter from NUMMI arrived in the mailbox inviting them to apply for a job, it was a miracle hand reaching from the sky just when they were going down. It is understandable that the former Fremont employees are born again workers who see NUMMI as a second chance for life. Everything else, at least for a while, is reduced to this one issue. Ben Wright a production worker said: ‘I’ve had as many problems in the plant as any of you guys. But we have production, we have quality, and we have jobs. Under the old system they didn’t have production, they didn’t have quality, and we eventually lost the jobs. If anything else needs to be said, think about that first’. Cheryl Franklin concludes: ‘They do not have time and we do not have time for the petty stuff; the main thing we are concerned with is keeping our jobs’.

Source: Parker and Slaughter (1988b: 111)

The other arguments credit NUMMI’s success to its elaborate pre-employment screening of workers. The hiring process of a team leader included an evaluation in which some were screened out for having the wrong attitude. A black worker, for example, with twenty years and a good record at GM was screened out, despite being enthusiastic about the NUMMI system, but an active unionist who expressed doubts that U.S. workers would be willing to work as fast as their Japanese counterparts (Koike, 1998; Parker and Slaughter, 1988b).

However, apparently countering the above are equally plausible propositions along the lines that gratitude of the workforce alone, combined with generosity of management, would be short lived in the absence of further ongoing and decisive perceived benefits accruing from labour-management cooperation (Koike, 1998). Further arguments rejecting the attribution of worker gratitude as the main reason for NUMMIs transformation, include:
• Establishment of a new ‘third-culture’, that was neither Japanese nor American, mainly owing to Toyota not imposing a pure version of its production system, but seeking consensus to find a middle ground,
• NUMMI’s commitment to treating its workforce fairly, and
• Its integrated production system that demanded participation, respect, and trust (Wilms, Hardcastle, and Zell, 1994).

Alternative explanations offered for NUMMI’s high productivity and success, include workers’ voice in decision making and democratic Taylorism, that is, rigid adherence to efficient work procedures and practices with the difference being that inputs on crafting ownership come in from those performing various tasks (Brown and Reich, 1989; Turner, 1991).

**Labour-management relations: strategic considerations**

Ironically, whilst Toyota at the initial stages wanted to steer clear of unions, it subsequently stated that one of its main objectives of entering into a joint venture agreement with NUMMI was its need to gain experience with American unionized labour. Consistent with this objective, Toyota demonstrated a keen sense of curiosity and willingness to learn as much as it could about GM’s labour unions and the psyche of American workers. As such they attempted to learn everything they could about American labour relations and values, to an extent that caused some discomfort to their GM partners (Adler, 1999; Duerr et al., 2005; Wilms et al., 1994).

One could argue that Toyota’s concerted efforts to understand GM’s American unionism was a high priority, mainly due to the adversarial, confrontational, and ongoing war type of labour-management relationship scenario that obtained in the Fremont plant, which it would shortly inherit, along with the majority workforce of former GM workers it intended to rehire. In fact, according to Adler (1999), Toyota had no choice available to it in terms of (a) choosing a joint venture partner other than GM (b) having a plant other than GM’s Fremont plant and (c) being able to refuse the
rehiring of GM-Fremont veterans. Toyota’s organizational success as a partner in NUMMI thus seemed fully incumbent upon its successful handling of union-management relations. A key initiative consistent with NUMMI’s high priority accorded to attaining harmonious labour-management relations was its signing of a letter of intent in September 1983 with the UAW, the main objective of which was to develop a new, cooperative approach to relations between union and management. This event preceded its commencement of operations as a factory in 1984 and also the signing of its first formalized union-management agreement. The letter of intent essentially comprised the following:

- An undertaking by NUMMI that the primary labour pool for hiring would be the laid-off GM-Fremont employees,
- That NUMMI would pay workers the generally prevalent US automobile industry wages
- UAW’s acceptance that NUMMI was a new company and not bound by provisions of the old (GM) contract relating to seniority rights, work rules, and job classification scheme,
- UAW’s agreement to cooperate with NUMMI in establishing a new management system built around the Toyota Production System (TPS)
- Recognition of the UAW as the sole bargaining agent for the NUMMI labor force (Adler 1993b).

This was followed by re-hiring into NUMMI of most of the laid-off workers of the old Fremont plant. This action seemingly resulted in the creation of a level of trust to an extent that initial production commenced under the interim agreement, even before the formal labour agreement was signed between the UAW and NUMMI, in December 1984. The new three-year contract subsequently signed in July 1985 contained a pledge ‘to maintain the most harmonious labour-management relations in America and to build the highest quality automobile in the world at the lowest
possible cost to the consumer’ (Niland, 1989; Adler et al., 1999). Box 3.3 shows some of the characteristics which enabled the reaching of a new discourse at NUMMI

**Box 3.3**

**Harmonious labour relations in the new NUMMI**

| It was politically impossible for the plant to reopen without UAW involvement. So, although Toyota was initially reluctant to work with the UAW, it agreed to recognize the union and to give priority to rehiring the laid-off workers. The employee selection process was done jointly by the union and management. Notwithstanding the three full days of interviews and tests, few workers who went through the selection process were rejected. The entire union hierarchy was rehired, and of the 2200 workers hired by late 1985, more than 95% of the assembly workers and 75% of skilled tradesmen were former GM-Fremont employees. The initial 1985 collective bargaining contract embodied a very different role for the union than it had in the Big Three plants. The introduction stated the union and management ‘are committed to building and maintaining the most harmonious labor-management relations in America’. |

Source: (Adler, 1999: 84)

The employment security in NUMMI was very similar to that which prevailed at Toyota in Japan. Workers enjoyed a high degree of security, which was in stark contrast ‘with its American peers’ aggressive pursuit of numerical workforce flexibility’ (Adler, 1999). A few key factors which were mainly Toyota’s contributions and a departure from GM’s beliefs and practices, included consensus decision making, cultural openness, and creations of channels for staff feedback (Armstrong, 2002b). Notable features included the following:

1. Developing cooperative management-labour relations
2. Careful selection and extensive training of workers
3. Stressing teamwork and responsibility of the individual to the working group
4. Putting safety and quality first, assigning the responsibility for safety and quality to each worker, and giving them the authority to assure it; and
5. Implementing Toyota’s lean production system based upon the foundation of the first four key factors.
No-lay-off policy and the test of the first crisis

Consistent with its commitments, NUMMI sought to minimize the traditional adversarial labour-management relationship by emphasizing trust and good faith from the earliest point of the company’s operations (Duerr et al., 2005). Consensus style decision making for major decisions was the norm, besides a collective bargaining agreement signed in 1985 containing a unique feature in the form of a no-lay-off commitment, in other than extreme situations. Additionally, disciplinary action was resorted to in exceptional cases only. Although life time employment could not be guaranteed in the final collective bargaining agreement in 1985, the final result was a labour agreement offering the highest level of security in the US automobile industry. A unique feature of this contract was that the company would not lay off any employee unless compelled to do so by severe economic conditions threatening its long term financial viability. This was put to the test in 1986-87 when reduced demand resulted in excess workers. However, no one was laid off. Box 3.4 adds more explanation.

Box 3.4

NUMMI’s no-lay-off policy

Toyota even in Japan, and contrary to popular myth, does not guarantee life time employment. No employer can credibly make such a guarantee. What an employer can do and what Toyota does is state that the last thing the company wants to do is lay off employees. Only as a last resort will it turn to reducing the work force. Through such a policy, real trust can develop between company and employees, along with the motivation for employees to accept responsibility and take ownership. At NUMMI, this policy was called mutual trust.

‘Laying-off as the last resort’ was put to the test in the late 1980s. NUMMI’s product was simply not selling well. Production volume was down so much there were several hundred workers who weren’t actually needed to run the plant. Naturally, workers who had experienced lay-offs in the past became nervous. To demonstrate the company’s sincerity to its employees’ welfare, NUMMI wrote into the contract the commitment that before anyone was laid off, certain steps would have be taken including reducing the plants operating hours and cutting management bonuses.

Source: Shook (2010: 65)
The contract also provided for advance consultation with the union on major business decisions, non-confrontational problem resolution procedures based on discussion and consensus, and provisions for team members to stop the line, combined with a limited no-strike provision. The agreement required team members to participate in quality and productivity improvement programs, such as Quality Control and Quality Circles. Wilms et al. (1994) argue that a critical enabling factor that helped NUMMI acquire a high standard of labour-management relations, especially during the early years, was the adoption of a ‘go slow’ attitude by both joint venture partners. This involved Toyota’s managers seeking consensus, demonstrating tolerance for ambiguity, and not pushing too aggressively for a pure version of TPS.

**Pitfalls in NUMMI’s labour-management relations**

While it would seem from the foregoing that NUMMI enjoyed a faultless track record in handling its labour-management relations, this was not always the case. The company had its share of pitfalls and negative occurrences marring its otherwise sound record. One event, namely the 1993 model changeover process, stood out as an epiphany for the company. Perhaps the 1993 model changeover process and its attendant problems with ergonomic injuries, put relatively more pressure on NUMMI’s labour-management relations than did any other incident during its existence. This changeover, although impressive on an overall basis, was not fully successful. Major ergonomic problems resulted from the change. Scores of workers were injured, some permanently, causing degradation in labour-management relations (Adler et al., 1999; Adler et al., 1997). Consequently, the California Occupational Health and Safety Administration (CAL-OSHA) issued two serious citations against NUMMI on the grounds that its car production jobs were high ergonomic injury areas. By January 1994, NUMMI and CAL-OSHA reached a settlement on the citations, resulting in NUMMI being obliged to institute suitable ergonomic monitoring measures. The event had other repercussions. A few months later during the May 1994 union local elections, the ‘People’s Caucus’ (considered the more confrontational union) was successful, replacing the ‘administrative caucus’,
perceived as more compliant and cooperative. A need had thus arisen for a more assertive union voice. Also, later in the same year NUMMI’s first work stoppage occurred, a two-hour strike during contract negotiations, at the request of the People’s Caucus-dominated bargaining committee. However, in the elections of 1997, and as an indication of the workers’ preference to have a more pragmatic approach towards internal union politics, the Peoples’ Caucus was voted out of power and the overall paradigm of union-management cooperation remained unaffected (Adler et al., 1999; Adler et al., 1998).

The overall record of NUMMI in the areas of quality and productivity was somewhat marred by its relatively poor showing in the areas of health and safety (Adler et al., 1998; Adler et al., 1999). Three policy related causes attributed to this problem:

a) Lack of ergonomics expertise

b) Job rotation policy was not tailored to address stress reduction, for example by moving workers from more to less stressful jobs, and

c) Lack of efficient ergonomics evaluation methodology that identified potential problem areas, such as vibrations.

Other factors contributing to poor ergonomics included managers and supervisors according greater importance, based upon management directives, to quality and productivity than ergonomics and health; management’s view that workers were faking injuries to get the better of the system; and the union having only one OH&S representative, more concerned with safety issues than health. In conclusion, the analysis of the ergonomics problems yielded the following findings:

- Poorly fitting parts required workers to exert greater physical effort to assemble them, adversely affecting production time and quality,
- This was due to a change of suppliers from Japan to the US (36 new suppliers were added to the supplier base),
• Tacit knowledge not turning explicit, in the sense that parts earlier supplied by Japan and also altered by them were required to be supplied by the new suppliers who did not receive updated drawings relating to the alterations carried out at Japan, thus resulting in poor fitting,

• Relative inexperience of the pilot team: only two of 34 had prior major model changeover experience,

• Whilst workers’ training prior to changeover was planned for both their primary and secondary jobs, eventually actual training took place for primary jobs only, making job rotation difficult, resulting in team members having to work in stressful positions for long periods and resulting in ergonomic stress injuries.

In the sense that these negative outcomes resulting from ergonomic issues were subsequently resolved, details on the lessons learned from the 1993 changeover experience and how these were successfully used later on, are discussed under the heading ‘organizational learning’ later in this chapter.

According to Duerr and Duerr (2005), the real key to labour-management relations, as identified by a senior manager, was the way people dealt with each other on a day-to-day basis. Disciplinary action was resorted to only in chronic cases. Workers went through several stages during the initial years of NUMMI’s operations, which are categorized as follows:

Phase 1: High degree of job satisfaction in the sense of having their jobs back with good pay and benefits, hence a low level of complaints and high levels of motivation,

Phase 2: Initial satisfaction slowly giving way to perceptions of being pushed too hard; and

Phase 3: During the low demand period of 1987-88 there were no layoffs despite production cutbacks, leading workers to realize they were valued as employees and
that it was their hard work that was ensuring them their job security – a paradigm that related job security to productivity and quality.

In conclusion, one could argue that the quality of labour relations enjoyed by NUMMI management, especially during the early years, was mainly due to factors such as:

a) 90% of NUMMI’s workforce being constituted of GM-hating shopfloor workers, with the plant level management being almost 100% Japanese deputed from Toyota. The battle for the hearts and minds of workers was a significant variable in ensuring a cooperative spirit in labour relations,

b) The policy of management to institute a paradigm of cooperative/collaborative relationships

c) Instituting a more egalitarian atmosphere within the company through such measures as a common cafeteria and parking areas.

These factors possibly paved the ground for further actions that helped shape NUMMI’s culture. Employee relations will remain adversarial in organizational climates characterized by distrust. This is illustrated by the track record of almost all GM’s plants, a particular case in point being GM Van Nuys. According to Brown and Reich (1989), over the long term there is a reciprocal relationship that develops between a company and its commitment to workers, and those workers’ productive engagement with the company. When this results in higher productivity, which in turn translates into rewards including greater job security and satisfaction, there develops an increased level of interdependence awareness. A virtuous cycle thus ensues which seems to have been the case with NUMMI.

3. Toyota Production System, lean manufacturing, and teams

This section does not delve into generic aspects of TPS and lean manufacturing since these are addressed in chapter X. Thus, only NUMMI-specific aspects of TPS and
According to Adler et al. (1998), NUMMI represented one of the first attempts to export TPS, as an exemplar of lean manufacturing, outside of Asia. Whilst other elements of Toyota’s management system, such as human resource management, were hybridized within traditional elements of the US system, in contrast very few changes were made to the system of TPS itself. Since NUMMI’s incorporation in February 1984 as an independent California corporation, each partner had a 50% interest in the joint venture. GM had the overall responsibility for marketing and distribution functions. TMC was responsible for product design, equipping, operating and managing the plant, intrinsic to which was its responsibility for implementing and running TPS. The plant produced Chevrolet Nova passenger cars in a pre-existing assembly plant in Fremont California which GM had closed down in 1982. Therefore, in broad terms, the onus was on Toyota to manage NUMMI’s work organization. Most analysts have reached a consensus that the introduction of lean manufacturing and TPS into NUMMI experienced relatively few problems. The major reasons offered in the literature are as follows:

- Contractual and legal obligations (duly formalized through the collective bargaining agreement) required NUMMI workers to accept TPS and to dispense with the old job classification system, in return for the retention of union wages.
- Acceptance of TPS as a result of workers’ gratitude for having their jobs back
- Wages of American automobile workers being higher than most counterparts within the US and also internationally
Labour productivity in the US was higher than most other nations, resulting in more amenability to the assimilation of new production methods.

Robbins (1996) opines that national culture continues to be a powerful force explaining a large proportion of organizational behaviour. This seems to support the high comparability and consistency between the US and Japanese work ethic in areas such as hard work, innovation, and a penchant for punctuality. Americans are said to value hard work as a virtue, often at the expense of vacation time and to the point of stress (Engles, 1985; Keinan, 2011).

Adler et al. (1998) state that the following techniques comprised NUMMI’s TPS practices, patterned on lines very similar to Toyota’s Japanese plants:

**Kanban:** In-plant scheduling system (manual, not computerized)

**Heijunka:** Leveling of production schedules for extended periods

**Kaizen:** Continuous improvement of all aspects of production

**Visual Control:** Designed to signal abnormal conditions rapidly and automatically

**Poka-yoke:** Error-proofing devices to make inadvertent error almost impossible

**Team concept:** Philosophy of cooperative labour-management relations through small production teams

**Standardized work:** Intelligent interpretation of Tayloristic principles by analyzing each job into its constituent parts and optimizing the sequence of gestures for maximum performance. However, this standardization was performed by team members and leaders themselves, not methods engineers.

Parker and Slaughter (1988b) provide an account of their first hand observations of NUMMI’s various applied TPS practices. They found the NUMMI plant to be ‘strikingly clean…no coffee cups, newspapers, cigarette butts, or fast food wrappers
litter the floor’. All workers kept their areas clean through practicing ‘the 4 S’s: Seiri (clearing away unnecessary items); Seiton (arranging everything in its place); Seiso (cleaning equipment and the surrounding area); and Seiketsu (overall cleanliness, including the previous three). The company’s just-in-time (JIT) parts’ delivery process aided space management, with only parts needed for the next few hours being stacked by the line. These mostly required small cartons rather than larger storage bins that cluttered traditional plants. In Box 3.5, Parker and Slaughter (1988b) explain some of the consequences of JIT for materials handling.

Box 3.5

Consequences of JIT for materials handling

In most plants material handling is a desirable job because it is not paced by the assembly line. But in NUMMI, J.I.T. has changed that. Steve Bera, production control supervisor, explained the change from a management perspective:

‘The best job used to be material handling. Because what did you do when you walked in in the morning? The first thing you do is stop at the newspaper stand and pick up a paper, right? Then you get on your truck and you scout the line and you look for a place to stack material. And you put on eight hours, 16 hours, if you could put on 16 days of material you would do it because what’s the next thing you do when you stack the line? You went to the satellite area, got a coffee, and you read your newspaper and you didn’t have to do anything anymore. What does this plant do? Every 60 minutes we are stocking the line. The people in material handling now, they are working eight hours a day’.

Source: Parker and Slaughter (1988b: 104)

The concept of job rotation was introduced into NUMMI consistent with TPS. The management expected all production workers to be multi-functional. However, Japanese managers who were aware of American individualism, attempted to sell the team concept, and rotation between teams, by likening TPS work teams to sporting teams in competitions (Adler et al., 1997). As a result all workers were interchangeable, exposed to jobs across the company, allowing them to learn how their job related to others and how mistakes in one affected the other. This also increased workers’ ability to notice defects in jobs other than their own. Another aspect linked to TPS and commented upon by these researchers is standardized work, which enhanced NUMMI’s cost and operational efficiencies in several ways.
Characteristics of standardized work include eliminating all ‘easy jobs’ involved in the overall manufacturing process, and outsourcing these to external contractors at lower wages, whilst minutely breaking down and timing production tasks and balancing the line by ensuring equitable workload distribution. In this way every worker is fully utilized all the time. Thus, a team of eight workers with 15% idle time would result in reduction of one worker to balance the load. Whilst standardized work reduced time and eliminated wasteful activities, its regularity and choreographed nature took its toll on workers in terms of boredom and injuries.

Shook (2010) was intimately involved with NUMMI’s start-up phase and introduction of various TPS practices. He describes the time when NUMMI management was deciding whether or not to introduce the Andon (stop-the-line system) or some variation of the same at the company. Whilst this was traditional practice within Toyota and aided the concept of building quality into the process there were doubts about its applicability within the NUMMI (read ex-GM) workforce. Reservations were expressed among some ex-GM personnel about the practicality of the issue. Their misgivings however proved to be unfounded in the years that followed, during which, ironically, line workers became more quality-conscious than some of their operational managers who were more production and quantity driven. The inset below provides an elaboration on the initial doubts about introducing Andon. Shook (2010) explains that some colleagues asked the question ‘you intend to give these workers the right to stop the line?’ to which Toyota’s answer was ‘no, we intend to give them the obligation to stop it whenever they find a problem’.

Introduction of the andon at NUMMI was indicative of Toyota’s principle of ‘respect for people’ and a confirmation of management commitment to ensure workers’ right to have control over their jobs. Consistent with this are explanations of Kan Higashi (the Executive Vice President of NUMMI during its early years) who said that TMC understood the need to establish the concept of fairness and as such wanted a general leveling in terms of fewer levels of management, fewer executive perks, and
elimination of divisions between Americans and Japanese, line workers, and managers (Wilms et al., 1994). Consequently, the management team and union compressed job classifications and created a flat wage structure which effectively equalized workloads and rewards while fostering fairness and egalitarianism. GM’s earlier eighty job classifications were collapsed into only three. Subsequent to this[NUMMI] instituted a bonus system based on gainsharing with the aim of benefiting all employees equally. Measures such as these facilitated the enhancement of team spirit and geared employee motivation to the attainment of organizational objectives. In this way, TPS at NUMMI was seen as a highly integrated system of teams and interdependent sub-systems.

With regard to the concepts of quality and productivity at NUMMI, these were enhanced through the elimination of waste in all forms using the TPS concepts of *jidoka* and *JIT*. *Jidoka* ensures that quality is ‘built in, not inspected in’ (Austenfeld, 2006) and ensures prevention of defective parts from continuing along the production line, whilst *JIT* assists in dispensing with inventory until actually required through use of the ‘pull’ system achieved through kanban. While cost of capital tied up in inventory is thus reduced, quality related problems also are minimized through early detection of defects in low inventory levels. Other facets of TPS, such as *heijunka* (workload leveling), use of visual controls, and stopping to fix problems, further enhanced NUMMI’s quality and productivity standards. Added to this was team members’ involvement in the determination of the most optimal ways of work. *Kaizen* (continuous improvement) also impacted NUMMI’s processes through the cyclic process of establishing standardized work procedures, identification and improvement of weaknesses, and repeating the cycle once more. Adler (1993a and 1993b) states that such continual reiteration of the disciplined process of analysis, standardization, re-analysis, refinement, and re-standardization ensures an intensely structured system of continuous improvement. Yet another factor responsible for NUMMI’s high quality and performance standards relates to the instituting and nurturing of a cooperative labor-management relations environment, in the absence of
which TPS would be ineffective. Linked to this are the arguments of Recht and Wilderom (1998) who opine that a family culture and security of employment are positively linked to the success of Kaizen-oriented suggestion systems.

An important indicator of how quality-related considerations at NUMMI took precedence over commercial short term-gains occurred in August 1990 when NUMMI demonstrated its commitment to quality by shutting down the plant for three days to rectify a problem with defective parts. Workers received full salary for these days since the responsibility for the defects was not theirs and management wanted to encourage workers to report defects.

With regards to productivity standards, NUMMI quite early in its existence became 40% more productive than the average American automobile manufacturing facility (Duerr et al., 2005). According to both Koike (1998) and Adler (1993a) the earlier GM-managed Fremont plant (which was often referred to as the worst car plant in the world) within a very short span of time became transformed into the most productive unionized car manufacturing company in America. Researchers at MIT estimated that in 1988 productivity at NUMMI exceeded all American owned US automobile plants, except Ford’s Taurus facility, that it roughly equaled. Box 3.6 elaborates further on this phenomenon.
Box 3.6

**Productivity and quality at NUMMI**

| As the first unionized Japanese managed auto plant in the US, NUMMI has attracted much interest. This interest has been magnified by the high productivity and quality ratings the plant has achieved in only two years of operation. NUMMI’s productivity statistics are indeed impressive. A 1986 GM internal report shows that NUMMI’s Nova required 21.2 hours of direct and indirect labour per car, compared to an average of 37 hours at the three GM J-body Cavalier assembly plants…A study conducted at the Massachusetts Institute of Technology compared the NUMMI plant to the GM Framingham plant which builds the Celebrity and Ciera. This study attempted to adjust for factors such as automation, number of welds, contractual relief time, and size and complexity of the car. The study concluded that NUMMI has about a 50% productivity advantage. Operations on a car that take 20 hours at NUMMI would take slightly more than 31 hours at Framingham. Productivity at NUMMI is only slightly lesser than the Toyota plant at Takaoka, Japan. Source: Parker and Slaughter (1988b: 100-101) |

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TPS within NUMMI is variously described by researchers as the essence of ‘democratic Taylorism’ in the sense that the institutionalized practice of seeking worker input on the determination of preferred work methods and standards enhances the feeling of control and ownership. They argue that the social effects as well as worker attitudes resulting from the application of TPS at NUMMI is not, as some critics claim, intrinsically dehumanizing. Adler (1993) argues that the traditional Taylorist organization of work is built on the logic of coercion and reluctant compliance. This inevitably results in a vicious cycle of workforce discontent and union belligerence resulting in higher levels of bureaucratic excess. Quality, profits, and job satisfaction suffer as a consequence. He contends that in NUMMI’s case, however, successful democratization of Taylorism shows that efficiencies effected through standardization and hierarchy can be built on a logic of learning (intrinsic control) rather than on a logic of coercion (extrinsic control).

In contrast with the situations in Australia and India, examined later in this thesis, the TPS implementation exercise at NUMMI turned out to be an easier and more broadly accepted process. A number of reasons could underlie this. First, NUMMI workers seem to have shared a similar work ethic to the Japanese and also possessed adequate knowledge and skills to perform TPS routines, with due training. Second, there seems
to have been relatively more respect for authority with the credible NUMMI management. There seemed to be few barriers to learning and accepting Japanese work techniques and TPS jargon in the Japanese language, much unlike Australia. Third, the lack of an adequate welfare safety net for NUMMI workers is sharply contrasted with the situations in both Australia and India. In Australia there exists a taxpayer funded social welfare system available to its citizens. In India there exists a strong social and family fabric that provides security to workers faced with joblessness. Following retrenchment by GM, workers were entitled only to supplemental unemployment benefits and unemployment compensation payments (Parker and Slaughter, 1988b) admissible for a short span of time after being rendered jobless. Subsequently, NUMMI workers felt a high sense of gratitude and indebtedness to Toyota when provided with a second chance for high paid employment.

The literature argues that ‘rational organizations’ (this would include NUMMI) founded on scientific management principles of Taylor, encounter a plethora of problems relating to their effectiveness, responsiveness and reaction times, and flexibility. More frequently encountered issues relate to strict lines of command, separation of decision making and division of work, and defensive mechanisms and routines (Drucker, 1988; Kanter, 1989; Hammer and Champy, 1993; Eccles and Nohria, 1993). Bureaucratic organizations, including NUMMI, have responded to this situation by transforming themselves into forms comprised of teams.

Two broad variants of team-working models have gained credibility in the literature. First, work teams can be based on the sociotechnical systems design that allows for greater worker autonomy and clear and complete tasks that facilitate a team’s understanding of its contribution to the organization and to society, with ‘quality of work life’ issues being of the essence. Second, work teams can be based on the lean production and TPS model, characterized by a higher degree of strictness and a standardized model of production.
The choice of model to be deployed and the likelihood of success are largely a function of social, economic, and cultural factors. Volvo’s Kalmar project at Uddevalla and NUMMI are examples of companies deploying the first and second forms of team based organization respectively (Hummels and Leede, 2000). With regard to the specifics of teams at NUMMI it can be noted that at the outset the UAW-NUMMI labour contract allowed for the use of teams by management. Teams were regarded as being central to the deployment and effectiveness of TPS at NUMMI. The organization of teams was facilitated by having only one single classification for production workers (as opposed to GM’s 80) and by eliminating the allocation of tasks to workers based on seniority. Skilled job classifications were also reduced to only three, allowing for greater flexibility (rather than specialization), cross training, job rotation, and enhanced involvement in the production process. NUMMI workers were thus organized into small teams of four to eight members with each team member performing a work cycle of about 60 seconds with each team headed by a team leader. An aspect peculiar to NUMMI’s teams not seen in Toyota plants elsewhere was the practice of ‘intra-day’ job rotations within teams, which apparently was effected to allow workers to maintain a sense of their ‘American individuality’ (Adler et al., 1997). The teams divided up and rotated jobs amongst their members. Between two to six teams formed a group headed by a group leader, who represented the first line of management, and reported directly to assistant managers of the various sections and departments (stamping plant, body shop, final assembly etc). Reinforcing the team concept were practices including provision of a single cafeteria and one parking lot for salaried and hourly workers. Office personnel used open offices, with only the President and Executive Vice President sharing an office. The teams were linked in final assembly with the interdependence of the teams further reinforced by the tight TPS based JIT system. All team members knew each others’ roles within the team’s process and their jobs were rotated regularly.

The need for relief workers was nullified due to team leaders standing in to relieve workers as required. A summary of the role and responsibilities of team leaders
would include: filling in for absent employees; training new workers; assisting workers having difficulty with their jobs; recording attendance; assisting team members in housekeeping and minor maintenance; assessing new team members; leading kaizen efforts; and organizing social events outside the plant. Team leaders were paid a slightly higher wage rate for the additional responsibilities they performed (Austenfeld, 2006). However, the role of the team leader was fraught with difficulties and frustrations as explained in Box 3.7.

**Box 3.7**

**Unattractiveness of the team leader role**

<table>
<thead>
<tr>
<th>Many NUMMI workers say they would never want the team leader’s job because there are too many demands, and the team leader always gets caught in the middle....some team leaders serve as buffers between the workers and unreasonable management pressure. Others see team leaders as management spies, who besides gathering vital production information are emotional gauges to see how far workers can be pushed....the role of the team leader was the single most important factor in determining how bearable work is....'If he’s good, it’ll be ok. If he’s bad, you’re f....'. For example, in a team that rotates regularly, a ‘bad’ team leader will cover for absence by taking the softest job on the team, rather than the job vacated by the absent worker.</th>
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<tbody>
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<td>Source: Parker and Slaughter (1988b: 103)</td>
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</table>

Teams were trained to carry out time and motion studies, set new standards and operating procedures, define problems, and find solutions, with team members working with engineers to analyze various operations and then determine the ‘one best way’ and establish the pace of work. However, management and engineers needed to be convinced that these methods were optimal. As and when new standards or operating procedures were accepted, they were implemented identically across all teams and shifts to ensure standardization. Also, whereas traditional Taylorist practices recommend that jobs be specialized and work processes standardized to the extent that the repetitiveness of the task justifies, NUMMIs ‘democratic’ methods and standards allowed for all workers to understand the analysis process involved in the definition of the one best way and actively participate in it (Adler and Cole, 1993). Limited shop floor decisions, such as how frequently to rotate jobs, were left
to their discretion. Workers, besides being responsible for routine maintenance of equipment they use, were responsible for cleanliness of work areas, quality, and elimination of waste in production, materials, machines, and labour. Worker control over their own work and work quality is effected through use of the andon cord that results in the team leader being made aware of a work stoppage at a specific station (Wilms, 1994). This results in problem resolution taking effect in minimal time, without invoking disciplinary action. Meetings relating to work improvement are held approximately on a fortnightly basis. Workers were thus continuously challenged to be creative, despite the high degree of task and process specification and standardization (Skorstad, 1994). Adler and Cole (1993) stated that teams at NUMMI had greater responsibility than average workers in the US automobile industry, especially in areas of quality assurance, preventive maintenance, and internal job rotation scheduling.

There are several arguments relating to the concept and nature of teams, team working, and NUMMI’s use of these. The reasoning of those arguing in favour of NUMMI’s use of teams is that team working is central to NUMMI’s production processes, productivity, and various other successes. The opposing view contends that teams are a mere façade to extract more work from fewer workers with little or no change from the traditional departmental organization of work groups (Parker and Slaughter, 1994). Further, this view argues that rather than productivity and profitability being subordinated to concern for human beings and the adoption of human-centered work design, NUMMI leads several organizations in adopting a version of team-based work design to attain management’s end at the expense of dehumanizing the workplace.

4. Culture and organisational learning

In this section the examination of NUMMI’s culture and organizational learning are dealt with more or less in tandem, given their highly interrelated nature. Several researchers attribute NUMMI’s protracted success story to its hybrid organizational
culture that took root in the plant, mainly due to a pure form of TPS not being enforced within the mainly American workforce (Wilms et al., 1994). However, there are counter arguments to the effect that the overall desire of workers to cooperate, and their willingness to heed management directives was primarily due to the state of frustration and hopelessness of the former GM-Fremont employees, who had been out of work for over two years. However, this section attempts to make the case that NUMMI’s success was the outcome of the interplay between its culture and its propensity for learning which seem to have continually reinforced each other.

The big three American automobile producers (GM, Chrysler, and Ford) remained less efficient than other US-based Japanese transplants for almost two decades from the late 1970’s through to the 1990’s. However, they commenced the process of seriously taking stock of the losses inflicted on them by their Japanese rivals roughly around 1984, when they were surprised to discover they had as much to learn from the Japanese about their use of human resources as they did about other work processes. A decade later, when all three returned a profit for the first time since 1984, one reason for this change in fortunes was the varied learning that US automakers took on board from their Japanese rivals (Wilms et al., 1994).

One could reasonably argue at this point that at the industry level the dominant logic that had taken grip of America’s management of their unionized industries, and to which the Big Three were apparently no exception, was based upon the logic of pure applied Taylorism (scientific management) generally entailing that ‘workers worked and managers managed’. This was seemingly the established order that fostered an ‘us-versus-them’ mindset (Wilms et al., 1994). This paradigm propagated division of labour and centralized authority, resulting in the creation of inflexible cultures whereby dissent and divisiveness characterized labour-management relations for generations. This inflexible culture resulted in a loss of competitive advantage to more nimble foreign companies which exhibited more cooperative labour-relations. A case in point is NUMMI which demonstrated how the introduction of a new
production system and foreign culture transformed the earlier failed plant into a world-class manufacturing entity. However, despite the success story that ensued, it is essential to note that TMC Japan had serious concerns about its ability to transplant its famous employee-involvement approach into what was considered GM’s worst plant ever. The workforce had a notorious reputation, often resorting to strikes, continuously filing grievances, and even sabotaging quality. Absenteeism exceeding 20% was the norm with the plant producing some of the worst quality in the GM system. ‘Remember, this was in the early 80s. So to be the worst in the GM system at that time meant you were very very bad indeed’ (Shook, 2010). Box 3.8 argues that the problem lay with the culture not with the militant workforce.

**Box 3.8**

**Blame the culture not the militant workforce**

As it turned out the ‘militant’ workforce was not a major obstacle. Many problems did crop up but they were ultimately overcome. In fact the union and workers didn’t just accept Toyota’s system they embraced it with a passion. The absenteeism that regularly reached 20% or more immediately fell to a steady 2%. The quality that had been GM’s worst, in one year became GM’s best. All with the exact same workers, including the old troublemakers. The only thing that changed was the production and management system and somehow the culture.

Source: Shook (2010: 64)

Shook (2010) argues that NUMMI’s cultural transformation was due to the focus brought to bear on *behaving and doing* things in certain ways, which resulted over time in changes to one’s ways of thinking. This resultantly changes values and attitudes which lead to the new thinking of doing the right things. The first-hand experiences Shook gained whilst associated with NUMMI when its culture was still being created led him to believe that cultural change was driven by the sequential process of defining what and how things needed to be done, followed by actually doing things and training people in doing things in the new way. Shook’s analysis of NUMMI’s cultural reform resulted in him drawing up a basic culture change model.
which was fairly congruent with Edgar Schien’s model of corporate culture, as in figure 3.1.

**Figure 3.1**

*It’s easier to act your way to a new way of thinking, than to think your way to a new way of acting*

![Diagram of Schien's and Shook's Models of Corporate Culture](image)

Source: Shook (2010: 66)

The most significant example provided of how cultural change was effected at NUMMI, consistent with the change process just described, is that of the introduction of the andon cord. All GM and NUMMI employees who were sent to Japan were exposed to the andon philosophy and its working. The decision to install it went ahead, despite initial misgivings. It is claimed that all those at a supervisory level, and several NUMMI workers, who were trained in Japan for at least 2 weeks, knew exactly what they had to do and were empowered through the andon to ensure quality. Additionally, they were also trained in the problem-solving techniques of TPS – the 5 Why’s (which back in the GM management era was cynically called the 5 Who’s!).
As previously intimated, whilst some researchers have attributed NUMMI’s success to the twin factors of rehired workers’ willingness to do anything to restore the status quo, and to careful screening of job applications, there are others who attribute the joint venture’s success to its unique third culture that was neither American nor Japanese but a hybrid combining the best of both parent company’s cultures. A case in point is the example provided by Recht and Wilderom (1998) who state that whilst large Japanese corporations had a tendency to provide employees with long-term employment benefits, NUMMI’s no-lay-offs policy was unique even by Japanese homeland employment security standards. The authors’ arguments are that high long-term orientation (LTO) scores are an advantage when implementing Japanese management practices and suggest that greater employment security leads to the possibility of enhanced participation in kaizen-related initiatives.

Research by Wilms et al. (1994) indicates that GM would have failed if it had attempted recreating the plant from its old workforce. Former workers claim they would not have gone back to GM even if it had it reopened across the street. The difference with NUMMI’s new culture was based on the following four principles:

- both management and labour recognized the interdependent nature of their futures thus gearing them to a common vision
- Workers felt they were secure, treated fairly, and trusted various assurances, making them active contributors
- TPS formed interdependent relationships across the plant, thus creating a healthy work environment
- The production system was managed to transform the stress and conflict of everyday life into trust and mutual respect.

It is common knowledge that Japan’s national culture differs in several ways from that of the USA, with Japan’s traits of collectivism and homogeneity, as opposed to American individualism and societal heterogeneity, being the more conspicuous points of dissimilarity. However, Wilms et al. (1994), whilst describing NUMMI’s
A heterogeneous workforce comprised of minorities including blacks, whites, women, men, Mexicans, and Japanese, state that there was an acceptance of such differences amongst workers. Adler et al. (1997) state that such heterogeneity was also reflected in NUMMI’s management which included Hispanics, African Americans, and women. But the emphasis from the outset was on similarities, inclusion, consensus-based and participative decision making, egalitarian workforce organization, flat pay structures, unbiased gainsharing, avoidance of a blame culture, and trust-enhancing measures, such as management taking pay cuts and not laying off workers during production downturns that helped create and reinforce a culture based upon mutual trust and respect.

It could be reasoned at this stage that, cultural differences apart, there are points of stark similarity too underscoring the cultures of both Japan and the USA which possibly aided in the creation of NUMMI’s positive cultural attributes. One of these similarities seems to be the trait of hard work, common to both nations’ cultures. Engels (1985) opines that the traditional protestant work ethic (the belief that hard work is rewarded with success) that underscores American mainstream culture holds good for the Japanese too. He argues that both Americans and Japanese believed in the value of hard work, with both groups tending to agree that they would want to do some kind of work, even without pay. Both groups felt uneasy when there was little work to do. Another trait shared by both cultures, seems to be that of discipline. Whilst Yokozawa et al. (2010) describe the Japanese as being disciplined in relation to the context-dependent nature of Japanese management practices, research by Kienan (2011) describes America’s ‘over-discipline, and hyperopia’ which broadly relates to the USA’s obsession with discipline, productivity, hard work, and delaying gratification. This bears close resemblance to Japanese work-centeredness. The other quality described as intrinsic to Japanese culture, and listed as a pre-requisite for the success of Japanese management practices outside Japan, is that of ‘hungry mentality’ (Yokozawa et al., 2010) which is ‘eagerness to do work which is above
and beyond responsibility’. This requirement too, one could argue, is satisfied by American ‘hyperopia’, as described by Kienan (2011).

One could suggest that these points of similarity between Japanese and American cultures could be regarded as driving forces that contributed to the fairly seamless fusion of Japanese and American work cultures and thereby facilitated frictionless transference of TPS into NUMMI. Besides the above, Adler (1993b) proposes several other drivers that helped facilitate the transition from the GM-Fremont way to the NUMMI-Toyota way, namely: consensus, consistency, and communication. *Consensus* refers to obtaining as many opinions as possible before making decisions. The positive outcome of this action was getting ownership from the workers who would implement the same more readily. This was an alien concept in decision making to the Americans, who had problems accepting it. *Consistency* refers to managers’ ongoing loyalty to company policies, especially those dealing with employee relations. *Communications* refers to the range of measures initiated to ensure the free flow of information through various forums, on quality, productivity, safety, schedules of activities, and so on.

**Culture, the role of trust, and the test of the first crisis**

Perhaps one of the most important factors contributing to the positive work culture of NUMMI was its climate of trust that was created and nurtured over a period of time. A critical contributor to the development of a high degree of trust was Toyota’s no-lay-off policy. Box 3.9 states NUMMI’s no-lay-off policy as written in its collective bargaining agreement of 1985.
New United Motor Manufacturing Inc. recognizes that job security is essential to an employee’s well being and acknowledges that it has a responsibility, with the cooperation of the Union, to provide stable employment to its workers. The Union’s commitments in Article II of this Agreement are a significant step towards the realization of stable employment. Hence, the Company agrees that it will not layoff employees unless compelled to do so by severe economic conditions that threaten the long term viability of the Company. The Company will take affirmative measures before laying off any employees, including such measures as the reduction of salaries of its officers and management, assigning previously subcontracted work to bargaining unit employees capable of performing this work, seeking voluntary layoffs, and other cost saving measures.

Source: Austenfeld (2006: 95)

The test of the first crisis came in 1987-1988. As a result of a considerable decline in sales, NUMMI had about 264 production workers in excess of its requirements. Rather than considering them for lay off they were assigned to work on a new car introduction project (scheduled for 1989), kaizen projects, and maintenance work earlier outsourced to outsiders. A further spinoff resulting from management commitment to this policy was increased willingness of workers to contribute ideas for enhancing the effectiveness of operations. Team members knew that their jobs were not threatened owing to any possibility of their suggestions for improvement resulting in redundancy of jobs (Adler, 1993b). The no-lay-offs policy and its stipulation that contract workers would first be dropped and that executives would receive reduced wages, were considered unusual, and as such initially mistrusted. However, this perception underwent a change, when on not less than four occasions starting from 1988, the management demonstrated its commitment to this policy, thereby ushering in a long lasting climate of trust, subsequently built upon through various other means. Also, management’s response to ergonomic injury issues, their approach in addressing the OSHA citations, and willingness to pay full wages to workers despite production being halted for quality-related issues not attributable to workers, reinforced the trust that plant workers had in their managers. This high-trust culture, combined with relatively high levels of job security, resulted in a greater
amount of knowledge sharing and learning across NUMMI, as discussed in more detail in the following paragraphs.

**Organizational Learning**

Inkpen (2005) posits that strategic alliances between firms provide organizational opportunities to both involved parties, with firms often entering into such alliances with specific learning objectives. However, the reality is that learning through alliances and exploitation of learning opportunities is very difficult. NUMMI provides a rich case study in organization learning resulting from inter-organizational alliances. He argues that:

a) For successful knowledge transfer to occur a change of knowledge and culture at the recipient organization is necessary

b) Social, not computer, networks facilitate and drive the transfer of complex knowledge with real strategic value.

c) The learning value of alliances is better appreciated at later rather than nascent stages of alliance formation.

Organizational Learning at NUMMI is discussed in this section in terms of the learning experiences within NUMMI itself and also in terms of NUMMI serving as a platform for organizational learning for its parent organizations - GM and TMC.

Trust increases people’s willingness to engage in cooperative activity. The overall trust levels at NUMMI were higher than during the GM era with a 1994 survey at NUMMI revealing that 80% of team members agreed that job security was NUMMI’s most important aspect of work. This allowed for an enhanced level of knowledge sharing and knowledge combination resulting in new knowledge and innovation. These advancements were facilitated by the following aspects (Nahapiet and Goshal 1998; Wilms et al., 1994):
• Interdependencies created by TPS which required frequent interactions across functional disciplines leading to the combination of knowledge,
• Low power distance culture, for example common cafeterias, allowing for greater communication,
• Participation-driven suggestion schemes with a high degree of implementation of suggestions and accompanying rewards for the same,
• Priority accorded to kaizen, quality circles, and problem-solving approaches.

Adler (1993b) suggests that various organizational outcomes of highly bureaucratic organizations are contingent upon the extent to which workflow procedures are designed to encourage learning on the part of the workforce. Such learning happens when workers share a common goal of production efficiency and quality. A case in point is NUMMI, a bureaucratic organization, that seems to have proven that a democratic version of Taylorism that allowed worker input and control over their own work, coupled with judicious use of aspects of the informal organization, can result in levels of learning not ordinarily associated with bureaucratic set ups. Table 3.2 presents two specific examples demonstrating NUMMI’s propensity for learning.
Table 3.2

Two examples of learning at NUMMI

<table>
<thead>
<tr>
<th>Event</th>
<th>Impact</th>
<th>Actions taken and lessons learned</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>* Productivity losses</td>
<td>* 285T pilot test team members, unlike the 1993 team, were rigorously trained in ergonomics.</td>
</tr>
<tr>
<td></td>
<td>* CAL-OSHA citations</td>
<td>* Toyota &amp; NUMMI engineers work with the pilot team to simplify the assembly process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Better communications were established with suppliers who in turn were able to respond more</td>
</tr>
<tr>
<td></td>
<td></td>
<td>rapidly to design changes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* New policy that all team members would rotate between at least two jobs</td>
</tr>
<tr>
<td>Losing the TPS edge during its</td>
<td>Despite almost 1000 new workers being hired, the launch did not take off smoothly as planned.</td>
<td>Management realized the need to reemphasize TPS at the plant, and reacted by hiring Ernesto</td>
</tr>
<tr>
<td>changeover of 2002, when</td>
<td>This was put down to tacit knowledge about lean manufacturing not having been passed down to</td>
<td>Gonzalez-Beltram as VP Manufacturing in 2002. The challenge he was tasked with, was to regain the</td>
</tr>
<tr>
<td>introducing the new model of</td>
<td>the new hires, and even the older workers, at times, needing a refresher.</td>
<td>level of TPS NUMMI had during its early years.</td>
</tr>
<tr>
<td>Corolla.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Source: adapted from Adler et al. (1997) and Waurzyniak (2005)</td>
</tr>
</tbody>
</table>

Learning can also occur on the part of the parent companies. Learning quite often is one of the main objectives of firms collaborating to form alliances (Inkpen, 2005). Perhaps one of the most important benefits derived from the creation of NUMMI by TMC and GM was the extent of organizational learning that both partners took away from the joint venture, although the evidence seems to support the contention that TMC learned more valuable lessons than GM. TMC appears to have been more open to learning than GM. Its greater acceptance of new and different aspects of work culture gave it a head start in terms of its quantum and quality of learning, the pace of uptake, and its deployment of lessons learned. In other words the Japanese barriers to
learning were of a lower order relative to those of GM. Box 3.10 presents some of the differences between the approaches to learning by GM and TMC.

Box 3.10
Approaches to learning by TMC and GM

Why was the joint venture attempted? GM for its part had a few very tangible objectives that it thought NUMMI could address. It didn’t know how to make a small car profitably. It wanted to put idle plant and workforce back on line. And, of perhaps less importance at the time, but still acknowledged, it had heard a little about Toyota’s production system and NUMMI would provide the chance to see up close and personal.

On the other side of the fence, Toyota faced pressure to produce vehicles in the United States. It was also trailing Honda Motors Co. Ltd and Nissan Motors Co., which were by then building cars in Ohio and Tennessee respectively. Toyota could have chosen to go it alone, which could have been quicker and simpler. But Toyota’s aim was to learn, and to learn quickly. What better way than to get started with an existing plant (Fremont) and with a partner helping navigate unfamiliar waters?

It is important to note, however, that from the beginning, Toyota’s objectives at NUMMI were defined by learning rather than by the kinds of tangible business objectives that typically define a joint venture. And if there’s one thing Toyota knows how to do it is how to learn, especially if learning is most important: down at the operational levels of the company. It was that approach to learning that defined its approach to NUMMI from day one.

Source: Shook (2010: 64)

GM seems to have failed to create an organization-wide awareness for the need to learn and did not deploy their ‘lessons learned’ across their wider organization to the extent that TMC managed to. What follows is a more detailed study of each of the parent company’s learning from NUMMI, relative to their stated organizational objectives at the time of entering into the joint venture agreement.

TMC’s organizational objectives and learning: Toyota’s primary aim in launching its manufacturing operations in the US was to protect and increase its market share. At the time of preparing to launch its joint venture it had identified three distinct objectives:

1. To gain experience with American unionized labour
2. To gain experience with American suppliers, and
3. To help defuse the trade issue between the US and Japan (Duerr et al., 2005).
An interesting point however is that whilst working with an American workforce was high on Toyota’s cards it had little desire to engage with a unionized workforce. This seems consistent with TMC’s norm of preferably not engaging with external unions. ‘Toyota later claimed it also wanted to gain experience with American union labor, but at first wanted nothing to do with the UAW’ (Adler, 1993a).

TMC’s experience at NUMMI enabled it to attain its primary objective (gaining experience with American unionized labour). This happened through its successful application of the knowledge and experience it gained at NUMMI to all new plants it created and managed in the US, Canada, Europe, and elsewhere, with most of these being wholly-owned factories. TMC’s US market share registered a steady rise since its creation of NUMMI, with its share of the passenger car and the sports-utility market segments increasing from 7.4 to 12.8% and 4.1 to 9.2% respectively between 1993 and 2002. At this time, the company made 80% of its profits from the US market (Mackintosh and Grant, 2004).

Transplanting production systems to new regions with differing values, culture, standards, and ideals has proved a difficult task for many companies. Commonly cited examples of transplants that either failed, or fell short of expectations, are those of Nissan’s and Mazda’s moves into the UK and America. Both cases witnessed poor matches between certain concepts that lacked congruence with the local or national culture, causing considerable problems for organizational leadership. In both cases, management seemingly adopted a confronting, dependence-based approach rather than one based on trust and respect for local values (Hummels and Leede, 2000). However, Toyota’s approach at NUMMI provides a study in contrast illustrated by its willingness to learn everything it could from its GM counterparts about American work culture and unions. This they did with a level of inquisitiveness and curiosity that caused some discomfort amongst their American colleagues (Wilms et al., 1994). Ample evidence exists of positive outcomes emerging from interactions with the locals. For example, Toyota soon learned about the egalitarian nature and leanings of
American workers which quickly translated into a common car parking area for management and workers. It subsequently used this knowledge to good effect when hiring and working with labour (albeit non-unionized) in its Kentucky plant at Georgetown. The company also learned to work effectively with American suppliers who in turn learned to work with Toyota.

This aspect of ‘learning transfer’ to the Kentucky plant is an important point in the sense that organizational learning experiences gained at NUMMI were fully exploited by transferring them as a group to the Georgetown factory. This practice of transferring its NUMMI experienced staff en masse to the Georgetown factory vastly aided its ability to effectively implant the desired culture into the new plant.

TMC also displayed its ability to effectively adapt and modify its NUMMI learning experiences to its Kentucky plant. While practices including teamwork, group orientation, work structure, plant layout, and community of fate themes were adopted there were others, such as promotions based on seniority, life time employment, and union related matters that were modified to suit local needs (Fang and Kliener, 2003). The Personnel Manager who eventually moved back from Kentucky to Japan was appointed global head of personnel relations for TMC. Thus, the confidence gained by TMC stood it in good stead in all their subsequent ventures in the west.

The above practice contrasts sharply with GM’s method of reassigning its NUMMI-trained staff to its various other plants in a piecemeal fashion, either as individuals or small groups, with little significant effect. This is examined below.

**GM’s organizational objectives and learning:** GM had two primary objectives in its dealings with TMC:

1. To gain first-hand experience with the efficient and cost effective TPS, and
2. To build high quality automobiles for its Chevrolet division (Duerr et al., 2004).
However, the learning curve that GM went through at NUMMI could perhaps be described as very slow and gradual relative to TMC’s. GM, consistent with the first objective, did gain valuable experience within the settings of NUMMI but found it difficult to replicate their experiences and learning to other existing GM plants. GM also obtained high quality small cars, thus satisfying their second objective, but lost out on making the best of these gains owing to poor image and marketing problems.

It is worth noting that the stated objectives of GM could be construed as being a little ambiguous in that there are different versions available in the literature regarding GM’s objectives. For example, Inkpen (2005) states that GM’s primary goals were to find a source for a small car to fill a market gap and to find a use for its idle Fremont plant. There was little or no focus on learning about TPS, which by then had made an enormous impact on the American small car market. This argument is borne out by the fact that GM organizationally failed to appreciate and rapidly capitalize on the value addition that accrued through assimilation of TPS principles. It took almost a decade, and well past the time that NUMMI started to significantly outperform GM’s other plants, before GM considered systematic methods of transferring TPS into its other operations (Inkpen, 2005).

However, one notable initiative of GM that facilitated its learning transfer from NUMMI was its establishment in 1985 of a Technical Liaison Office (TLO) at Fremont. The primary role envisaged for the TLO was to manage and document learning and disseminate knowledge from NUMMI to GM (Inkpen, 2005). However, the role seems to have undergone significant changes following the added impetus it received from CEO Roger Smith. Documentation of TPS knowledge, facilitating its ease of teaching and transfer, and managing training designed to educate GM managers about the potential impact of the TPS on GM manufacturing, was included to its ambit. Further expansions included a consulting business primarily focused on NUMMI and GM suppliers.
Despite these initiatives, GM’s attempt at knowledge transfer is generally deemed to have been ineffective in spite of several of its managers and thousands of workers being deputed to and trained at NUMMI. Such staff were not kept together but rather distributed to various positions within the GM empire. Most of them in their post-NUMMI assignments were surrounded by workers and managers caught in the old bind of traditional adversarial relationships. Therefore, attempts at effecting change by NUMMI-trained staff proved futile. The overall level of resistance created by the learning transfer climate at other GM plants proved too strong. Duerr et al. (2005) suggest that ‘it could be reasonably argued that the adversarial relationships were so strong that even as a group they could not have changed the culture of even one plant.’ In addition, GM harboured incorrect assumptions about TPS being a physically transportable and replicable system rather than an integrated system based on a unique philosophy and culture. One example of this relates to GM personnel videotaping various aspects of TPS operations, such as usage of the andon cord. This practice stemmed from the prevalence of a ‘how’ paradigm rather than a ‘why’ paradigm – replication without comprehension (Inkpen, 2005).

A notable point however relating to GM’s gains in learning from NUMMI was the creation of its innovative small car project Saturn wherein a high level of labour-management cooperation was achieved. However, this success was fairly short lived and the company never returned a profit in its history. In spite of these reservations, Strategic Direction (2006) states that GM’s learning from NUMMI, although slow, aided in closing the gap in standards between itself and the other North American flag bearers, namely Honda and Toyota.

In summary, this chapter has concluded that NUMMI managed to create a harmonious labour-management environment during the period of its operation. The Toyota Production System was successfully implemented, quality was consistently high, a cultural climate of trust was achieved, and organizational learning was observed to occur across the organization. The reasons for each of these achievements
have been analyzed. In the next chapter the thesis employs the same parameters to examine the case of TMCA (Toyota Motor Corporation Australia) and subsequently to compare and contrast the relative achievements of the two companies.
Chapter 4
Toyota in Australia: Toyota Motor Corporation Australia (TMCA)

The aim of this chapter is to critically examine how TMC Japan went about implementing TPS in the Australian socio-cultural environmental context, the specific issues and barriers encountered in the process, and the overall extent of success achieved in doing so. The outcomes emerging out of this analysis are subsequently compared and contrasted in chapter 6 with outcomes emerging from similar analyses of TMC’s transplantation exercises in the unionized environs of India and the USA, which is the main concern of this research.

This chapter is structured into four main sections as below:

1. A chronological listing of significant events
2. Union-management relations
3. Toyota Production System, lean manufacturing, and teams
4. Culture and organisational learning

1. A chronological listing of significant events

‘Toyota has a long history in Australia – celebrating 50 years in 2009. Australia was the first country to manufacture Toyota vehicles outside of Japan and has played a key role in the development of Toyota Motor Corporation globally’ (Toyota Motor Corporation Australia, 2009).

1950s

During and until the 1950s, British and American-owned motor companies comprised the core of the Australian motor vehicle manufacturing sector: British Motor Corporation (Rootes and Standard) and US companies (Chrysler, Ford, and GM Holden). The high level of imports led the Government to put restrictions on car imports and encourage local content of all new cars ‘leading to accelerated schemes to fully manufacture or assemble a diversity of models’ (Davis, 1999: 65). Competition became fierce with the worst casualty being the importer of Standard-
Triumph products, Standard Motors. In 1954, Standard Motors held a market share of 6.3% of vehicle sales and was assembling Vanguards, Standard Tens, and Triumph Mayflowers from a new plant in Port Melbourne. However, market share fell to 3.1% in 1958. The company was restructured to become AMI (Australian Motor Industries) in 1958. The new company also started to assemble Mercedes-Benz, Triumph Herald, and Rambler cars. Despite these efforts, bankruptcy loomed and a new CEO was appointed in 1961. By 1962, AMI’s market share had fallen to 1% and the company’s strategy ‘was mainly interested in the economic use of the assembly plant’ (Davis, 1999: 74). A possible solution was provided by Toyota.

1959

March: Official start date of Toyota in Australia. Thiess Brothers appointed as distributor for Toyota in Australia, with import and distribution of four-wheel-drive vehicles.

1962

AMI signs an agreement with TMC Japan to commence passenger vehicle assembly in Australia.

1963

AMI finalizes an agreement to assemble the Tiara motor car thus making Australia the location of Toyota’s first overseas affiliate. For several years Toyota had been shipping fully-built four-wheel-drive vehicles for sale in Australia and had shown interest in also sending cars to Australia. The location was Port Melbourne, an old Standard Motors plant, with Toyota vehicles being assembled on an existing line. In this year, 1275 passenger cars were sold, of which 717 were locally assembled and 558 imported. Toyota’s motivation for entering into this agreement with AMI was stated by a spokesman for the company:
‘It was our first step into a Westernized country. We got the confidence there that our production system worked overseas. Only after we had experience in Australia did we move into other countries. Had we not succeeded in Australia we would not have been encouraged to go further’ (Davis, 1999: 79)

Toyota’s first resident executive at AMI was Noboru (Norman) Itaya. He arrived in January 1963 and eventually left Australia in 1996. On appointment he was aged 27 and a non-English speaker, a situation that precipitated several incidents and misunderstandings during the early days:

‘I do not know why I was chosen for Australia. I think there was nobody else available. Harry Hamada, who looked after Australia in our department, had just got married and couldn’t go. I didn’t speak a word of English at the time and had just become a father. I refused to go at first but changed my mind and agreed. I was supposed to help communications and observe what AMI was like. I was a watching post, a listening post in Melbourne. I think a hidden brief was to accustom myself to the country so Toyota could see Australia through me’ (Davis, 1999: 80).

1968

TMC takes 10% equity in AMI.

1971

TMC acquires a 50% share in the company.

1975

Toyota sales in Australia account for 12.5% of the market, making it the third largest car company behind GM Holden and Ford

1979

Engine shop built at Altona site

1980s
During the 1980s steps were initiated by AMI-Toyota to introduce limited aspects of TPS such as kanban and andon. These, however, were met with limited success, with the quality performance at the Melbourne plant falling well below standards obtained at the Japanese plant. In the early 1980s Toyota bought out AMI thus making it a total subsidiary of Toyota Japan. During the mid-eighties Toyota entered into a joint venture with GM (US) to produce Toyota vehicles in the existing General Motors plant at Dandenong, along with other GM brands. After some years GM withdrew from this operation, leaving behind about 15% of its Holden employees with Toyota at Dandenong.

1981

TMCA press shop started up next to the engine shop. Starting from this year, introduction of TPS began (piecemeal) at Port Melbourne, as a basis for achieving total quality control, with TPS’s main elements being JIT, jidoka, and kaizen.

1984

Toyota sales in Australia accounted for 19.7% of the market, making it the second largest car company behind Ford.

1988

TMC purchases the remainder of the 50% shares in AMI, which is renamed TMCA.

1989

A joint venture with GM Holden’s Automotive was established called United Australian Automotive Industries (UAAI), based within the Dandenong plant.
Creation of the Quality Administration Division (QAD), tasked with primary responsibility of development and implementation of the quality policy.

1990

Toyota Quality System manual first written aimed at promotion of greater understanding of how Toyota and suppliers could work in a mutually beneficial manner. Box 4.1 summarises the overall context within TMCA by 1990.

**Box 4.1**

**TMCA in 1990**

- Production was concentrated in two old, crowded plants
- Of the 20 years of joint ownership, Toyota had been in total control for only 10 years
- TPS implementation, if at all, was piecemeal, not systematic, and done in bits and pieces.
- Strong trade union presence
- Diverse influence of several national production cultures, namely Japanese, American, Australian and British
- Approximately 80 different nationalities in the workforce, with about 50 languages spoken, ie an extremely heterogeneous employee base

Source: Jones et al. (2008)

1991

TMCA becomes the overall Australian market leader for the first time, securing a 21.5 per cent market share. The company announces an investment of $420 million to build an assembly plant at the Altona site.

TMCA was one of the five organizations to receive the Australian Quality Award for outstanding quality improvement

1993

Commencement of exports to Thailand
1994

Joint venture with GM Holden (UAAI) terminated. TMCA closes the Dandenong plant and moves all its operations to Port Melbourne.

1996

Two weeks strike for higher wages.

Kazuhiro Sekiya became Executive Vice President (Manufacturing & Engineering) at the Altona plant, and immediately commences initiatives to forge a quality-cost culture.

Commencement of volume exports to Middle East.

1997

Export crisis occurs as thousands of cars shipped to the Middle East suffer quality problems

1998

Altona plant produces over 100,000 vehicles for the first time, also shipping cars to Malaysia. 30 per cent of Altona output exported.

A quality audit by TMC Japan rates TMCA among top 19 factories outside of Japan.

2000

Action Learning Teams (ALTs) project commences
2003

Toyota Technical Centre Asia Pacific established. It was designed to be the Australian advanced research and design engineering facility in Toyota’s new global technical centre network. Two of the five centres are in Asia Pacific – Melbourne and Bangkok.

2004

Port Melbourne facility completely closed down.

2005

Decision reached to establish the Toyota Institute Australia (TIA) aimed at human resource development in support of strategic objectives.

2006

TMCA establishes a ‘roadmap to Jiritsuka’, a plan to achieve the required level of self-reliance to not only be viable as a manufacturer, but to be in a position of regional co-leadership by 2011.

2009

TMCA is the largest exporter of cars, with 4500 workers, 211 Toyota dealers, and 19 Lexus dealers. Annual production is approximately 150,000 cars, of which 66% are exported, mainly to the Middle East).

Decision taken that TMCA would be the regional base for manufacture of the hybrid ‘green’ Camry, beating off competition from regional competitors, mainly Thailand.
2. Union-management relations

Chapter 1 of this thesis explained the centrality of cooperative union-labour management relations to the efficacious implementation of TPS. This section analyses the degree of success with which TMCA has handled employee relations over the decades and the impact of this on the implementation of TPS.

Box 4.2 contains an extract from the research by Liu (2009) which gives an indication of the union-management scenario pertaining in the maintenance department at TMCA.

<table>
<thead>
<tr>
<th>Box 4.2</th>
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<tr>
<td><strong>Union-management relations in the maintenance department</strong></td>
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</tbody>
</table>

...the general perception was that in response to the smallest issue, the union or the senior employee representatives would call a mass meeting and instruct the maintenance staff to go home. Plant operations had to stop on many occasions due to disruptions and disputes emanating from maintenance which added much additional cost to the business. The widely held view was that maintenance employed the tactic of threatening strike action in order to get what they wanted. The relationship between management and employee representatives was fragile and volatile. The perception amongst the middle management, general forepersons, and group leaders was that the union had more power than them because senior management was too willing to compromise in order to avoid a strike or lose production. The informal network and grapevine between the employee representatives and shopfloor employees was strong. Rumours and information could travel extremely fast sometimes generating confusion and misunderstanding. This made managers and supervisors feel powerless because their channels of communication and networking are slower and weaker. 

Source: Liu (2009: 73)

Both Kinsey (2007) and AMWU (2010) support the observation that union-management relations at TMCA have been adversarial and strained for many years. The past two decades have witnessed increased union activity on the one hand, and on the other, a continuing broad-based anti-union stance from TMCA management.
An example of management recalcitrance towards according formal recognition of trade-based unions is that of the refusal to recognize the Electrical Trades Union (ETU), only favouring a one-union agreement with the Australian Metal Workers Union (AMWU). In was only in 1999 that the company recognized the ETU as well as the AMWU. Recognition of the ETU seemed to signify a mellowing of management stance, and its acceptance of the inevitable, that is, having little choice other than to contend with unionism and its attendant issues in Australia. Jones et al. (2009) state that TMCA managers were ‘sick and tired of the union’, and that pessimism was rife about achieving a breakthrough on any front, since ‘the place is run by the union’. These sentiments prevailed at the same time that Action Learning Teams (ALTs), commonly alluded to as ‘arse-licking teams’ (AMWU, 2010) by worker representatives, were being established to address the adverse effects that had arisen out of the confrontationist approach to unionism at TMCA.

Jones and Liu (2005) describe the Australian industrial relations scenario as being relatively more volatile and stronger as compared to the Japanese, especially in the manufacturing sector. Complementing this, and taking the view that poor industrial relations environs are the result of poor human resource management, are recent research findings on manufacturing management in Australia (Management Matters in Australia, 2009), which state that Australian firms are relatively poor at people management, in comparison to areas like operations and performance management. Research by Liu (2009) reveals in detail the following narrow, ground level realities punctuating union-management relations at TMCA:

- The trade union is one of the most powerful union organisations in Australia. The structure consists of external officials and internal employee representatives (total 9).
- The industry has struggled with the union for decades due to their militant approach.
- Two of TMCA’s senior employee representatives (ERs) have been traditionally perceived by management as ‘very aggressive, disruptive, and the cause of much industrial action’.
Senior management has been frustrated with the ERs attitude and approach.

The ERs believe management cannot be trusted.

Any changes proposed by the company are usually treated with suspicion.

The Group Leaders’ problems of having to frequently discipline and counsel those below them were compounded by active union involvement.

Corrective actions against team members taken by supervisory levels were often not supported by management, due to their fear of industrial action. This scenario is shown in Box 4.3

**Box 4.3**

**Backing off by TMCA management to appease the union**

| Trust and communication have been difficult to establish. Company attempts to try to get people working together have invariably been thwarted over the years. Frustration and cynicism ensued. Whenever managers, general forepersons, and group leaders became ‘burned’ after a failed change initiative, they became progressively more disillusioned and despondent. Because maintenance skills are in short supply nationally, this power imbalance between management and employees in the event of a dispute was invariably resolved in favour of the employees, inevitably as a result of management backing down to avoid work stoppages in the face of a militant trade union. The company was continually trying to present industrial relations harmony to the parent company in Japan in order to convince it to continue its investment in Australia. So under this kind of pressure there developed a perpetual process of management compromising and ‘backing off’. Numerous examples developed of inconsistent practices originating in different shops. These inconsistencies were picked up by employee representatives and used as bargaining counters to obtain concessions across all shops. Supervisors and managers often complained that they spent most of their time on IR-related issues, and received little support from senior management due to the latter’s policy of appeasement. |

Source: Liu (2009: 76)

An ex-TMCA senior manager with several decades experience of working at the company since the 1970s, states that when General Motors Holden pulled out if its agreement with Toyota about 20-30 people from the level of group leader and above were Holden people who now had to be integrated into TMCA at the same level. As a result, problems relating to ‘*their* way versus *our* way’ started to arise, and were further exacerbated by the union at the Dandenong plant that was *very reluctant to change [or] to look at new ideas* (Kinsey, 2007). This is shown in Box 4.4.
Box 4.4

Union problems at the Dandenong plant

The union organizers that we had were more easy to deal with than the people who came after Dandenong started, so there was a lot more confrontation in those sorts of days…… we had in those days a senior shop steward there who tended to rule the roost and wanted to screw the company, and one of the previous shop stewards who was working there back in the Dandenong days was a more accommodating sort of person who was a younger person that had more insight into the future of where his members wanted to go. So it just turned out that the original shop steward from the Holden days turned out to be a group leader in the new organization and turned out to be one of the better group leaders and has since gone on to be I think a general foreperson and I think he is now an assistant manager within Toyota and has really made the transformation very good. So we had a lot of union issues.

We had a lot of union issues with the asbestos in the plant, a lot of asbestos with the high pressure steam, all the cladding on the pipes was asbestos, and if anything was white on the floor the shop stewards would blow a whistle and everybody was out, and we had a lot of hassle like that, and in many cases when we had the white stuff analyzed it was not asbestos anyway, but to play safe we had to go along with it. So a lot of union issues, especially in the first year, but basically all thru the life of Dandenong but we tended to try and improve those but that was probably one of the hardest battles at Dandenong.

Source: Kinsey (2007: 8)

Official acceptance that union-management relations have been fragile and antagonistic is evidenced from statements in company documentation. One report states that ‘historically and psychologically, the union has difficulty in supporting or accepting changes proposed by TMCA management. This kind of relationship if not being managed well, is a threat to the business. Turning confrontation into partnership is an essential task for TMCA management. A balance of empowerment and control needs to be well handled’ (Change Leaders Report, 2000). Another managerial assessment from the same report citing reasons for the crisis faced by the company in 1997 states that ‘lack of commitment and motivation from people and confrontation between the management and union have been the main struggles’.

Indicative of the unitarist, anti-union disposition of the company is reflected in the termination of two senior union officials in 2007. Consultants engaged by TMCA to investigate charges against the two accused workers agreed with the AMWU that the process employed by TMCA management to terminate the workers was unfair. The
consultants were promptly dropped by TMCA and company lawyers continued with the litigation. This act of dismissal ‘on a series of dubious misconduct charges’ (Green Left Weekly, 2007) generated considerable negative press for the company, and resulted in critical levels of industrial unrest and productivity losses. Related activity to reinstate the sacked employees included the AMWU and ETU establishing an ongoing ‘protest embassy’ outside the front office of Toyota’s Altona plant, mass meetings of TMCA maintenance workers, and an overall condemnation of TMCA management for employing restrictive provisions of the legislation introduced by the conservative government of the day. Box 4.5 shows an item of some of the negative media publicity generated from the case.

**Box 4.5**

**Negative media publicity**

[Sacked worker] told Green Left Weekly the campaign should adopt the slogan ‘*The Toyota Way – the crap way*’ because the company had thrown out the window its so-called management philosophy of respect for people regardless of disagreements.

Source: Courtice (2007)

Union sources suggest that this dismissal had all the hallmarks of a witch-hunt, instigated by management, and spearheaded by senior HR staff, to ‘*get him at any cost*’ (AMWU, 2010). Allegations were made that rewards to the tune of $10,000 AUD were promised to those ‘*able to obtain evidence*’ (AMWU, 2010) useful to the cause of effecting the dismissal of this shop steward. Also alleged, were attempts to ‘*plant evidence*’ by uploading pornographic material onto his work station computer (AMWU, 2010) to implicate the worker. Further complexities surrounding the issue were highlighted by news reports in the Weekend Australian newspaper (2005) that discussed at length the allegedly illegal accessing of the LEAP file of the sacked TMCA union leader by a serving police officer, resulting in the latter being dismissed from the service. All these instances suggest a climate of collusion to facilitate the Toyota Way.

Union sources suggest that whenever industrial relations issues came to a head the human resources department at TMCA was made a scapegoat. As a consequence the
HR department was reportedly ‘cleaned out’ (AMWU, 2010) and a fresh team re-assembled on several occasions. The image of HR personnel was invariably negative, being branded as naïve, incompetent, ignorant, and pro-management. One HR Director was referred to as ‘the smiling assassin’ and fresh-out-of-university professionals ‘young liberals far withdrawn from realities’ (AMWU, 2010). Box 4.6 shows extracts that elaborate on these views.

**Box 4.6**

**Negative perception of HR personnel at TMCA**

<table>
<thead>
<tr>
<th>Interviewer</th>
<th>How many HR managers have you had since you’ve been appointed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent</td>
<td>Too many to count</td>
</tr>
<tr>
<td>Interviewer</td>
<td>The main HR Director?</td>
</tr>
<tr>
<td>Respondent</td>
<td>When you say ‘manager’ there are lower ones but the big one would stay. And that gets rotated every 2-5 years or something. The underling ones come in, become managers, and then they get flicked away. The main one may have 3 managers underneath him, each manager has like their competency skills things, now we have got ‘C’, we have had the Smiling Assassin, ‘H’, so I would say big knobs about 4-5, but underlings numerous have come and disappeared.</td>
</tr>
<tr>
<td>Interviewer</td>
<td>So constant turnover in the HR Dept?</td>
</tr>
<tr>
<td>Respondent</td>
<td>Yes, but I would say it’s probably been the most stable it’s been now for about 3 years, at least with the people we deal with</td>
</tr>
<tr>
<td>Interviewer</td>
<td>Is ‘C’ easier to deal with?</td>
</tr>
<tr>
<td>Respondent</td>
<td>Er, no, he’s an engineer by calling, not very good interpersonal skills….’</td>
</tr>
</tbody>
</table>

…..It was more to do with things like the treatment of employees, or if someone got sacked, or industrial disputes like that that grew pretty ugly very quickly, a very big stick type of attitude, so we took that big stick back to them, like going out for 4 hours for a picket line, coming back, or having a week’s strike, with threats and that sort of stuff, so certainly explosive, but over the years now, what they would do is they would have a blue, we would have a blue with them and then the HR Dept would get cleaned out and they would get a new group of management in, and that would go on, and if that turned to shit they would be cleaned out and another group would come in, so it was sort of tit for tat, in the last 5 years you could sort of say I mean I have only recently in the last 3 years replaced the senior delegate and he was a bit more militant than I am, he was aligned with certain divisions of the union and was a bit more fiery in taking on the company and some sort of issues that may have been out of Toyota and he took on Toyota about that issue, and the last sort of big dig was to have a go and get rid of a couple of blokes out of the system which did happen hence why I am here, and then after that HR was cleaned out again, so there is another group in there now

Source: AMWU (2010: 12)
It appeared that in many cases the role of HR was marginalized, with employees directly sorting out issues with union intervention and assistance. However, as and when HR teams were comprised of tradespersons, there seemed to be greater acceptance, relative to teams comprised of ‘fresh out of university HR graduates far withdrawn from realities’ (AMWU, 2010). Box 4.7 elaborates on the perceptions of some union shop stewards which reflect their views about some of these issues.

**Box 4.7**

**Issues surrounding the turnover of HR personnel**

| Respondent | That’s the way in Toyota, if a dispute starts, over the years it’s been an issue will surface right and it might be a small or medium issue, and like Cooky just said we now try to keep HR out of it, we sort of tackle it together now, but in the past it would go straight to HR, a little issue right, sacked, terminated, so then we would be out the grass, and as you know if a dispute starts a dispute has got to end, so there has got to be a compromise, so somebody higher up says this is fucking bullshit, we gotta fix this, come on, so then the head of the unions like [name] or [name] come down and we will all sit in a big room and everyone is sort of angry at each other and then there will be a compromise and really it’s what we could have done just sitting around like this, and then later it will be pshshh (swishing sound) ‘what happened to him or her’ (in HR), he’s gone |
| Respondent | We laugh because when we have another dispute years later, they are all young grads who come into HR and they climb the ladder fairly quickly |
| Respondent | Yeh, and we go in there and find something that happened years ago they don’t know about, they don’t remember, we have been here in the same role for 20 years, and for us it’s like sitting on an island watching the evolution of another planet, and sometimes we have the same argument over and over, I have got a drawer that has papers in it all the way back to 1990 from the other shop stewards just in case something comes up and we can tell them that we have been there before and done this, because they don’t know the Award or the EBA, or why things have come about, and they ask me ‘well what did you do that for?’ and I will say ‘well because of this’ and they will say ‘oh we are just reviewing the WA and we don’t know why it’s there’, so I have to put them right |
| Interviewer | They have no organisational memory? |
| Respondent | No, because they are so young straight out of uni |

Source: AMWU (2010: 11)

A logical explanation to the overall union-management context analysed thus far emerges from the research of Jones et al. (2009) who posit that elements including trust and commitment are compromised within unitarist lean cultures when faced with entrenched and strong unions, a prime example being TMCA. Often the likely outcome of such situations is that trust and commitment are replaced by suspicion
and resistance. They further clarify the interplay between the ‘ideal’ lean environment and unionism, by claiming that:

a) Unitarist considerations are very important in lean systems that exist within organizations that ‘see themselves as families’, characterized by high levels of trust, commitment, involvement, and concern for the company’s success, as a consequence of pulling together in the same direction.

b) Flowing from the first point is the argument that groups with a differing agenda, including external trade unions, are inconsistent with the environment of lean.

c) Unionism (and union antagonism) are approached as ‘problems to be solved, as non-value-adding wasteful activities to be eliminated’ using traditional techniques (ie 5 why analysis, root cause analysis, etc)

d) If, and when, unions are present they often take the form of company-aligned ‘sweetheart unions’

Liu and Jones (2005) emphasize the role of the social context within which TPS operates and argue that the efficacy of the latter is dependent on the former. They advocate that culture is central to TPS as a system and that lean production depends on Japanese cultural institutions. Womack and Jones (1996) and Sugimore et al. (1977) are others who share similar thinking. These researchers argue that the needs of TPS are complimented by the existence of a homogeneous culture, a single language, and a religious background which facilitates close familiarity between Japanese people and family unity that extends itself into the larger community and workplace. Furthermore, a ‘command and control’ culture ingrained in Japan involves obedience by subordinates to the instructions of superiors. These (TPS-complementary) qualities seem conspicuous in their absence within Australian society which could be described as being positioned at the opposite end of the spectrum relative to Japan. These authors substantiate their line of reasoning by arguing that the core of Australian society is characterized by the spirit of freedom, individuality, and casualness. Control and discipline are also not favoured aspects in
Australia with shop floor workers preferring not to be disciplined, controlled, or standardized. This contrasting situation seems to explain the ‘adversarial approach’ (Cooney and Sewell, 2000) of industrial relations within TMCA. These researchers describe TMCA’s use of lean production systems as ‘control processes’.

In concluding this section, it can be argued that TMCA failed to proactively and specifically address the significance within Australian society of the role and history of trade unions on workplace culture and the impact this would have on the difficulties of implementing TPS within the company. The problems associated with TPS implementation are analysed in the following section.

3. Toyota Production System, Lean Manufacturing and Teams

This section does not delve into generic aspects of TPS and lean manufacturing since these are addressed in chapter 1. Thus, only TMCA-specific aspects of TPS and lean manufacturing are addressed. The focus of this section is to explore how TPS concepts and practices have been implemented at TMCA and to understand the nature, dynamics and impact of teams and teamwork on the implementation of TPS activities. Also covered are aspects related to quality and productivity within TMCA.

Starting from the early 1960s, Toyota’s growth of its brand in Australia commenced initially with knock-down assembly only. Building from this base, Toyota’s strategies were evident in two main ways: first, expanding its financial investment in the company, and second, increasing its attempts to transfer TPS practices (Orihashi, 2009). However, as far as TPS transference is concerned, the implementation journey has been a difficult and vacillating experience. The overall degree of success has been rather limited and evidence from my interviews indicates that such transference has been largely cosmetic in many areas with little resemblance to the pure version. Several reasons may explain this:
• The Australian operation operated on its own for a protracted period of time, which could possibly be construed as its lack of amenability to imbibing the rigours of TPS.

• There were no incentives for the company to build on its organisational capability, given the domestic protection enjoyed by the automobile manufacturing industry in Australia.

• There was a lack of effort to determine or accept the limitations imposed on TPS implementation within Australia’s unique socio-cultural milieu.

Box 4.8 shows an extract from Kinsey (2007) which indicates that Toyota was deliberate in withholding information so long as it did not possess total control of the organization.

**Box 4.8**

**Limited disclosure of information in the early days**

| …they had started to introduce to people the ways of doing things and train them, but the real emphasis came once they had total control….back in those early days it was always hard to get full explanations from Toyota because we were not 100% Toyota they did not want to show us everything, they wanted to show us what they thought we wanted to know rather than the whole picture….back in those days [around 1977] because they didn’t really own us as such when you went to Japan and asked questions you always felt you never got a proper answer to these questions and this really changed tremendously when they had a controlling interest where the doors opened up……and it was round about the early 1980s that Toyota basically bought out and became a total subsidiary of TMC Japan, and it was probably in the mid 1980s that TPS started, and it started when our Works Manager went over to Japan and was introduced to TPS. |

Source: Kinsey (2007: 5)

Consistent with these comments are the observations made by Kinsey (1989) who documented the impact of Japanese techniques into TMCA at that time. Although he was writing nearly 30 years after the commencement of Toyota in Australia, the author suggests that several elementary facets of TPS, such as jidoka and muda, were still fairly unknown and had not taken root locally. However, 1988 could be considered a landmark year as TMC Japan secured a 100% controlling interest of the Australian operations, alongside which came a marked increase in the impetus
towards the total rollout of TPS. What is arguable, however, based on the longitudinal unfolding of events, is the extent to which TMCA concentrated on rolling out a more technical and systems oriented approach, in contrast to focusing on the creation of a work culture conducive to the successful deployment of TPS. Box 4.9 represents an attempt to show the correspondence between the extent of TMC shareholding in the company and its willingness to share TPS-related know-how.

**Box 4.9**

**Correspondence between TMC shareholding and TPS transference**

<table>
<thead>
<tr>
<th>Time period</th>
<th>TMC controlling stake in Toyota Australia</th>
<th>Extent and nature of TPS transfer from TMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959-1971</td>
<td>10%</td>
<td>Little to no transfer</td>
</tr>
<tr>
<td>1971-1988</td>
<td>50%</td>
<td>Basic TPS techniques (muda, jidoka, kanban) introduced. From 1980 economies effected in plant size, inventory levels etc consistent with TPS philosophy.</td>
</tr>
<tr>
<td>1988 - date</td>
<td>100%</td>
<td>Dandenong operations lasted during this period (1989-1995) taking total number of plants to three. Attempts made to roll out 100% TPS across all three plants. Marked improvements were registered. However, culture clashes and old baggage hampered internalization of TPS. Gulf shock - thousands of defective vehicles rejected by Middle Eastern export markets. ‘Culture’ identified as core cause for the unprecedented failure. Genuine attempts at introspection and action learning and practice of TPS philosophy</td>
</tr>
<tr>
<td>1997</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-1997</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Liu and Jones (2005) further explain Toyota’s attempts to embed TPS into the Australian culture. They describe the process of TPS transplantation into Australia as having happened in the following six stages:
**Stage 1:** Japanese expatriates sent to Australia to train Australian managers, engineers, trainers, and supervisors in TPS techniques. Correspondingly, Australian managers and engineers deputed to Japan to witness and learn TPS firsthand within the parent company.

**Stage 2:** TPS techniques and tools imported into TMCA with the support of the parent company

**Stage 3:** Changes introduced to the team-based structure to support the system.

**Stage 4:** Considerable time and resources invested in training

**Stage 5:** Cultural change initiatives deployed focusing on values, beliefs, and behaviours

**Stage 6:** Commencement of the objective of TMCA’s self-reliance to enable the company to become globally competitive without parent company support

The ‘Gulf Shock’ of 1997 is an event that seems to have been the trigger for TPS-consistent changes at TMCA. The reputation of TMCA was considerably tarnished in 1997 when thousands of vehicles exported to the Middle East were found to be defective in quality standards compared to those manufactured by Toyota Japan. This event acted as an epiphany in TMCA’s existence with the blame for such an occurrence being laid at the door of a poor internal culture within the company. This realisation triggered a more rapid and willing acceptance of the need to assimilate TPS practices and culture within TMCA. The subsequent action adopted by TMCA to address this issue was labeled Project G. A major cultural change initiative called the Change Leaders’ Program was established (Change Leaders’ Report, 2000). This report identified a ‘weak quality mindset and poor TPS practices’ as the underlying cause of the incident, highlighting that TMCA had been playing ‘old games with old rules’.

Latham et al. (2009) claim that by the early 1990s TMCA had accumulated considerable old baggage which directly contributed to the Middle East crisis and threatened to end the company’s lucrative export market. The root cause of this problem was tracked to the culture of the organization, in particular deficiencies in
areas including interpretation, acceptance, and sustainability of TPS, stemming from lack of a common understanding. Attempts were made to alleviate the situation by implementing TPS full scale, as well as the Toyota Way, through the use of Japanese advisers. In addition, a new greenfield assembly facility was set up at Altona in Melbourne, to which all production from the old Port Melbourne plant was transferred and the latter closed down.

What seems to emerge from this analysis of TMCA’s TPS implementation journey are two distinct scenarios. First, TMC’s apparent deliberate action of only employing TPS in a piecemeal fashion, and its reluctance to share information, until it secured total control of TMCA. Second, the various barriers faced by TMCA during its attempts to rollout TPS.

(i) Piecemeal roll out of TPS
The piecemeal rollout of TPS seems rational from the point of view of TMC’s reluctance to share intellectual capital with a partner with whom it shared an uncertain future. Two events are worthy of note. First, until the Button plan started taking effect around 1986 there was no incentive for TMC (with only 50% shareholding) to improve quality and expend resources in this direction, as protectionist policies acted as a disincentive towards its quality enhancement efforts. Second, the export-oriented thrust of the Button plan seems to have taken actual effect at almost the same time when TMC acquired 100% control. Earnings through high quality exports would therefore be assured, with no question of TPS knowledge pilferage by other shareholding partners, as ownership was now 100% with TMC.

The negative fallout from this piecemeal rollout of TPS continued to unfold over a period of time. Jones et al. (2008) note from their research that the knowledge level of kaizen issues was disappointing within hierarchical rungs below the middle management levels especially amongst supervisors and team leaders. This resulted in further negative outcomes down the line. There was a lack of strict implementation of standardized work and a stop-and-start approach to training resulted in an insufficient and inconsistent appreciation of TPS across the company. The authors quoted one
middle manager who claimed that he had worked for the company for ten years but had not received any TPS training and still did not fully understand TPS.

(ii) Barriers to roll out of TPS
The period 1959-1979 was largely a TPS-free zone for the company. Enormous barriers faced the potential introduction of any TPS techniques or cultural practices. Not to be under-estimated was the barrier of shedding (unlearning) ingrained industrial practices and habits from the old culture. Some workers and managers were former employees of Standard Motors and Triumph and had been schooled in a work system that was alien to TPS. The concept of kaizen had never been the focus of production workers. Improvements to work practices had always been a management function. Quality issues were vested with Inspection departments situated at the end of the production process. Box 4.10 shows an extract from Kinsey (2007) which highlights this issue of unlearning.

| Box 4.10 |
| Unlearning at TMCA |

There was a problem here of trying to bring in TPS with people who had been used to another system, so they had a lot of baggage to unlearn. That was probably the most difficult thing and the other thing that was difficult is that change in people is something they do not like doing, especially some of the people that had been there back in the Standard and Triumph days and for them there certainly was not the focus on kaizen and looking for better ways, and trying to get work organized by the people in the production system. Back in the early days the planning was always done by the production engineering people and how the process should be set up and production just followed that without having the real involvement in looking at how production workers could improve the system. Turn your brains off when you walk inside the door. People had been schooled in that and it was hard to change.

Source: Kinsey (2007: 6)

The data suggests that the earlier generation of group leaders, schooled in the ways of General Motors, Standard, and Triumph, displayed different styles of supervision that had roots in the way they were managed when they were younger. These former employees believed in ‘bashing team members with a stick, just as they themselves got bashed whilst they were team members’ (Kinsey, 2007). Assistance, guidance,
and coaching of junior workers, according to these managers, were just not part of their role as they saw it.

However, this antipathy to the principles of TPS was not solely confined to this type of opposition. Union sources indicate that new workers are still resistant to many aspects of TPS and lean manufacturing, holding the belief that TPS is a system basically devised for ‘impoverished nations’ where workers are prepared to accept ‘anything’ (AMWU, 2010). Large gaps exist between desired and existing states in relation to the implementation of TPS practices, whether this be opposition to the ‘Matsuda’ method of maintenance, use of the andon cord, standardized work practices, floor management development system (FMDS), use of personal protective equipment, or occupational health and safety stipulations. Box 4.11 elaborates.

### Box 4.11
**Resistance to TPS**

Respondent Toyota likes to go into the nations which are not rich and they set up like communities like Toyota City in Japan, Toyota are family-oriented, and the people that is their whole life, these nations are undeveloped, like Thailand, I have been there, it’s not that rich at all, so you offer people a job and tell them to wear this and wear that and they pick it up straight away, they get a few bucks an hour, whereas if Toyota was not there they would not be getting it...And they have thrown everything at us with all this stuff they have tried to introduce, and they will put as much money as they can into it, if it costs them thousands or millions they will put the money into it, just to try and get their way, they just don’t hold back, like with these hats we are saying that people can’t wear them, they got illnesses or heat, I could not wear a hat in summer, I never do, I never have and I don’t think I ever will, but they are saying that what they do in Thailand is they have ice vests on the line for people to put on the line, if you are feeling hot then put on an ice vest...they actually brought a few over here, like the thing you put in an esky [ice-box], you put one on your head and your body cools down, my foreman was telling me they had some chap who had been over there carrying on about how it was and how strong the members were, 38 degrees, and there they were with full jackets, jumpers, wrist guards, hats on, and we’re saying ‘well they are insane aren’t they?’

Interviewer But there must be some concept of Standardized Work (SW) here? In Thailand the SW guy is watching them to see if they follow the correct movements...

Respondent Well there they do as they are told you know what I mean, whereas here if he tried that he would get told ‘piss off’

Source: AMWU (2010: 12)
Quality and Performance

TMCA has struggled for decades to inculcate a quality culture within the company. A full scale implementation of TPS techniques and philosophy in TMCA would necessitate the need for a quality-conscious, kaizen-driven culture to be ingrained across all sections of its workforce. However, the incongruence between the actual and the ideal is noticeable at TMCA and correcting this incongruence has placed considerable demands on TMC’s material and human resources over a fairly protracted duration. Battles between the old school and the new in relation to quality issues were endemic during the 1970s and 1980s. Box 4.12 shows the views of a retired senior manager.

Box 4.12

Battles between the old and new schools

I had battles not only with the manufacturing guys but also with the production engineering people when I was in Quality…Well one of the things I first did when I started there, was I started to look at what we had put in at suppliers to look at their quality systems, and I said well let’s start to do this within our own manufacturing, let’s go to our press plant and our small parts fabrication area and put the same sort of quality survey in there. And I went and did that myself because I thought well I’m not going to get anybody to do this because I know there are going to be issues and I know there are going to be fights, so I went and did that and published this report to say that if our press shop was a supplier to Toyota I would recommend that they don’t get a job because they have not got the proper systems in place. And I put this report right up to the top management…I worked on the assumption that what we did ourselves had to be as good, if not better, than what we asked our suppliers to do. Otherwise what are we saying to our suppliers? Something different, if we did not do it ourselves.

The idea of an internal customer was not fully understood. It was the old school. It was the old school. This was the way we used to do it. And the guy who was in charge of Production Engineering he called me down to his office after he received this report. My approach was to send it to each of the people and I said well the best idea for them is I’m not going to sit down and have a meeting with them, I will send it out to them all, I’ll let them all read it, and I’ll wait for the flak. I knew there was going to be flack. So I went down to his office and he said “you know what I think about this report?” and he was a real volatile person, schooled in the old school, and he ripped up the report saying “its all bullshit” and he threw it in the rubbish bin. And all this was within 6 months of me joining the company. 1977. But I had worked out this guy’s character already, he is a guy who grew up with motor bikes, loved them, liked Vanguards, was mad keen on Ramblers, and things like this, so I thought “I’m not going to talk to him now about this report” so I talked about something else. So we started talking about motor bikes and had a good talk about Ramblers, and I knew a little bit about where they were built in the States, and so I started to work him over and eventually I got him more relaxed…And then eventually this guy reached out and pulled this report from
the bin and got some sticky tape and stuck it back together again, and I think we spent about 2 hours going through it, and I was just explaining to him what I saw and what I felt was the lack of control in these sorts of areas. And in the end after all this discussion he said “yes, maybe you have got something there – let’s see what we can do about it”.

Source: Kinsey (2007: 10)

Although there is some evidence that quality-related systems and thinking were in operation as early as 1977 (for example, supplier quality audits), the overwhelming conclusion is that resistance to quality related change was very pronounced at that stage, especially as managers and workers uninitiated into the lean manufacturing doctrine, were hostile to the idea of each person being their own quality inspector. Rather, they sought to pursue the old norm of simply performing their job and letting ‘inspection’ discover and correct any faults. Quality thus happened at the end of the line, not on it. The focus was more on production efficiency in terms of speedy and uninterrupted production to the almost complete neglect of quality. This is exemplified in Box 4.13 which shows another extract from the same retired senior manager.

**Box 4.13**

*The endless battles between production and quality issues*

...and it was an interesting experience because I was tending to stop if the quality was not right I was stopping and what that was doing was stopping the assembly plant and the manager in that area who was part of the old school was getting stuck into me that all that mattered was keeping the line going, and I said that if the quality is not right we stop and my manager to whom I reported was sort of caught in a dilemma between the old school, and he was part of the old school as well, and my approach to try and get quality in at the process rather than inspecting it in at the end. So those were interesting arguments at that particular time...there was a feeling that if Inspection find it, you know well, ok, that is their job so we do not need to get it right ,inspection will find it. So we were trying to change the culture where every person became their own inspector...Another thing that comes back to mind is that I instituted these Quality Meetings each month where we got the production people and the quality people to look at quality issues. And there was one item that come up and there was something wrong and I was chairing the meeting and I was saying that we had to fix this in production, we have got to look at the production process, and I kept on hounding my boss who was in charge of manufacturing and production engineering and I was Manager of QC in those days. I was saying “well its just not good enough – we have got to get the process right” and he spat the dummy at the meeting, and he said “well what do you want – do you want my resignation – I will write out my resignation now – I’m not going to do that”. So he saw it as an attack on him not as an opportunity to improve.He threatened to take me out the back and have a fight with me a few times.

Source: Kinsey (2007: 9)
The five year joint venture with General Motors at the Dandenong plant from 1989 to 1994 ended with the withdrawal of General Motors Holden and the acquisition of the plant by TMCA. The inheritance of ex-employees from GMH by TMCA had a significant impact on the drive for quality in the ensuing years. Toyota continued to battle against the ingrained mindset that ‘quality was left up to the quality department to inspect in at the end of the line’ (Kinsey, 2007). However, a major driver supporting the quest for quality at that time soon made itself known. The Button Plan aimed to reduce tariffs from 57.5% down to 5% over a 20-25 year time span. This opened up the possibility of increased competition from overseas, thus providing the urgency for change in the quality journey. During the same period the management and quality preaching of Deming (1982) was becoming more pronounced and the total quality management revolution was making inroads into management paradigms. The juxtaposition of the Button Plan and the Deming revolution acted to give the quality movement in TMCA the impetus it needed. By 1989 TMCA had established a Quality Administration Division (QAD) tasked with the primary responsibility of the development and implementation of the quality policy (Sohal et al., 1994). This was followed in 1990 with the publication of the Toyota Quality System manual aimed at promoting greater understanding of how Toyota and its suppliers could work together in a mutually beneficial manner.

TMCA’s quest to improve quality at all its three plants continued to gain momentum, however, not without several problems encountered along the way. A few of the more critical difficulties hampering the growth of a quality culture, and also some examples of positive initiatives taken by TMCA management to stem the tide are shown in Table 4.1.
Table 4.1
Quality initiatives and impediments

<table>
<thead>
<tr>
<th>Impediments to Quality</th>
<th>Positive Quality Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disparate work cultures</strong></td>
<td>Integration drive</td>
</tr>
<tr>
<td>* 3 different plant cultures (Port Melbourne, Dandenong, and Altona)</td>
<td>* An initiative launched to create synchronous understanding of TPS and quality issues by sending approximately 40 senior personnel to TMC Japan for 3-4 weeks</td>
</tr>
<tr>
<td>* Many different nationalities and languages at supervisor level and below causing communication difficulties</td>
<td>* Also Japanese TPS trainers and managers coaching and working alongside TMCA plant staff at all levels</td>
</tr>
<tr>
<td>* Four diverse work systems at management level – Standard Motors, GMH, Triumph, and Toyota</td>
<td>* Inter-plant kaizen improvement competition introduced between Altona, Dandenong, and Port Melbourne plants – sharing of quality reviews and knowledge instituted</td>
</tr>
<tr>
<td>* Four national cultures in evidence – Australian, Japanese, British, and American</td>
<td><strong>Integrating quality</strong></td>
</tr>
<tr>
<td>* Two major manufacturing paradigms in evidence – mass production and lean production</td>
<td>* Quality regarding as part of the manufacturing process and not inspected in at the end</td>
</tr>
<tr>
<td><strong>Union issues</strong></td>
<td><strong>Introduction of concepts</strong></td>
</tr>
<tr>
<td>* Overt and covert resistance to TPS and quality initiatives</td>
<td>* New concepts introduced, such as the internal customer, kanban, kaizen, quality audits, supplier quality audits, quality circles, and quality engineering group</td>
</tr>
<tr>
<td><strong>Inter-departmental silos and rivalry</strong></td>
<td><strong>Socialization</strong></td>
</tr>
<tr>
<td>* Rivalry between Production and Quality departments leading to personal battles between individual managers in key positions</td>
<td>* Socialising production and engineering staff into quality arenas through attendance at Deming lectures, quality training, and monthly quality meetings</td>
</tr>
</tbody>
</table>

In November 1991 TMCA was one of the five organizations to receive the Australian Quality Award for outstanding organization-wide quality improvements. One could debate, however, whether this award merely reflected the nascent level that quality had reached at that stage within the Australian industrial paradigm, rather than reflecting TMCA’s actual quality standards. Perhaps a contributing factor to this event is the fact that TMCA was Japanese and since Japan was seen as being at the forefront of the quality movement it enjoyed a halo effect. What seems to support this line of reasoning is the occurrence of the 1997 Middle East export shock which
reflected cumulative quality and culture failures over an extended period of time. If TMCA’s quality was worthy of an award in 1991, how did this adverse incident eventuate in 1997? In fact, as discussed earlier, it was this event that threatened the very survival of the company and is widely believed to have been the turning point for TMCA’s quest for quality. Thus, it could be argued that the company’s claims to quality-related initiatives and achievements have a hollow ring to them. Box 4.14 clearly shows that union sources hold an ambivalent attitude towards concepts such as quality circles, kaizen, and andon.

### Box 4.14

**Ambivalent views towards quality-related initiatives**

<table>
<thead>
<tr>
<th>Regarding quality circles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewer</td>
</tr>
<tr>
<td>Respondent 1</td>
</tr>
<tr>
<td>Respondent 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regarding kaizen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewer</td>
</tr>
<tr>
<td>Respondent 1</td>
</tr>
<tr>
<td>Respondent 2</td>
</tr>
<tr>
<td>Respondent 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regarding andon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent 1</td>
</tr>
</tbody>
</table>
quality, and they have really started to implement and push this past year ‘stop, call, wait’, what you see if anything is wrong you are allowed to stop the line, call, and wait whereas before if you stopped the line they would have chopped your head off
Interviewer Well the rhetoric in the literature is that anyone is allowed to pull the andon whenever they spot a problem, and in fact they are encouraged to do that, and would even get a prize.
Respondent 2 Oh you would get a prize all right, a prized foot up the arse!
Respondent 1 It’s just, keep going
Interviewer So nothing has changed over many years – when times are good quantity is king, but when times are slow quality is king
Respondent 1 Toyota is lucky in a way because a lot of the things that are no good the public would never see. In the past we built crankshafts and things like that, there were issues where they were probably no good for use, they were put on hold, investigate, and come in in the morning and they had disappeared, the afternoon shift would see them and go ‘oh we don’t have to build 50 crankshafts this shift, there are 50 there’, aye that would be right, no idea why they were wrong,…,
Interviewer Even though this pulling of the andon does not occur?
Respondent 2 Well that’s what I was going to comment on, that doesn’t affect quality

Source: AMWU (2010: 4)

Performance and Productivity

Table 4.2 shows the growth in average annual labour productivity over the period 1970-2005 in the automobile industry as compared with total manufacturing.

Table 4.2

Comparison of average annual labour productivity growth in Australian industries

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Average annual growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor vehicles, trailers and semi-trailers</td>
<td>2.4</td>
</tr>
<tr>
<td>Total manufacturing</td>
<td>2.4</td>
</tr>
<tr>
<td>Total industries</td>
<td>1.7</td>
</tr>
</tbody>
</table>

It is notable that since 1970, average annual labor productivity growth in the Australian automotive industry has been the same as that of total manufacturing (2.4%), although it has lagged behind over the period 1996-2005. Long-term productivity growth in Australia’s automotive industry has generally been slower than in most other selected countries. Between 1996 and 2005, Australia’s growth rate (1.9%) slowed to seventh out of eight sampled countries, lagging behind (in rank order) USA (9.5%), Sweden (9.0%), France (6.8%), Germany (3.4%), Japan (3.2%), and UK (2.2%). With regard specifically to TMCA, its performance in terms of domestic and export sales, production volumes, and revenue generation have registered an impressive rise in recent years, with a proportionate increase in the strength of its workforce, as shown in table 4.3.

Table 4.3

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Production volume</td>
<td>87,000</td>
<td>149,000</td>
<td>71%</td>
</tr>
<tr>
<td>Export volume</td>
<td>49,000</td>
<td>98,000</td>
<td>100%</td>
</tr>
<tr>
<td>Export revenue</td>
<td>$1.1 B</td>
<td>$1.7 B</td>
<td>55%</td>
</tr>
<tr>
<td>Locally made vehicles as % of total sales</td>
<td>30%</td>
<td>20%</td>
<td>-33%</td>
</tr>
<tr>
<td>No. of employees</td>
<td>~4,100</td>
<td>~4,500</td>
<td>10%</td>
</tr>
<tr>
<td>Wage cost</td>
<td>$290 M</td>
<td>$441 M</td>
<td>52%</td>
</tr>
<tr>
<td>Oil price (US$ per barrel)</td>
<td>$25</td>
<td>$115</td>
<td>360%</td>
</tr>
</tbody>
</table>

Source: Submission to the Automotive Industry Review (2008)

Box 4.15 shows an extract from a Toyota press release highlighting its sales successes during 2009.
TOYOTA LEADS MARKET WITH 200,000 SALES IN 2009

- Toyota has pulled out all stops to lead the automotive industry to a stronger-than-expected sales total in 2009.
- Toyota was the year's best-selling brand with 200,991 sales and a market share of 21.4 per cent.
- It is the sixth straight year Toyota has exceeded the 200,000 mark - and it remains the only car company to have reached that number.
- It is the seventh year in a row Toyota has held the number one position.
- In addition, Toyota has been market leader in six other years, having achieved the top spot for the first time in 1991.
- Other 2009 sales highlights for Toyota included:
  • The top-selling brand in every State and Territory
  • Four of the top 10 selling vehicles - Corolla, HiLux, Camry, and Yaris
  • A margin of more than 81,000 sales over its nearest rival
  • Market leader every month since April 2005.

Source: Toyota Sales Results Press Kit (2009)


Table 4.4

<table>
<thead>
<tr>
<th>Brand</th>
<th>Rank</th>
<th>Brand</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ford</td>
<td>21.5%</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Holden</td>
<td>19.2%</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Toyota</td>
<td>18.8%</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: adapted from Key Automotive Statistics (2009)

Nevertheless, TMCA was operating in a volatile market, and its challenges and aspirations as documented in 2008 are shown in table 4.5.
Table 4.5

TMCA environmental challenges and aspirations: 2008

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>*A strengthening exchange rate</td>
<td>*Competition for investment from within the Toyota group</td>
<td>*To be Australia’s most respected and admired company</td>
</tr>
<tr>
<td>*Rising oil prices and the associated impact on petrol prices</td>
<td>*Desire of Toyota affiliates to access export markets to fully utilise plant and equipment</td>
<td>*Produce the next model Camry/Aurion</td>
</tr>
<tr>
<td>*Reduced market share of locally produced vehicles.</td>
<td>*Global benchmarking and efficiency performance</td>
<td>*Invest in related tooling to support these aspirations</td>
</tr>
<tr>
<td></td>
<td>*Profitability squeeze due to export revenue drop (caused by appreciation of A$ to US$ exchange rate)</td>
<td>*Achieve Jiritsuka status (self reliance)</td>
</tr>
<tr>
<td></td>
<td>*Reduced supplier competitiveness in the current operating environment at current exchange rates</td>
<td>*Manufacture 200,000 vehicles per annum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Achieve a balanced business with 50% of locally made cars sold in Australia and 50% sold into export markets.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Total Australian sales (locally produced and imported cars) of 300,000 units per annum.</td>
</tr>
</tbody>
</table>

Source: adapted from TMCA Submission to the Automotive Industry Review (2008)

Teams and leadership

Fujimoto (1998) provides a picture of TMCA’s shopfloor workforce during the mid-1990s. The organization of the shopfloor comprised five layers: manager; general foreman (accountable for about 90 workers); group leader (accountable for about 30 workers); team leader (accountable for about 5-7 workers); and team members. Team members were the lowest level in the hierarchy and composed mainly of lower-paid immigrant workers. In 1995, the average wage of assembly workers was 10% lower than the average industrial wage, in stark contrast to American automobile workers who earned almost double the average industrial wage rate. TMCA’s workforce was extremely ethnically diverse in 1995 with workers from over 50 different nations.
This diversity had expanded enormously since the 1960s to encompass both worker and supervisory levels. For example, group leaders were in evidence who originally came from Vietnam and Cambodia. This diversity placed a strain on communications within the plant. Whilst TMCA’s standard operating procedures were written in English, considerable allowance was made at the shopfloor management level for lack of understanding of English. For example, workers were permitted to contribute kaizen suggestions by using pictures, eschewing verbal or written language. In addition, surveys were performed in five different languages.

McMurray and Liu (2004b) in their research on the frontline team leadership of TMCA broadly concur with this analysis. They describe teams as the basic functional unit, comprised of seven team members reporting to a team leader. Three team leaders report to one group leader; and three group leaders report to one general foreperson. There were approximately 400 team leaders in the manufacturing department of the 4500 strong company at the time the research was conducted. Box 4.16 provides a summarised profile of team leaders in the company in 2003.

**Box 4.16**

**Profile of team leaders in TMCA**

- 90% male, 10% female
- 70% with English as a second language
- 60% were earlier leading hands with little understanding of team leadership
- Conflict in role between management’s need for team leaders and team members’ needs for leadership
- Nature of the role: reactive, task-driven, organizing
- Stressful environment due to production demands, efficiency pressures, and high rates of absenteeism
- Technically experienced via on-the-job-training; 50% with Vehicle Industry Certificate
- 5% with a formal management qualification (certificate or diploma), but little support from management for further learning
- Reluctance to deal with team members on issues relating to performance and work habits

The research of Liu and McMurray (2004b) yielded a number of additional insights. Whilst the role of team leaders had undergone considerable change, the formal roles and responsibilities (defined 13 years earlier), had remained unchanged and hence failed to address these changes. ‘Leading hands’ from the earlier rigidly bureaucratic structure were automatically re-designated as team leaders without any formal training. This was based on an industrial agreement with the trade union, with all such team leaders belonging to the AMWU. The basis of promotion from leading hand to team leader was the number of jobs they were able to perform on the line and their record of being good workers. The role of leading hands was task centered, with a key responsibility being to cover for absentees and act as spare persons for supervisors. Whereas the expectations and functions of team leaders had gradually changed since the 1990s, formal identification and acceptance of these changes failed to take place. The changes included the need for team leaders to support and coordinate with upper management in leading certain processes, such as goal setting, auditing, planning and so on, and also assist team members in various ways. For over a decade the frontline leadership of TMCA handled these additional roles without formal recognition and without training. What resulted was the frontline leadership of TMCA failed to make the transition to people development. High involvement leadership encompassing support and empathy with team members to yield better performance outcomes proved hard to achieve.

The researchers concluded that ‘over the past decade the working environment has changed dramatically, and the demand on and expectations of the team leader’s role have increased. While most team leaders are good workers, they are still weak in the areas of having a long term view, thinking laterally, working collaboratively, empowering others, coping with change, and interpersonal skills’ (Liu and McMurray, 2004b). Team leaders were also found to have experienced a number of issues that hampered their job satisfaction, such as a lack of reward and recognition, fair and equitable treatment, and career opportunities. The significance of these findings for this thesis is that whereas the centrality of TPS lies in effective teamwork, this appears to have been at a sub-optimal standard at the team member-
team leader level within the TMCA context. Since teamwork, training, and motivation levels are leading indicators of organizational success, the situation within TMCA indicated a deficiency in the overall quality of the people management function.

In their research at TMCA, Jones et al. (2008) found that team members were generally not adequately aware of TPS philosophies and concepts, especially those not very conversant with the English language. Team members perceived TPS as an extrinsic tool of management control designed to stretch workers to the maximum and deny them freedom of any kind. As a result, workers reverted to their old ways of working to non-TPS standards as and when external supervision was absent. Team leaders were surrounded by a power vacuum in the sense that demands were placed on them to exact output from their teams without the benefit of having any real power over the team. On the one hand, team leaders were pressurized by infighting between team members and therefore required to resolve conflict continuously, and on the other had to cope with demands from their supervisors to ensure the adherence of team members to TPS without real support from supervisors. This placed team leaders in a unique, stress-laden, position. The essence of team leader sentiments was that management did not seem to understand their role.

As regards group leaders, their primary role was that of the establishment of standardised work procedures within their areas of responsibility, and the implementation of kaizen. Effecting this role requires an ability to balance and reconcile the demands of three, often conflicting, parts, namely team member needs, management expectations, and the requirements of TPS. Frequently encountered situations included: disciplining and counseling those below them (with active union involvement compounding the problem); kaizen initiatives not taking off and being countered with various excuses; and team leaders often not pulling their weight. Exacerbating this was a lack of management support and recognition. Exemplifying this claim were cases where corrective actions against team members taken by supervisory levels were not supported by management due to their fear of industrial
action and instead supervisors were blamed by management for lost production. This resulted in an overall situation where group leaders described a feeling of being overwhelmed on account of being compromised both from above and below.

4. Culture and organisational learning

In this section, culture, both national and organizational, is discussed only in relation to its conduciveness to TPS and Japanese manufacturing philosophy. National-level aspects of cultural conduciveness are addressed first, followed by company-level aspects.

Japan versus Australia: cultural conduciveness to TPS and lean

Research undertaken by various scholars on aspects relating to the transplantation of TPS practices to countries outside Japan often consider cultural similarities and contrasts between Japan and the various countries hosting Toyota affiliates. With respect to the Japanese-Australian context, Box 4.17 provides some issues relating to the transplantation of TPS into the Australian socio-cultural environment.

Box 4.17

Some issues relating to Australian and Japanese cultures

<table>
<thead>
<tr>
<th>Similarities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both Australia and Japan possess a strong masculine cultural dimension</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia’s strong individualistic culture, small power distance, and moderate uncertainty avoidance vs Japanese weak individualistic culture, moderate power distance, and high uncertainty avoidance scores</td>
</tr>
<tr>
<td>Australians’ daily living, generally speaking, is centered around family and leisure rather than work, whereas Japanese are more centered around work</td>
</tr>
<tr>
<td>Australia is a multi-cultural society with large numbers of migrants and a multiplicity of ethno-cultural and language barriers resulting in unique challenges to communication and cultural blending at the workplace, whereas Japanese society is largely homogeneous</td>
</tr>
<tr>
<td>The Australian industrial relations scenario is relatively more volatile and unions are much stronger, especially in the manufacturing sector whereas Japanese unions are more</td>
</tr>
</tbody>
</table>
Australians possess a distinct set of cultural characteristics (casual, direct, competitive, achievers, independent, individualistic, questioners, gamblers, leisure-oriented, and xenophobic) whereas Japanese possess traits of hard work, discipline, and ‘hungry mentality’ (eagerness to do work which is above and beyond responsibility).

Davis (1999) reports that in 1963 there was a lot of resentment in Australia at the fact that Japanese cars were being assembled in Port Melbourne so soon after the War: ‘on the first day of assembly an executive openly declared he would take an axe to the first Japanese car coming into the paint shop. He was dismissed…in other incidents, cars were deliberately scratched’ (Davis, 1999: 88). Another bout of resentment was created when the company flew a Japanese flag at the factory alongside the Australian and British flags.

It could be argued that these points of dissimilarity between the Japanese and Australian cultures have acted as restraining forces, hindering the transference of TPS into TMCA. Jones et al. (2008) in their research on the barriers to the transplantation of TPS outside Japan, in particular to Australia, lay particular emphasis on the human issues. They emphasize the marked contrasts between Japan and Australia relating to the human, environmental, socio-cultural, and historical contexts. They argue that the values, beliefs, and behaviours of the Japanese workforce, and their common industry-wide collective dedication towards striving for excellence, is mainly attributable to Japan’s lack of natural resources, environmental constraints, and socio-cultural factors. This constitutes the main motivation towards striving for waste minimization in all forms, which is the essence of lean production. In contrast, Jones et al. (2008) contend that the Australian scenario is relatively lacking in motivation and urgency to eliminate wastage of material and space, as compared with Japan. Australia is endowed with an abundance of resources and space, which combined with its attendant qualities of low motivation and high consumption, is counterproductive to the ideal environment of lean thinking and TPS. Further, they argue that cultural blending within the largely homogeneous Japanese workforce is not
comparable with the highly multi-cultural and ethnically diverse workforce of Australia. This heterogeneity poses unique challenges in cultural blending and communications.

Another social factor impacting the implementation of TPS in TMCA, they feel, is the Australian industrial relations scenario, typified by the presence of trade unions relatively much stronger than those in Japan. A key feature cited to demonstrate the influence of the impact of Australian unionism on TPS is the negative views held towards just-in-time production by union workers. All these issues make the task of implementing TPS into Australia quite problematic and can explain why Toyota seems largely to have failed to proactively hybridize TPS to increase its amenability to Australian settings. This seems to have still been the case as late as 2011 when TMCA’s relentless attempts to enforce Japanization on a stubborn Australian workforce were still meeting with considerable resistance. Box 4.18 depicts the trade union views on this issue.

**Box 4.18**

**Trade union resistance to Japanisation attempts**

<table>
<thead>
<tr>
<th>Interviewer</th>
<th>So you are saying a lot of this Japanese stuff is just on the surface?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent 1</td>
<td>We have had a couple of little things here, like in the last EBA I see them trying to put in more of this culture stuff, like they want us to work more time at Christmas, they don’t seem to want you to recognize Christmas as Christmas, and there is also the issue of just how hard they push the uniforms – they want everybody to wear uniforms, they think it will make everybody produce the perfect car every time, they try to discipline us</td>
</tr>
<tr>
<td>Respondent 2</td>
<td>They keep having these big pushes. The latest thing is they want everyone to wear helmets, and they love their baseball caps, the American cap, they put ratings on it like the Army and badges, but I hate that, in the Aussie summer when it is stinking hot, so they start out with the big stick approach, made a policy, if you don’t wear it you are going to be sent home, blah, blah, we didn’t care, if it’s a medical condition we’ll use their medical policy to have you removed from Toyota and sacked, absolutely ridiculous, then they drop off on it, and they then come back with a new scenario, and they were getting that desperate we were just meeting with all the Directors and one higher manager was trying to claim that the whole building was going to collapse at some stage and that’s why you had to wear a helmet, it got to a ridiculous stage, just desperation. When the Japanese come out to Australia like we had last Wednesday and the first thing is make sure you have the exact uniform, caps or helmets, this and that, I was the only one walking round with no hat on, everybody else was shitting themselves, they don’t know what is happening to the future of the industry.</td>
</tr>
<tr>
<td>Respondent 1</td>
<td>They like to be seen as having instilled the culture</td>
</tr>
</tbody>
</table>
Cooney and Sewell (2000) support these sentiments. They argue that Toyota’s efforts to localize TPS into the Australian context were negligible: ‘in the Australian context, a globalized model of the Toyota Production System has been imposed on the workforce with little regard for local customs or culture, nor for the uniquely Australian industrial relations milieu’ (Cooney and Sewell, 2000). The consequence of this has been the company’s less than satisfactory levels of teamwork, participation, employee commitment, and identification with company objectives. Resultantly, the authors contend that Toyota, through enforced ‘normalization’ has attempted to ‘embrace Australia into the Toyota family’, rather than addressing the constraints and opportunities afforded by the overall local scenario.

**Company-level cultural issues**

According to Liu and Jones (2005) the biggest setback (later christened ‘Project G’) for TMCA management occurred in 1997 when thousands of cars exported to the Middle East were found to be defective. The damage to TMCA’s reputation was
severe, threatened its survival, and acted as a wake-up call for senior management to diagnose causes for the occurrence. Company culture was isolated as the core reason, with contributing factors including TMCA’s heavy unionisation, siloed thinking, communication distortions, and the lack of a unitarist culture. Box 4.19 shows an extract from TMCA’s business plan for 2006.

**Box 4.19**

**SWOT analysis of TMCA’s cultural weaknesses**

<table>
<thead>
<tr>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce not knowing the turbulent and competitive business environment</td>
</tr>
<tr>
<td>Little or no education on KPIs, and its relationship to individual output</td>
</tr>
<tr>
<td>Unhealthy competition between managers, supervisors, and team members</td>
</tr>
<tr>
<td>Differences in culture and industrial relations between Australia and Japan</td>
</tr>
<tr>
<td>Lack of systematic and proactive approach in managing operational issues</td>
</tr>
<tr>
<td>Lack of planning and leadership skills</td>
</tr>
<tr>
<td>Poor communication and lack of interaction between management, supervisors, and shop floor</td>
</tr>
</tbody>
</table>


TMCA’s business was described as one playing ‘old games with old rules’ and as having ‘a weak quality mindset and poor TPS practices’. Consequently, the Toyota philosophy and production system had been compromised in its application (Change Leaders Report, 2000). TMCA’s profits declined by 78%, from $78M to $16M, in the year ended 1999. ‘Project G’ besides, TMCA’s future was under pressure due to the Australian Government’s tariff reduction plan. In order to survive the management needed ‘organizational results with speed’. An urgent need was felt for a change in the ‘values and commitment’ of its employees, via a cultural shift. Since the motor assembly industry operates in a highly competitive, globalised environment, and given Toyota’s concerted efforts to expand internationally since the 1990s, strategic renewal was necessary, but its accomplishment posed a problem, being a new situation for TMCA for which there were no established precedents. Uncertainty was high and swift action was required to ensure TMCA did not lose its valuable export markets in the Middle East. A major cultural change initiative entitled the ‘Change
Leaders Project’ came into existence in 1998 as a reaction to the ‘Project G’ event. An external consulting company was hired to advice TMCA management. The consultants advised TMCA to establish a ‘Change Leaders Program’ (primarily a culture change initiative) which commenced on 28 February 2000. The appointment of a new CEO added some thrust to TMCA’s efforts to effect cultural change, given his belief that changing human behaviour was more important than technical improvement. Box 4.20 shows an excerpt from the Change Leaders Report which highlighted the need for cultural reform within TMCA.

**Box 4.20**

**Urgency for cultural change**

| Over recent years TMCA has failed to deliver the expected rate of return on investment and performance outcomes to its parent company. The improving economic condition and low labour cost Asian plants have attracted much attention from Japan. Already, some of the new Toyota plants in Asia are performing better than Australia. If TMCA does not lift its game in the short term the risk of closing Toyota’s manufacturing operation in Australia is very high. This situation needs to be understood by all employees and common purpose between the company and individual needs to be established |

It is from this point forward, that TMCA commenced its attempts to transform its organizational culture. It is important to recognize that the crisis which precipitated Project G represented the accumulated baggage of several decades of inappropriate quality cultural policies and practices. From 1959 to 1979 a non-TPS culture had taken firm root in the company. This old plant culture was a confluence of many varied sets of beliefs, work systems, and practices resulting from many plant workers and managers being former employees of Standard Motors, Triumph, and GM, none of whom were indoctrinated into TPS-consistent work systems, or lean manufacturing philosophy. Liu (2009) states that work habits and practices developed over a long period of time are often harder to change and complacency can be generated through the attitude of ‘I have done it all before’. These issues form part of a set of restraining forces hindering organisational change and development. Words such as ‘old school versus new school’ or ‘they belonged to the old school’ puncture the narrative of Kinsey (2007). Latham et al. (2009) further explain that the five-year
joint venture between TMCA and GM was effected within an old GM plant with an entrenched anti-TPS trade union. 15% of ex-GM employees became part of TMCA when the plant changed hands and the joint venture concluded. The culture clash therefore comprised conflicting values and work systems of those with British, American, Australian, and Japanese backgrounds. Box 4.21 highlights this clash of work cultures.

**Box 4.21**

**Clash of competing work cultures**

Now management organization in Dandenong when it started was primarily I think maybe about 15 Toyota people transferred from Port Melbourne, and the remaining 20-30 from the group leader and above level were GM Holden people that were either in those positions in the old plant so we had to integrate the people and there was quite a lot of friction between the GM people who wanted to try and do it their way and the Toyota people who wanted to do it our way, and there was a difference there. So back when before the plant started we took all the management group that was an integration of the Port Melbourne people and the Dandenong people over to TMC (Japan) so that they could experience first hand what Toyota was doing and the basis of the TPS and there was 30-40 people went over there, managers, general forepersons, and group leaders for a couple of weeks and studied that and then came back with that knowledge to try and roll out and ramp up the volume of the new car which we had done a few trials before the end of 1988 down at Dandenong and there was quite a massive refit of the plant to take the new model, mainly in the paint shop and then we started to ramp up production. The other thing that we had in those days was a union at Dandenong that was very reluctant to change, to look at new ideas, and we had a senior shop steward there who tended to rule the roost and wanted to screw the company, and one of the previous shop stewards who was working there back in the Dandenong days was a more accommodating sort of person who was a younger person that had more insight into the future of where his members wanted to go. So it just turned out that the original shop steward from the Holden days turned out to be a group leader in the new organization and turned out to be one of the better group leaders and has since gone on to be I think a general foreperson and I think he is now an assistant manager within Toyota and has really made the transformation very good. So we had a lot of union issues.

Source: Kinsey (2007: 3)

At the time of Toyota’s 100% takeover in 1988, TMCA comprised three Australian plants (Port Melbourne, Altona, and Dandenong) with considerable diversity in terms of age, language, national and work cultures, and management philosophies prevalent within the workforces of the three entities. Frictions and negative outcomes arising out of this diversity were opposed to TPS’ demands of ‘one best way’ in terms of conformity and singularity of thought. Two prime examples of work culture clashes
were first, that kaizen was not the focus for production workers and second, TPS’ need for certain planning and production related processes to be handled by production workers themselves, and not production engineering, was not the earlier practice.

The vexed issue of language use has also become a cultural issue at TMCA. Especially contentious has been the pressure placed on people to use Japanese terminology in the workplace. In Box 4.22, Kinsey (2007) recalls the views of another senior manager recounting the situation during the 1980s.

**Box 4.22**

**Antipathy to Japanese terminology during the 1980s**

That’s why these days there is no shyness, much less shyness when I moved to Australia in the early 1980s for example about using Japanese words. We used to get people vigorously opposing using words like kaizen. This is Australia. We don’t speak Japanese here. If you want to talk about ‘improvement’ then use the word ‘improvement’…but kaizen does not quite mean improvement…and you find it with so many of the Japanese words, that it is not just a noun, but there is a verb in there, and there’s a bit of adjective.

Source: Kinsey (2007: 8)

However, this reluctance to fully embrace Japanese terminology and language does not appear to have abated in modern times. Box 4.23 depicts the views of a current trade union convener.
Box 4.23
Antipathy to Japanese terminology in 2010

Respondent: I have found that here at Toyota a lot of things depend on who is in management, you know they like you to have the Japanese language and all its terms like kaizen, muda, and I say well hang on you are here in Australia why don’t you say it in English instead of coming here and rattling off all this stuff, and I say well bugger you mate I don’t know what you are talking about
Interviewer: From what you say I get the impression that TPS is not still fully instilled in Altona
Respondent: It probably is at some levels depending on the person, some people will turn right over so that they yap in Japanese lingo, but me I rebel against that, I always have, I say well if you are here in my country you should speak my language, because I would have to do it in Japan, I wouldn’t go there and start saying ‘yu beaut, that’s bloody great ain’t it’ it doesn’t happen, if they yap on here I find that insulting, why don’t you speak in English, say it in English, I refuse to learn it, I don’t want to learn it, even managers who put up with it but in a room they will whisper ‘that’s crap’.

Source: AMWU (2010: 14)

Liu (2009) found that within TMCA there existed dysfunctional cultural clashes due to the siloed nature of the company’s structure and mindset. Six shops comprise the manufacturing side of the company – press, weld, paint, assembly, powertrain, and unit assembly. Each shop manager has two other managers reporting to him/her – a production manager and a maintenance manager. Table 4.5 shows the three crucial cultural dysfunctions identified by Liu (2009) and some of the typical behaviours and outcomes associated with these.

<table>
<thead>
<tr>
<th>Cultural Dysfunction</th>
<th>Associated Performance Behaviours</th>
</tr>
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</table>
| Management working in isolation | * Tension and endemic conflict between production and maintenance within each shop.  
* Between shops, little communication between maintenance managers  
* Over time, each shop’s practices started to deviate from company policies and standards. In some cases, different shops simply created their own policies, without sharing, or considering the implications for others.  
* Inconsistencies between shops were used by the trade unions as a weapon to manipulate  
* A culture of blaming and buck-passing damaged inter-departmental relationships and generated communication barriers. |
### Mistrust between levels

* Within the hierarchical structure there existed little trust or teamwork between levels.
* Higher levels blamed lower levels for incompetence
* Lower levels blamed higher levels for inaction and leadership failings.

**Managers**

‘We don’t get support from our general forepersons and group leaders - they are not doing their job properly’

**General forepersons and group leaders**

‘Our managers are doing nothing. We should get rid of them. We are the meat in the sandwich, not receiving support from above or below. The team members don’t care much about the company’

**Team members**

‘We do the hard work, but nobody cares about us. We don’t need group leaders and managers here, they are the watch dogs’

### Mistrust between the company and the union

* The trade union is one of the most powerful union organisations in Australia. The structure consists of external officials and internal employee representatives (total 9).
* The industry has struggled with the union for decades due to their militant approach.
* Two of TMCA’s senior employee representatives were perceived by management as very aggressive, disruptive, and the cause of much industrial action.
* Senior management was frustrated with ERs attitude and approach.
* ERs believe management cannot be trusted.
* Changes proposed by the company usually treated with suspicion.

Source: derived from Liu (2009: 75-77)

Box 4.24 gives a snapshot of the climate of frustration within TMCA as a result of the juxtaposition of these three cultural dysfunctions.
Box 4.24

Climate of frustration

These three issues working together created an intractable situation within Maintenance. Trust and communication have been difficult to establish. Company attempts to try to get people working together have invariably been thwarted over the years. Frustration and cynicism ensued. Whenever managers, general forepersons and group leaders became ‘burned’ after a failed change initiative, they became progressively more disillusioned and despondent. Because maintenance skills are in short supply nationally, this power imbalance between management and employees in the event of a dispute was invariably resolved in favour of the employees, inevitably as a result of management backing down to avoid work stoppages in the face of a militant trade union. The company was continually trying to present industrial relations harmony to the parent company in Japan in order to convince it to continue its investment in Australia. So under this kind of pressure there developed a perpetual process of management compromising and ‘backing off’. Numerous examples developed of inconsistent practices originating in different shops. These inconsistencies were picked up by employee representatives and used as bargaining counters to obtain concessions across all shops. Supervisors and managers often complained that they spent most of their time on IR-related issues, and received little support from senior management due to the latter’s policy of appeasement.

Source: Liu (2009: 76)

The analysis of Jones et al. (2008) does not depart from these broad conclusions about the nature of TMCA culture. These authors recognize five hierarchical layers within the company – team members, team leaders, supervisors, middle managers, and senior managers/Japanese advisers. They found a lack of congruence between these layers with respect to the requirements of TPS. There existed a lack of homogeneity in lean thinking practices which created a divergence of thought processes, making the implementation of TPS problematic within TMCA. The authors identified that each of the five separate layers was epitomized by a dominant discourse, as below, leading them to conclude that TMCA is arguably not one of the shining examples of Toyota culture, much eulogized by apologist-vein researchers, as being embedded deeply and effectively in all TMC plants.

Team members:
*Discourse of being controlled* by TPS within the context of being pushed by higher levels

Team leaders:
Discourse of fear of upsetting team members and feeling stressed by pressure coming from all directions

Supervisors:
Discourse of feeling overwhelmed by their responsibilities within the context of lack of cooperation between employees, union, peers, and managers

Middle managers:
Discourse of frustration with the attitudes, behaviors, and skills of the workforce within the context of being unable to meet the demands of Japanese bosses.

Senior managers and Japanese advisers:
Discourse of struggle to maintain the integrity of TPS within the context of a lack of purpose and urgency.

With regard to organizational learning, over the years TMCA seems to have made several serious attempts through various means to change or control certain negative scenarios. Perhaps the most significant company-wide initiative was the institution of ‘action learning teams’ (ALTs) set up in 2000 as a result of the Project G epiphany. The aim of ALTs was to facilitate a major cultural shift by trying to bring people together in order to prevent them from doing things in isolation. An acute need was felt to create unanimity and harmony in thinking and actions between the respective silos and hierarchies within the company. The architect of ALTs described the motivation of the programme in Box 4.25.

**Box 4.25**

**Motivation for action learning teams**

| In my perception, therefore, one of the most important intervention strategies was to bring people together to stop them doing things on their own, or trying to fix problems in isolation. Such actions merely caused more problems for others. Supervisors and managers needed to act as a team, possessing a stronger and more united approach towards helping each other. It was within this context that the concept of ALTs was devised. That was the starting point |

Source: Liu (2009: 77)
The ALTs were designed as forums that created opportunities for structured and purposeful dialogue, interaction, participation, and resolution of problems in real time. Critical to the success of this endeavour was the strategic architecture designed as a result of a conscious effort to progressively link and network the various ALTs both vertically and horizontally, to create a web of teams to facilitate organizational learning (Jones et al., 2008). Between 2003 and 2004, three ALTs were established for specific purposes. The general forepersons’ ALT was established in August 2003 to focus on kaizen systems and processes. The managers ALT was established in March 2004 to focus on long-term business plans and policy items. The group leaders’ ALT was established in July 2004 to focus on implementation issues and standardization. In Box 4.26, Kinsey (2007) relates his experience of the cross-functional operation of ALTs during this period, which he believes yielded several positive outcomes.

**Box 4.26**

**Cross-functional nature of ALTs**

…and we also made a change in the sales system where they could actually look within the sales order of cars and if there was one that was not allocated they could actually move this person’s car up from there and there might have been vehicles built that were the same specification as the car that this guy wanted which was in the sales pipeline as a stock vehicle then it basically jumps from there off to that vehicle so that the person got the car quicker. So that was a very interesting job for me, working with the sales people plus the network of friends that I had in the manufacturing side, I was able to get these guys on board too, so it was not just another project team saying this is the way you have got to do it, but using the knowledge of the people that are actually running this sequencing system at Altona and how can we improve this. And getting them on board as part of the action team, so we had sales people, we had ourselves basically driving the project and there was a general manager and myself as an assistant general manager in those days and driving the supply chain but also utilising the people within the production system, and getting them involved, and picking their brains, you know how can we do it? Getting everybody’s heads together. It was a great thing to see people thru the sales side of the organization and the manufacturing working together to solve a common problem, how to reduce that lead time.

It was an example really of an action learning team. I had previously experienced action learning through the Change Leaders Program in manufacturing when I was at Port Melbourne because we got a group of managers together and did that as a management group and then we said well how do we want to roll that out? So as a result of the activity we had by going offsite and working together on issues and problems we thought how can we roll this out? So each of us selected members from our organization to become facilitators in that
Change Leaders Program, and I selected [name] as one from Port Melbourne to get involved in that because I could see her potential plus the work she had done in Quality Circles and things like that.

Source: Kinsey (2007: 16)

The research of Latham et al. (2009), however, offers mixed support for the successful implementation of ALTs. Their findings concur with the contention that the predominant style of TMCA’s organizational learning after 2000 was through deployment of the action learning model. However, their research also reports that TMCA encountered a series of barriers which hampered the ALT initiative, such as: endemic mistrust; impatience from the senior management; lack of understanding about the process; lack of faith in the process; membership selection, coverage, and team size; lack of skilled facilitators; sponsors failing to deliver promises; conflicting priorities; process viewed as threat by the union; and organizational politics.

Box 4.27 provides evidence from two trade union shop stewards which reveals their outright rejection of the ALT process. In a colourful manner, the action learning process is equated with ‘arse-licking’.

Box 4.27
Union opposition to the ALT process

<table>
<thead>
<tr>
<th>Interviewer:</th>
<th>What about ALTs [action learning teams]?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent 1:</td>
<td>Oh, arse-licking teams!</td>
</tr>
<tr>
<td>Respondent 2:</td>
<td>Yes, that’s what we named them, so we (trades) said we are having nothing to do with it, bullshit, and there were maybe 3 tradesmen on the whole site that actually went along and did whatever they did, and we would say to them ‘yes we know you are going off to the arse-licking team’ and they would reply ‘yes we know that you don’t like us’. It is just crap. And whatever happened to it? It just died a death. Look some people might have picked it up, production maybe, I just don’t know</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>Wasn’t the idea to break down silos?</td>
</tr>
<tr>
<td>Respondent 2:</td>
<td>But look in some areas like the General Foremen’s Arse-Licking Team they made policies that wasn’t in the EBA or whatever, signed it off, and started to try and push it down our throats, they were making up all these things, oh you have got to do this now, where has that come from, oh from the arse-licking team, maybe they were just using the wrong method but that’s what come out of it</td>
</tr>
<tr>
<td>Respondent 1:</td>
<td>We just banged them with a grievance mate, bang, anything new – bang! Where has that come from? Arse-licking! Bang.</td>
</tr>
<tr>
<td>Respondent 2:</td>
<td>Yes, we don’t know who was with them when they come up with these things – they were cockamayme think-tanks, and the next thing you know is that this has become gospel and has been signed off, not thinking that you need a WPA.</td>
</tr>
</tbody>
</table>
Respondent 1: They came in when oh it must be nearly 10 years ago
Respondent 2: Yes, they just came in, people got beat around the head by us, and then went on to something else
Interviewer: So this is the culture, you are a strong union with history behind you, you are installed here, there is the Australian culture behind you, so it’s always going to be difficult for a company like Toyota to come in and try to impose a very prescriptive culture – they really have to compromise
Respondent 1: Pretty much yes,

Source: AMWU (2010: 17)

Liu and McMurray (2004a) draw a contrast between two incidents at TMCA, one before the ALT initiative and the other after the initiative. The first incident occurred in 2001 and involved outsourcing the jobs of three cleaners. The second incident occurred in 2003 and involved outsourcing 330 jobs. Whereas the first incident generated industrial unrest and strike activity, the second incident passed off without any unrest. Liu and McMurray (2004a) explain the difference between the two incidents in terms of the new culture of organizational communication that had been put into operation as a result of the ALT initiative. When the jobs of the three cleaners were outsourced this decision was known only to three managers, resulting in confusion and an information void; nor had any consultation taken place between key players. One of the aims of the ALT program was to establish a long-term mechanism to prevent the occurrence of similar incidents. The overarching goal of ALTs was to rebuild the relationship between management and employees and nullify the mindset of us-and-them by focusing on teams. Table 4.6 shows a comparison between the two incidents.

Source: AMWU (2010: 17)
Table 4.6

Communication differences between two outsourcing incidents

<table>
<thead>
<tr>
<th>May 2001</th>
<th>December 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Outsourcing 3 jobs</td>
<td>• Outsourcing 330 jobs</td>
</tr>
<tr>
<td>• Management kept information secret - no communication process in place</td>
<td>• 20 months notice given to impacted employees</td>
</tr>
<tr>
<td>• Employees found out about outsourcing via the rumour mill</td>
<td>• Director announced business change plan to all</td>
</tr>
<tr>
<td>• Shop stewards not consulted and worked against management</td>
<td>• Shop stewards worked with management to show positive leadership</td>
</tr>
<tr>
<td>• External union took control of the situation</td>
<td>• Shop stewards gained cooperation from union</td>
</tr>
<tr>
<td>• 5 day strike</td>
<td>• No strike</td>
</tr>
</tbody>
</table>

Source: Liu and McMurray (2004a: 12)

In summary, this chapter has concluded that, in contrast to NUMMI, TMCA has experienced a fractured and disharmonious labour-management environment during the period of its operation. The Toyota Production System has been implemented in fits and starts, quality has been patchy, a cultural climate of trust has proved elusive, and organizational learning has been poorly achieved across the organization. The reasons for each of these developments have been analyzed. In the next chapter the thesis employs the same parameters to examine the case of TKM (Toyota Kirloskar Motors) and subsequently to compare and contrast the respective developments and achievements across the three companies.
Chapter 5
Toyota in India: Toyota Kirloskar Motors (TKM)

The aim of this chapter is to critically examine how TMC Japan went about implementing TPS in the Indian socio-cultural environmental context, the specific issues and barriers encountered in the process, and the overall extent of success achieved in doing so. The outcomes emerging out of this analysis are subsequently compared and contrasted in chapter 6 with outcomes emerging from similar analyses of TMC’s transplantation exercises in the unionized environs of Australia and the USA, which is the main concern of this research.

This chapter is structured into four main sections as below:

1. A chronological listing of significant events
2. Union-management relations
3. Toyota Production System, lean manufacturing, and teams
4. Culture and organisational learning

1. A chronological listing of significant events

1997
June: Toyota Motor Corporation Japan and the Kirloskar Group in India sign a memorandum of understanding to form a joint venture named Toyota Kirloskar Motors (TKM) at Bidadi, near Bangalore, India.

1998
June: Plant construction commences.

1999
December: Initial production commences, with a workforce of 2300.

2000
January: The first multi-purpose utility vehicle (MUV), the Qualis, rolls off the assembly line and is an instant success. 21,000 units are sold during the first year making it the market leader in the MUV segment, with 35% market share.

2001

April: Labour unrest commences with non-acceptance of a unilateral wage increase announced by management. Boycott of lunch, initiation of dharnas, tool-down strikes, and employee suspensions and dismissals mark the rest of the year. A trade union is formed against management wishes.

TKM is declared a ‘public utility’ by the government of Karnataka, restricting the right to strike

2002

January: Union gives strike notice and two union members terminated.

October: Camry (‘premium segment’) model launched, fully imported from Japan

2003

January: Corolla is introduced to Indian market - production reaches 100,000 by September

Continued market leadership of Qualis with 40% market share

Union elections: seven office bearers and twenty Executive Committee Members elected.

2004

January: Two union members terminated and workers refuse to work overtime

Qualis wins TNS Award for Customer Satisfaction
2005

Qualis phased out and new model Innova launched

October: Union appeals to High Court against declaration of TKM as an essential service, but loses the case

November: Appeal to Division Bench re-lodged against the High Court decision

2006

April: Dismissal of 15 terminated employees referred to the Labour Court

August: TKM reiterates its target of 10% of the Indian market by 2010 and 15% by 2015.

September: Corolla sales halved since launch of Honda Civic

November: TKM increases wages by 16%

December: TKM adopts strategy of revising wages each year in line with productivity

December: TKM managing director states that the company ‘was in the process of studying how to grow in the Indian market’. This seems to indicate TKM’s lack of certainty about Indian conditions

2007

Toyota Technical Training Institute (TTFI) established to impart technical knowledge; described by the media as a training school for youngsters to be indoctrinated into the Toyota Way.
August: TKM still stalling over the launch of its small car. Meanwhile, Tata announces Nano will be launched in 2008 selling at approximately AUS$3000

2008

January: TKM announces its plans for a second plant to be built at Bidadi.

May: The most senior Indian executive resigns abruptly supposedly due to differences with the Japanese management.

July: Foundation stone laid at Bidadi for the second plant, planned to commence in mid-2010 with an annual capacity of 100,000 compact-sized vehicles.

2009

March: TKM MD states that new small car rollout will definitely occur by December 2010

June: TKM announces extra investment into its existing Bidadi plant over the period 2011-2016. Karnataka State Government prominent in offering extra concessions to TKM to increase their investment at Bidadi following the Government’s failure to attract the Nano project.

July: TKM MD states that the company used the past ten years to ‘usefully stabilise the Indian business and put it in order’. However, ‘the next ten years will be different from the last decade. It is now time for a new vision and mission’ (Business Line, 2009).

2010
January: TKM names and unveils its new small car for India – the Etios. Simultaneously Tata unveils its newest low-cost car, the Magic Iris, a 5-passenger van, on the road for $US2000, and aimed at existing bike and rickshaw owners.

January: Toyota defect crisis occurs in USA. TKM denies India is affected, claiming that cars manufactured in India use different suppliers and are safe.

2. Union-Management Relations

Managing union-management relations in India, especially for overseas headquartered companies, can often be a trying experience. The structure of unions, and their tendency to affiliate with larger political organizations, allows for plant-level people issues, if mismanaged, to escalate into national issues, at times even necessitating federal government intervention. How well the complex nature of unionism is understood and managed by multinational companies, such as TKM, represents a critical success factor in the long-term viability of their Indian operations. This research indicates that it took Toyota management the better part of the first decade of their operations, and several compromises along the way, to achieve a workable state of affairs on the company’s industrial relations front. One of the interview respondents, a senior level seasoned Indian automotive industry executive, stated that despite Toyota having learned a few things since 2006, it still had ‘a long, long way to go’, (interview 24) in terms of having a full understanding of various ground realities that were best managed by professional Indian managers, with enhanced levels of delegation and empowerment, which apparently was lacking. The ironical question that arises though, is why did it take Toyota, with its attendant TPS philosophy (synonymous with ‘harmonious labour relations and respect for people’) that long to get things right?

To facilitate a fuller understanding of the industrial relations scenario within TKM, this section commences with a discussion of the key historical, structural, and socio-cultural aspects of the trade union movement in India, rooted into which is the current context of union-labour relations, within which TKM operates. Box 5.1 presents excerpts from two interviews, one with a TKM senior Indian
Two interview excerpts about unionism and industrial relations at TKM

<table>
<thead>
<tr>
<th>Excerpt 1</th>
<th>Excerpt 2</th>
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</thead>
<tbody>
<tr>
<td>TKM senior Indian executive</td>
<td>Business editor of a reputed newspaper</td>
</tr>
</tbody>
</table>
| [Industrial relations have improved] quite a lot, there was a time when we had problems here, but Japanese by nature, managing industrial relations, managing Government business in India, it is not possible for that, just can’t do it, and that is where they need Indians, and they are very clear about it, you know because dealing with our Indian Government is very very difficult, nothing happens on time, there are many many challenges when you deal with Government, so they can’t manage it, they can’t handle it, they will smile, they will go and have a meeting, they will talk to them, but it has to be managed by an Indian. In India, industrial relations is not only human things, manpower, there are politicians, there is a political environment around that area, there are politicians sitting around that area, they want their people to be employed in the organisation, then they want to take control of your people, and you have to fight with them, as a Japanese you can’t do it | Now the unions enjoy patronage from the political parties, and they called for a strike [at TKM] and created a disturbance. Now having said that, if I have to compare with China, that is a Communist country but we don’t see strikes in China, and also the labour laws in India are not as flexible as in Western countries, for example here firing and to get rid of people is very difficult, and the labour laws is still one area where the reforms have not taken place to the extent that others have since the liberalisation started in 1990-91 and we are a much more open economy today, but one area where there is still a lot to be done is the labour laws, it is very politically sensitive, so no Government wants to reform labour laws to the extent where it would be very easy to hire and fire, so firing is very difficult in India OK, so that is one reason why a lot of people try to keep their employees happy, and at the same time they try to employ some casuals to do a certain amount of work which is not core to the production but is important but not so important to the production that you can’t afford to lose that person. So the company wants to keep a floating certain number of workers who they can reduce depending on the need of the factory, but when it comes to the permanent workers who are on the payroll of the company, you cannot sack them, very very difficult, the Government will come, the unions will come in, but with the casual workers the rules are such which as long as you follow the rules and the worker is classified as a casual, then the rules are easy. That is why many manufacturers in India keep a number of casuals also, not just Toyota, it is practiced all over the country, basically to add to the stability, to adjust your workforce to the needs of the company. But that has also turned out to be a major bone of contention in many places, for example in North India they had major problems in the Honda motor cycle factory, so that was also a problem in the Toyota plant in Bangalore, and at Toyota the...
These two excerpts reveal a broad convergence in the belief that the politically charged nature of trade unionism and the ubiquitous presence of State and Federal Governments make industrial relations a sensitive and trying matter.

The Indian Constitution through the Trade Unions Act of 1926 provides legitimacy and defines the legal regulations relating to registered trade unions in the country. In 1947 an amending act was passed which provided for compulsory recognition of representative unions by employers, and also listed certain practices on the part of recognized unions. The history of plant-level unions in India dates back to the colonial period, when the entire labour movement was under the umbrella of the Indian National Congress. Unions were organised at the plant level, with regional and national affiliations with larger bodies, and their leaders came from the urban middle-class intelligentsia associated with the independence movement (Chaudhuri, 1996). Resultantly, the Indian trade union movement has generally been divided along political lines. According to Bhandari (2010), whilst less than two percent of Indian workers in both the formal and informal sectors are covered by union membership, in the organised private sector union membership represents about 60 per cent of workers. However, it is much less in small and medium scale companies, and in the unorganised sectors, which employ 90 per cent of the labour force, unionism is virtually absent. As shown in Box 5.2, based on provisional statistics from the Ministry of Labour, as of 2008, there are twelve Central Trade Union Organisations recognised by the Ministry of Labour.
### Box 5.2

**Central trade union organisations**

*(political affiliation in brackets)*

- All India Central Council of Trade Unions (Communist Party of India (Marxist-Leninist) Liberation)
- All India Trade Union Congress (Communist Party of India)
- All India United Trade Union Centre (Socialist Unity Centre of India (Communist))
- Bharatiya Mazdoor Sangh (Rashtriya Swayamsevak Sangh)
- Indian National Trade Union Congress (Indian National Congress)
- Indian National Trinamool Trade Union Congress (All India Trinamool Congress)
- Centre for Indian Trade Unions (Communist Party of India (Marxist))
- Hind Mazdoor Sabha (socialists)
- Labour Progressive Federation (Dravida Munnetra Kazhagam)
- SEWA
- Trade Union Coordination Committee (All India Forward Bloc)
- United Trade Union Congress (Revolutionary Socialist Party)


The period between 1900 and 1946 witnessed the development of organized trade unions and political movements of the working class. For example, at Ahmedabad between 1918 and 1923, Mahatma Gandhi (considered to be the architect of India’s freedom struggle) guided the formation of occupational unions such as spinners’ unions and weavers’ unions. He led a strike by these unions, which turned into a *satyagraha* – non-violent resistance to authority and non-cooperation. In 1920, the first national trade union organisation, the All India Trade Union Congress (AITUC), was established. Many of the leaders of this organisation were leaders of the national movement. In 1928, the All India Trade Union Federation (AITUF) was established. The working class movement was also politicized along the lines of political parties. For instance, the Indian National Trade Union Congress (INTUC) became the trade union arm of the Congress Party; the All India Trade Union Congress (AITUC) became the trade union arm of the Communist Party of India; and the Centre of Indian Trade Unions (CITU) became the trade union arm of the Communist Party of India (http://industrial.relations.naukrihub.com/trade_unionism.html). It is notable that
during the on-going conflict at TKM, the employee trade union (TKMEU) decided to affiliate itself with CITU and the Marxist leanings of that affiliation.

The Industrial Disputes Act (IDA) of 1947 is the main legislation for investigation and settlement of all industrial disputes. The Act describes the conditions when a strike or lock-out can be lawfully resorted to, when they can be declared illegal or unlawful, the conditions for laying-off, retrenching, discharging, or dismissing a workman, the circumstances under which an industrial unit can be closed down, plus several other matters related to industrial employees and employers. According to Ramaswamy (2000) ‘the IDA cements the vital role of the government in Indian industrial relations and forms the basis for the strong political involvement in Indian unions....the system creates a fertile ground for political meddling’.

Job security is cited as the primary concern of Indian unionized workers. The unions, operating through their different political parties, have succeeded over the years in establishing a legal regime requiring employers to seek prior government permission before retrenching a worker. Such permission is almost impossible to get given the compulsions of competitive politics in the country. Industrial firms are severely hampered by these laws when required to respond quickly to market or technological changes. According to Ratnam (2006), the objectives of the major trade unions in India often vary according to their political ideologies. For instance, some unions are influenced by leftist principles aimed at overhauling the capitalist mode of production as a whole (for example, CITU, to which TKMEU is linked). Issues related to political interference, multiple unionism, inter-union rivalry, and financial weaknesses have traditionally plagued trade unions in India. Furthermore, objectives such as worker participation in India have achieved only partial success due to factors like lack of proper education among workers, lack of understanding between management and workers, and multi-unionism. Adding to this overall picture are the arguments of Bhattacharjee (2001) and Mamkoottam (2000) who, whilst discussing the strong connection between political parties and the proliferation of unions, also describe the trend of politicians to instrumentalise labour conflict for their own partisan interest, with local unions calling in politicians and political parties to further their own ends.
Venkata Ratnam (1996) and Menkidy (1993) stated that the strong position of trade unions began to weaken in the early 1980s due to such factors as: the failure of a number of strikes; growing alienation between union members and workers; the waning influence of national federations over enterprise unions; a multiplicity of unions; the new economic environment and policies that was reducing the numbers of unionised workers and increasing pressure on unions to save jobs; and technological and economic changes leading to further reductions and retrenchment of labour. Supporting such claims are the arguments of Gupta and Sett (2000) who argue that new companies in the post-liberalisation era are able to set up alternate scenarios, such as the establishment of just one unaffiliated company union with cooperative labour relations. They posit that the much criticised issue of employment inflexibility has waned, especially after the Indian government’s initiation of new economic policies after 1991. However, despite all this, it cannot be denied that unions still significantly influence employee relations within Indian organizations.

Box 5.3 provides an excerpt from a news item alluding to the specific industrial relations context that existed in 2001, during TKM’s early years, within the southern Indian state of Karnataka, which is the home to TKM. This excerpt captures the essence of the on-going labour reforms within India and the attendant tensions between traditional unions and the demands of the new economic order.

**Box 5.3**

**Labour issues in Karnataka**

The ongoing strike at TKM, the recent disturbances at L&T Komatsu and BPL, and the lockout at Bata, all in Karnataka (which has been promoting itself as a state with cordial labour relations), have brought to the fore the fact that contentious labour issues will not go away simply because the way of doing business is changing in the country...And as industrial units, especially those from the old economy with labour-intensive processes, lobby for labour reforms, labour unions are battling for rights of the working class that are gradually getting eroded.

For instance, with the amendment to the Industrial Disputes Act (IDA), only companies employing over 1000 workers need government permission for retrenchment. Similarly, amendment to the contract labour act would facilitate outsourcing of activities without any restrictions and enable companies to offer contract appointments...As such job security has become a thing of the past, as corporates are not in the business of employment generation any more, but in the business of making profits...But what about social security to those who have been sent out...?
As for industrial disputes, management have been hardening their stand. For instance, they have started linking productivity with wages and incentives and insist on including productivity clauses in any settlement with unions...the collective bargaining power of the workers has whittled down. With foreign direct investment have come MNCs with their management practices, productivity principles, quality consciousness, time-linked delivery schedules, and reduced process time....and to keep up with competition, domestic companies too are following suit.

...But much of these management and production practices from abroad have still to find acceptance among the working class in the country. The (Karnataka) State’s Labour Commissioner, Mr D N Narasimha pointed out ‘it’s the mindset that needs to be changed. Attitudinal changes have to be brought about at the ITI [industrial training institutes] level itself. These boys have not been used to the productivity or management principles that are so different from ours. Pressure on time has not been honed into their skills.


In Box 5.4, two opposing views are presented about the evolving labour laws and industrial relations scenario in India, with the objective of locating Toyota’s traditional position on union-management relations on a continuum between two extremes.

### Box 5.4

**Opposing views on labour market deregulation**

<table>
<thead>
<tr>
<th>View 1</th>
<th>View 2</th>
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<tbody>
<tr>
<td>Pro-deregulation</td>
<td>Anti-deregulation</td>
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<tr>
<td>‘........Various studies indicate that Indian labour laws are highly protective of labour and labour markets are relatively inflexible. These laws only apply to the organized sector. Consequently, these laws have restricted labour mobility, have led to capital intensive methods in the organized sector, and adversely affected the sector’s long run demand for labour. Labour being a subject in the concurrent list, State-level labour regulations are also an important determinant of industrial performance. Evidence suggests that States that have enacted more pro-labour regulations have lost out on industrial production in general.</td>
<td>‘.....In the current phase of imperialist globalisation, capital through its transnational corporations (TNCs) agents is on the march to curb the rights of workers and exploit them optimally......the case of Toyota Kirloskar Motors (TKM) in India reflects many pertinent aspects of capital-labour interactions, in which capital has complete control over labour processes and rights. Labour market de-regulation aiming at attracting foreign direct investment is one of the major contributors to unfair labour practices in TNCs in India. The investment attracting measures with reference to labour market flexibility often translate into precarious working conditions in TNCs. TKM’s case show that practices of numerical, functional, temporal and wage flexibilities negatively affect labour conditions. Dismantling labour laws relating to retrenchment, closure, contract labour and collective labour activities by Central and State Governments, negatively impacts labour in general..’</td>
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A broad analysis of TKM’s labour-management relations since its inception, within the context of the two opposing views described above, suggests that it has a closer fit with the pro-deregulation viewpoint. However, proponents of the anti-deregulation view have been extremely vocal in their attempt to impede or halt the progress of the pro-deregulation movement. For example, D’Souza (2008) argues:

‘job security regulations are often seen as a source of rigidity, resulting in rents for organized labour...these regulations often emerged as a response to the threat of unemployment and income insecurity and were intended as a form of social insurance rather than being the result of rent seeking. It demonstrates that markets if left to themselves will not be able to device contracts that provide an efficient level of employment security’.

**Plant-level industrial relations issues at TKM**

Plant-level industrial relations at TKM were extremely conflictual in the period before 2007. The company experienced three separate strikes and a lockout before developments came to a head in January 2006 involving another strike and lockout, an occupation of the factory by workers, threats to commit suicide by blowing up the LCG cylinders inside the plant, and a series of violent incidents. Table 5.1 shows some of the more significant events that occurred during this period.

**Table 5.1**

**Industrial relations conflicts at TKM: 2001 - 2006**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>2001</td>
<td>Management unilaterally declares a wage increase of 300 rupees per month</td>
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<tr>
<td>30 Mar</td>
<td>2 April Disgruntled workers boycott lunch for 1 day; management pushes workers outside the factory; 25 leaders called in for questioning</td>
</tr>
<tr>
<td>3 April</td>
<td>16 April One employee terminated for instigating workers and 20 more targeted for discussing the issue</td>
</tr>
<tr>
<td>April</td>
<td>Management establishes a team member association (TMA), not for collective bargaining, but for communication between management and workers. 15 members elected, and one contesting candidate dismissed before result declared.</td>
</tr>
<tr>
<td>Date</td>
<td>Event Description</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>June</td>
<td>TMA committee members decide to register TMA as a trade union, but threatened by management with dire consequences. One committee member summarily terminated. Others are advised their role is restricted to such issues as canteen, safety, and work wear issues. Workers strike for 12 days: demands include - modification of standing orders, reduction in training and probation period, job security, and reinstatement of three dismissed workers. Whilst on strike, registration of trade union applied for. Trainee period reduced to 2 from 3 years. No decision taken on three retrenched workers. One trainee terminated although he completed 2 years. Tool down strike ensues against termination.</td>
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</table>
| 2002       | **January**  
Union serves strike notice when workers forced to do compulsory overtime. Two union officials (General Secretary & Joint Secretary) terminated. Strike continues for 52 days, main demand being to reinstate two union members  
**March - June**  
State Government declares TKM an essential service, and strikes banned. Two year wage settlement agreed with TKMEU. |
| 2003       | **Sept -December**  
Union election held – 7 office bearers and 20 Executive Committee members elected. Management again forces workers to do compulsory overtime. 2 employees dismissed in this connection after enquiry. Management initiates another round of suspensions without pay on various counts |
| 2004       | **January - June**  
5 Executive Committee members awarded 1 to 15 days suspension without pay after making a charter of demands. In protest, workers refuse to perform overtime. Presidential candidate for next election suspended by management. Union issues notice to boycott morning physical exercises and meetings. 16 union members, including office bearers and Executive Committee members, suspended for committing serious misconduct. Management refuses to discuss charter of demands with elected union members. Unilateral wage increase of 1800 rupees per month announced. Several union members terminated for poor performance. |
| 2005       | **Feb - December**  
Union mounts a High Court challenge against the notification of TKM as a ‘public utility’. Petition is dismissed. Pamphlet campaign mounted protesting against Government-TKM collaboration. Large demonstrations held across Bangalore. Union serves another strike notice. Large number of contract workers employed to break the strike.  
Union members advised to desist from joining the Communist Party. Workers threatened in the local townships by ‘goons’. |
| 2006       | **January**  
5 Jan: management dismisses 3 of 15 workers suspended since February 2004 on charges of serious misconduct.  
6 Jan: strike commences in retaliation.  
8 Jan: management declares a lockout at the plant.  
9Jan: 400 workers stage a day and night dharna outside the District Labour Commissioner’s office  
12 Jan: District Labour Commissioner holds conciliation talks between management and union. Management seeks time to consider demands.  
16 Jan: management refuses to reinstate dismissed workers and
refuses to lift lock out
20 Jan: in a sudden turnaround, management lifts the lockout, but demands workers sign a ‘good conduct’ agreement before starting work

| 2006 February | 3 Feb: union declares a ‘relay hunger strike’ – 3 members would fast for 24 hours on an on-going basis
5 Feb: CITU calls a meeting of all unions in Karnataka State. Union issues another strike notice. Strike deferred - Labour Commissioner initiates conciliation talks and invokes the clauses of a ‘public utility’. |

Sources:
*AMRC (2006)
*Mikkilineni (2006)
*Centre for Indian Trade Unions legal documents on ‘Toyota Public Utility Case’ (2005)
*Selected interviews

The 2001 strike

Approximately 18 months after TKM first commenced production, workers at the plant went on a strike for almost 12 days. This had been preceded by approximately four months of sporadic incidents of industrial unrest within the plant owing to various points of conflict between the management and workers. This phase broadly coincided with the ramping up of production levels and as part of the preparation for the introduction of a new car model. Excerpts from an interview with a senior executive directly involved with this strike are provided in Box 5.5 (interview 24). The excerpts are the interviewee’s reflections in hindsight of the broader contextual setting and related events leading up to the strike of 2001.

Box 5.5
Build-up to the 2001 strike

Everything seemed to be going on fine in the early stages....the vendors and the suppliers were fine and so were the dealers. The Japanese were happy too as there was more work, more production, and more money. However, and underneath all this, we as management neglected the work-life balance.....we made overtime compulsory, with employees working 10 hours each day. We started neglecting the most crucial aspect - the human beings. With the factory being almost two hours away from the city, workers spent about 3-4 hours in transit to and from work. All this, including about an hour each day for tea and lunch, resulted in the workers dedicating about 15 hours each day to work. Many just went home, slept and returned. This took a toll on them, and they organized. We had a labour issue on our hands.......and once it starts, it takes years to get it under control.

Source: Interview 24
The events of 2001 resulted in TKM management revisiting various workplace practices as part of their process of damage control and winning back of workers’ faith. This placed considerable demands on its resources for a protracted period of time. Various initiatives were rolled out by the management to re-establish lines of communication and to restore cordial relations and trust. A few of these are briefly discussed below:

Restoring the work-life balance: new shift timings were arranged for workers of both shifts to catch some sleep during the night. This was based on the realisation that unlike in the West, where a worker invariably went back to a quiet, independent home to obtain rest and respite, the average TKM worker was usually a young man (many from farming backgrounds) who went back to small homes occupied by several family members, with animals, sounds and disturbances of many sorts, that did not allow for adequate rest for shift workers with unusual working hours.

Communication and engagement: an initiative called ‘information time’ was instituted. This entailed thirty minutes each fortnight to be taken out of production time for each section of plant workers. The objective of ‘information time’ was for management to impart information to team members on a range of aspects, such as HR initiatives, production targets, and despatch and sales figures. Other initiatives included a ‘top management talk’ once every 6 months and subsequently changed to once each quarter. Enhanced ‘engagement’ was effected through kaizen initiatives, such as the erection of a board at the plant on which workers were encouraged to put forward their difficulties – for example, back aches, work items placed beyond physical reach, and so on. The status of problem resolution was also noted. This measure, besides facilitating communication, was also aimed at developing trust.

Building trust: an example of an initiative put into place involved top management periodically selecting 25 employees at random and conducting one hour open forums with them. All questions were welcome. In the words of one interviewee
who was a top management executive associated with this initiative, ‘there were embarrassing moments, but in the long run, there was a lot of trust...they did not look at management as separate beings, a privileged class, but as one of them’ (interview 24)

Nonetheless, the concluding words of the senior manager in Box 5.5 about fractured industrial relations taking an eternity to heal seemed to hold true for TKM. The company’s operations were punctuated with many incidents that resulted in an overall industrial relations environment that seemed anything but harmonious. Ongoing industrial unrest during the next five years culminated in a strike by the workforce in 2006 with more damaging repercussions arising out of this than the first one in 2001. The details of this event, that marked a turning point for TKM, are discussed next.

The 2006 strike

During my field visits to Bangalore it was noticeable that the individual memories of respondents about the events of 2006 were still fresh and interviewees spoke with passion. This year marked an epiphany in TKM’s operations. A senior executive described the genesis of the strike as being rooted in the provisions of the company’s policy of ‘no work, no pay’ (interview 24) which was applied to a few union members who did not perform work in 2006. Resultantly, these union leaders ‘instigated other workers’ to boycott both the mandatory morning exercises (to loosen and warm up muscles) and also the daily work meetings, conducted before assuming shift work. Suspension from work of these instigators followed, resulting in an exacerbation of the situation. However, interviews with other constituents who were party to these events revealed that that this act of management to invoke provisions of the no-work-no-pay policy merely served as the flashpoint for widespread discontent that had already set in much earlier across the workforce.

Matters took an ominous turn at the plant when workers turned violent and obstructed others from entering the factory on 6 January 2006. Management
sought assistance from the police to control matters. Workers took control of the factory and threatened to commit suicide by igniting the LPG cylinders if police attempted to forcibly eject them from the plant. A senior external trade union leader claimed that expert advice was given to the workers about ‘how to sabotage plant operations’ (interview 25). One senior manager admitted that he had offered to send across a box of matches to the workers daring them to ignite the gas cylinders. This was based on the psychology of management not wishing to be seen to succumb to pressure and thus project themselves as ‘weak’ and to negate setting a precedent for further possible worker demands and more disruptive action in the future: ‘it was a war-like situation, immediate decisions needed to be taken as the on-ground situation evolved. There was no time or question of contacting Japan to seek advice’ (interview 24).

An external event that seemed to have provided further impetus to striking workers at TKM during this time was the recently successfully-concluded strike at another Japanese-owned automobile plant in India - Honda Motors at Gurgaon in North India. Honda workers received support and encouragement from external trade union activists and leaders from the Communist Party of India. A few key individuals reportedly travelled down to Bangalore in a show of solidarity with the TKM workers. One interviewee suggested that the success of the Honda workers in their strike was due to the influence that the Communist Party exerted with the (then) federal coalition government (interview 3). Given that the TKM union was also affiliated to CITU, hopes were high that the Honda success could be replicated at Bangalore.

Analysis of my data suggests that the magnitude of TKM’s failure to appreciate the subtleties, nuances, and major socio-cultural and environmental factors in India led to dissonance between Indian workers and TKM management. TKM’s attempts to suppress pluralist tendencies organic to Indian workforces, for example, its anti-union stance and attempts to achieve flexible production outcomes in the absence of cooperative labour-management relations, led to a progressive degeneration in the overall industrial climate culminating in the crippling strike and lockout in 2006.
Following the event, and as part of yet another exercise in damage control, senior officials from Toyota Japan visited the plant, including a leading figure from the Toyota family. In the words of a senior management interviewee ‘we also understood that confrontation is not our way...we needed to bring the sheep back into the fold’ (interview 24). Consistent with this thinking a ‘mutual trust declaration’ was signed between the management and union, with words to the effect that ‘we declare we trust each other and will not resort to abnormal activity and will resolve problems only through dialogue’ (interview 24).

As a result of the foregoing, several significant changes were instituted, in particular an understanding on the part of the Japanese that Indian managers were better placed to deal with local culturally-rooted issues. Until this time, the role of Indian managers in strategic decision making has been largely marginal. Several examples were given by interview respondents of opinions and reasoning on various issues provided by Indian managers to their Japanese counterparts that were disregarded by the latter. An extract from an interview with one such Indian manager is presented in Box 5.6 which captures the essence of the trend that existed prior to the strike action of 2006.

Box 5.6
Marginalisation of Indian managers prior to 2006

I think the wisdom came to them only at around 2006, that is, after the strikes. They also understood it is not easy to manage things, unless you have fully empowered local management…I think they have a long way to go in localising their management. A glass ceiling and lack of empowerment exists. Let’s say there is a dispute, a lack of agreement between the Japanese and Indian managers…the Japanese always side with their Japanese. It’s very rare they’ll side with us.

For example, in the initial years we had a very bad HR person from Japan...we tried to get rid of him, but all the Japanese stood by him. Then we had all these strikes and we had this person come from Japan who asked me ‘is he (the HR person) responsible for all this?’ I said I told you so a long time ago...Some change has happened, however, there’s a long way to go.

Another example is a marketing guy, who was no good. Several good people left on his account. One is the Director of Marketing, [he went to] Mercedes, and the other is a Director with GM. He [the Japanese] was recruiting people by blood group....he would take only ‘A’ group. However, when this was brought up at the next recruiting meeting, all the Japanese stood together.

Source: interview 24
The company-wide changes resulting from the epiphany of events of 2006 encompass significant changes to Toyota’s standard TPS practices. These changes have resulted in TPS unofficially being transformed into the Toyota Indian Production System (TIPS) according to information supplied from shop steward sources (interview 27). A few of the more significant changes are outlined below.

Recognition of the trade union: TKM recognised a trade union with external links (not normally standard practice) and agreed to take back workers who had been suspended over the years for agitating for a trade union. These workers were subsequently elected to senior union positions within the plant.

Management acceptance of wider worker representation through the union: A policy was instituted of negotiating wages, working conditions, and production issues with the union. Ten permanent and full-time union officials operate in the plant with no duties other than union issues and paid by the company.

Union consultation with external bodies: TKM management accepted that union officials could consult outside the plant with the Centre of Indian Trade Unions (CITU) during working hours on full pay. However, outside officials were not allowed inside the plant, nor could they take part directly in negotiations with TKM management.

Acceptance of a fixed ratio between the takt (production cycle) time and the number of workers on the line and per each individual station: This means that increases in takt time would have a corresponding increase in the number of workers on the line. This represented a significant departure from Toyota’s global practices, signifying acceptance of the Indian social norm that work does not lie at the centre of daily living. Social, relationship, and family needs should be accorded a similar consideration as production-related needs. Elsewhere in Toyota’s operations, increased production implies increased takt times with the same number of line workers, resulting in intensification of work and greater worker stress.

Foregrounding Indian managers and backgrounding Japanese managers at senior levels: A shift in policy was adopted in order to move Indian managers into
higher level senior roles previously occupied only by Japanese personnel. Simultaneously, Japanese trainers and managers were moved into the background to occupy only advisory and coordination positions.

**Steeper organisational hierarchy:** Additional levels were added to the managerial organisational chart to satisfy the Indian managers’ desire for enhanced status through job titles in the hierarchy.

**Appointment of a new Managing Director:** A new Managing Director was appointed who was generally perceived to be more union and worker empathetic (through strong grass roots experience) than his former colleagues at this level who lacked credibility and were linked with mishandling previous events within the company.

**Substantial wage increases:** TKM workers secured substantial increases in their pay, elevating them to the second highest-paying manufacturing organisation in Bangalore. This was achieved despite a 30 per cent reduction in TKM production during 2009.

Based on the arguments thus far, it seems justifiable to suggest that the TKM plant was plagued with industrial unrest from the outset, with union-management relations progressively degenerating from 1999 through to 2006, when the plant-level industrial relations reached a crisis point. The strike of 2006 followed by a lockout of the plant turned out to be the epiphanous turning point in union-management relations at the plant. Two arguments are presented below as potential explanations for why TKM management failed to establish harmonious and cooperative labour-management relations consistent with its official discourse of ‘respect for people’

**a) Failure at the inter-personal level:** TKM senior management lacked understanding of the subtleties and nuances of Indian culture, and the individual and collective psyche of the Indian worker. Examples include: their food habits and social needs, the emotional aspects of their personalities, the fact that family affiliations often take precedence over work needs, and the need for having explained to them the *why* and not merely the *what* and *how* of things. Specific
examples occurring in the data include: the manner and tone often adopted by
Japanese trainers and managers when addressing Indian workers, such as shouting
at workers or snatching a cap off a worker’s head and dashing it to the floor whilst
ranting ‘you Indians’ (interview 2); failure to understand and manage the
behaviours of youthful, unmarried male workers with no family responsibilities
and ‘with money jingling in their pockets’ (interview 13); failure to explain why
the necessity to collect and analyse shop floor data is the responsibility of all
workers and not just managers and supervisors; and failure to understand the
personal living conditions and hardships faced by workers, for instance, as
epitomised by long commuting times within the context of shift working and
compulsory overtime. Some of these issues are highlighted in an interview with a
senior Indian manager as shown in Box 5.7.

**Box 5.7**

Inter-personal failings of TKM management

‘...At one point in time the expectations became very high, oh Toyota will do this,
Toyota will do that, Toyota pays us well, so we know we can ask them for the moon,
and that led to some amount of industrial strife…and that was caused a lot by the
immaturity of our workforce, so when I told you it was an advantage that we caught
them young but it was also a disadvantage that these guys were not married, a lot of cash
jingling in their pockets, and so there was a sense of bravado…and I think we have had
one or two issues with some of our more enthusiastic Japanese trainers, but there is
enough management support to quickly defuse the issue..

As a rule the workforce has been encouraged to collect data. We have not experienced
any particular resistance to it but I don’t want to mislead you by telling you that this
practice is widely accepted. The reason I say this is because we have also been subject to
some amount of influence from the trade union outside who have at times tended to
coach our workforce into saying that is not your job, your job is only to work not collect
data. So at times there has been resistance.

Source: interview 13

b) *Failure at the philosophical level:* There existed a divide between the
environment most suited to the workings of TPS in terms of Japanese
environmental and socio-cultural institutions, and the national and organizational
level behaviours obtaining within India. A significant indicator of this
philosophical clash between the overall Indian environment and the outlook of
Japanese managers towards industrial relations is represented by the attitude
towards the role of external trade unions in the workplace. Working groups with a
different agenda to that of the company, including external trade unions, are
inconsistent with the environment of lean production. Unionist pluralism and antagonism are approached as problems to be solved in the sense that they are regarded as non-value-adding wasteful activities to be eliminated, using traditional TPS techniques such as 5 whys, and root cause analysis. If and when trade unions are present, they invariably take the form of company-aligned ‘sweetheart unions’. In the light of these issues, TKM can be clubbed together with the minority of those Toyota affiliates that have entrenched trade unions with strong affiliations to external activists, such as NUMMI (USA) and TMCA (Australia)

Below the facade of respect for people and synonymous adages, the Asia Monitor Resource Centre argues that Toyota in India is a manifestation of capital manipulating labour and labour relations, ‘to facilitate low cost production in developing countries’ (AMRC, 2006). It is argued that Toyota does not favour any form of organized activity of its workers and manipulates labour relations within its TKM plant. This happens at varying levels and in different ways, given that Toyota in India is able to exert pressure on the local State (Karnataka) government to deregulate those existing laws that hinder TPS-based production. Inclusion of TKM as a public utility (when production was hampered during the workers’ strike) is a case in point. The State negotiated with Toyota to invest its capital in Karnataka and deregulated labour laws to retain its investment. It is argued that the government has provided support to TKM management through police protection and state machinery in order to suppress labour: ‘management operates union-busting practices through a network of state machinery, local administration and the media’ (AMRC, 2006). It is also suggested that several other measures have been devised to discourage unionism in the plant, such as organizing shifts in a manner that negates interaction between certain workers, and use of pressure tactics such as threatening and victimisation of workers.

Box 5.8 contains extracts from two interviews which epitomise these arguments, the first with a senior industrial journalist, and the second with a senior TKM Indian manager.
Box 5.8

TKM’s pressure tactics and disapproval of external links

1) Toyota’s pressure tactics
Interviewer: Were there at one time veiled threats that TKM may not go ahead with the second plant, and they were keeping their options open as a result of the unrest?
Journalist: Yeh, yeh, that happened, they went and told the Karnataka government that they were looking at another site, and may not consider Karnataka as their new site. They told the Government that if you don’t intervene that we will set up our next plant in Rajasthan…looks like it worked
Interviewer: it seems like a threat

2) Toyota’s disapproval of external links
The company does not like third parties to interfere in TKM’s internal matters….TKM has recognized only TKMEU, but has not accepted its affiliation with the CITU

It could be argued therefore, that in the Indian context (as with Australia), Toyota seems to have failed to factor in the extent of incongruence between its overall management and TPS philosophy on the one hand, and the overall industrial and social impact that would surround its Indian operations, on the other. TPS manufacturing practices were thus seemingly viewed as technical objects that were amenable to transplantation into the Indian scenario without consideration of the national context of India. The need to get industrial relations right became a do-or-die issue for TKM during 2006-2007 when the US market started to slow down with no signs of recovery in the foreseeable future. It appears that it was only at this stage that Toyota decided to pull out all the stops in order to make its Indian operation work: ‘many people say that with the US market not doing so well now Toyota is putting more focus on India, yes certainly, but growing big in India the decision was taken on the small car, huge investment, new plant, etc, that was in 2007’ (interview 26).

3. Toyota Production System, Lean Manufacturing and Teams

This section does not delve into generic aspects of TPS and lean manufacturing since these are addressed in chapter 1. Thus only TKM-specific aspects of TPS and lean manufacturing are addressed. The focus of this section is to explore how TPS concepts and practices have been implemented at TKM and to understand the nature, dynamics, and impact of teams and teamwork on the implementation of TPS activities. Also covered are aspects of quality and productivity within TKM.
Initially, those employees selected to work at TKM when it first came to India were overcome with a sense of euphoria. Toyota is a Japanese multinational company renowned for its advanced technology and the quality of its products: ‘people who worked at Toyota saw this as a prestigious job, within India it is a prestige issue to work for Toyota, the workers were very happy with this, it was very difficult to get a job with Toyota’ (interview 2). However, with time the initial excitement wore off when they realised that the demands of TPS could not be reconciled with the social frameworks they were accustomed to. The extent of inconsistency between TPS and the Indian socio-cultural milieu and worker psyche began to unravel over several years. Toyota too, on its part, seems to have underestimated the extent of compromise it would need to make to achieve a fit with the Indian environment.

Toyota’s past experiences in the rest of the world had taught it that employees are more amenable to learning and applying the Toyota Production System and Toyota Way when its plants are union-free on a green-field site. Also, if employees had little or no experience in other work environments they would be ideally suited to company needs. 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 an education including ten years of schooling plus two years of technical institute training. Such young technically-educated workers were found to be more enthusiastic and malleable. No trade union was recognised. The initial configuration of the plant in shown in table 5.2
Table 5.2
Initial configuration of TKM

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

However, Toyota’s initial configuration of its TKM plant quickly started to unravel soon after its establishment. Many 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: ‘India has 23 States but is really 23 different countries’ (interview 2). Language and customs differ from region to region. 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. All of these factors ran counter to the needs of an environment conducive to the successful implementation of TPS. The interview extract in Box 5.9 with a senior Indian TKM manager throws light on some of these misconceptions.

Box 5.9

Japanese misconceptions of Indian industrial and social life

If you take a bus in Japan then 8.45 means 8.45, it does not mean 8.44 or 8.46, but when we Indians say 8.45 it could mean 8.40 or 8.50, we are pretty lax. Now that can be a good thing but in many ways it’s not a good thing. So there have been many Japanese who have come here… and imagine you have a tap leaking in your apartment and you ask for the plumber to come, and he gives you a time and he won’t show up, and maybe he will show up two hours later, and then he will not come with all the tools of his trade, and then he will ask you for sandpaper, it’s not that he comes and you let him in and show him the tap leaking and he does his job and goes away – it does not work like that in India. Now our friends from Japan come here and they expect things to be different.
and it’s a source of frustration for the Japanese and I can understand that. And they say “what kind of a country is this” and I have to stop them and tell them that “we know what kind of country it is, but you don’t......if it was like Japan then we don’t need you to come here and set up a car plant. …They have to get used to how we do things here and it takes some time for them to do that.

Interviewer: Have they got used to it?
…They have, to their credit, many of them have. Some of them have been very reluctant to leave India at the end of their 3 or 5 year tenure.

Source: Interview 13

Nature of TPS in TKM

According to a senior Indian manager, the implementation of TPS at TKM commenced with more than 150 employees being sent to Japan: ‘some of them, our Indian workers, speak very good Japanese, they were coached in Japanese, and they went to Japan and got trained for a couple of years, came back, and then started giving all this information to the workers here and training other people down the line. So over the years all these little kaizens have added up to big changes.’ (interview 14). In addition, several master trainers from Japan were sent to India to indoctrinate the local workforce into the workings of TPS (Mikkilineni, 2006).

TKM’s approach was to catch its workers young, consistent with Toyota’s belief in hiring fresh faces with no old baggage. Box 5.10 shows an excerpt from an interview with a senior Indian manager which highlights the TKM philosophy of catching them young.

**Box 5.10**

**Catching them young**

Now this was both an advantage and a disadvantage but when we first recruited people most of our workforce were guys who had just come out of technical school, what we call Industrial Training Institutes, and the age group was between 22-24 all eager to learn, so they did not have any unlearning to do, so that was a big advantage for us, and another advantage was that a lot of them were also schooled in English, so communication was easier, and also another factor that helped was that a lot of Japanese presentations tend to be pictorial. So I think it was these three factors and there may be some others which helped in getting the workforce to understand TPS and the Toyota ways of doing things including things like keeping the shopfloor clean etc which we did not have any difficulties per se.

Source: Interview 13
AMRC (2006) reported that TPS is strictly followed in TKM with the system well documented and widely referred to in different contexts. Kanban (just-in-time) is one such area that was reportedly well established by 2006. Takt time (the ratio of total available task time to the total demand or output produced) was also in effect at TKM. This is also described as the ‘time fixed for the production/assembling per employee per piece’ and is blamed for multi-tasking and work overload at the plant. According to AMRC (2006), TKM had adopted the TPS practices of kaizen, kanban, standardized work, suggestion schemes, and quality circles. Such an optimistic interpretation of the uptake of TPS at TKM was also verified by a senior Indian manager when interviewed in 2009, as shown in Box 5.11.

**Box 5.11**

**Optimistic interpretation of TPS uptake at TKM**

<table>
<thead>
<tr>
<th>Given the attendance at our kaizen workshops, our quality circle activities, responses to our suggestions schemes, then I notice things are pretty high, and of course there is a monetary incentive for suggestions accepted, and we value these suggestions, so the workers benefit from this, and sometimes this can be very embarrassing because this one guy who makes lets say about 250 suggestions in a given month, now this is a bit mind-boggling of how he can even think of so many suggestions, and then we have somebody evaluate all these suggestions, so I think pretty much the attitude is positive.</th>
</tr>
</thead>
</table>

Source: Interview 13

Despite the optimism displayed in such managerial claims, allegations have been aired about the arbitrary nature of the determination of takt time and that matters such as fatigue and exhaustion are not factored into the cycle times. AMRC (2006) alleges that the takt time at TKM is less than that of other automobile plants in India, as follows: 87 seconds in TKM, 282 seconds in Ford, 112 seconds in Hyundai, 90 seconds in Maruti-Suzuki, and 109 seconds in Tata Motors. What sets TKM apart as unique is reportedly the fact that it has the least takt time, with the fewest number of workers, amongst all Indian automobile plants, except Ford. This has resulted in a higher workload: ‘since any delay in takt time affects the targeted production, the workers are forced to conform to these requirements irrespective of their physical exhaustion’ (AMRC, 2006). Table 5.3 shows the consequence of this higher workload as it impacts on the incidence of industrial injuries.
Table 5.3

Ergonomic and other health problems at TKM

<table>
<thead>
<tr>
<th>No</th>
<th>Health Problem</th>
<th>No of Responses</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Backache</td>
<td>09</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Shoulder pain</td>
<td>08</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Respiratory problem</td>
<td>04</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Skin allergy</td>
<td>02</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Digestive disorder</td>
<td>01</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Muscle pain</td>
<td>09</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Opthalmological</td>
<td>02</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: AMRC (2006)

Challenges in implementing TPS at TKM

In this section I identify and discuss five challenges faced by TKM management in attempting to implement TPS in the plant.

i) Communication barriers: Severe communication difficulties were faced on account of the lack of knowledge of a common language between the Japanese and Indians. Most Japanese trainers and managers did not speak adequate English. Box 5.12 shows an extract from an interview by a senior Indian manager.

Box 5.12

Language difficulties at TKM

At the management level it is very easy for us to get along with American, British, and Australians such as yourself but when it comes to Japanese and Germans we are not that comfortable, it's the language factor, language makes a big difference, so that easiness we have with other English speaking nations is absent because there is always the risk of being misunderstood, we work largely with interpreters which has its own set of problems, but the Japanese are very intelligent people and they do understand that things are not going according to how they wish it to go, how we wish it to go, but it takes a little more time perhaps to resolve issues.

Source: Interview 13

ii) TPS’ need for a flexible labour organization: Rigid labour laws do not allow Indian companies to adjust workforces to suit market demand. However, and consistent with TPS, TKM managed to maintain a flexible labour organization by constantly churning over its pool of contract (casual) labour. This is not possible
with the permanent employees, whose numbers are therefore held as low as possible. Box 5.13 shows an excerpt from an interview with an industrial journalist.

**Box 5.13**

**Role of contract workers in a flexible labour force**

15 months ago Toyota fired 500 contract workers. Most of these workers had been hired from technical institutes, and they were supposed to have been trained on the job and then hired permanently, but initially they were on contract. Toyota has a training school too. This training school is like a backward integration kind of thing, where you have a pool of labour that you can dip into whenever you want. In Toyota there are now 2312 employees of which 1800 are on the floor and these are all permanent employees. But with contract workers you will hire them for six months say and then sack them and then employ another fresh lot of contract workers but not the same people, different ones, and they do this so as not to fall foul of the Karnataka labour act, because at some point of time you have to make them permanent, and Toyota did not want to.

Source: Interview 2

iii) Socio-cultural mismatches: TKM workers were mainly hired from villages around Bangalore. During the early years they were at odds to understand the need for working to pre-determined time and production schedules. Their norm, inconsistent with the dictates of TPS, was to perform work within loosely bounded timeframes so as to facilitate equal attention to their personal and social needs. Being required to complete tasks ‘here and now’ was tantamount to being dictated to. This situation took a while to rectify. Box 5.14 shows an excerpt from an interview with an industrial journalist.

**Box 5.14**

**Indian workers’ approach to industrial discipline**

It is mentioned in all the management books but when it comes to India we have a very different culture. You have to look at the emotional aspect of it, you have to address the emotional needs of an individual, only then will you succeed in India. You can’t just bring in management techniques that have been a success the world over and then just transplant it here and expect it to work, it doesn’t happen like that. We work quite differently. We are not the sort of people who will work for 8 hours and then go home, we will work for 12 hours and not take wages for those extra 4 hours. The Japanese may not understand or appreciate it.

…So for example there are 8 hours in a day, and the Japanese way and it is so the world over that you come at a certain time and you go at a certain time, and you are expected to work fully for those 8 hours with whatever breaks that you have. But Indians don’t do that, they will work for 12 hours but they have a different pace of working. The reason why this was happening earlier was as they had not adapted to these kind of things, but
now they have, because they now appreciate how you go about it, so when you try to implement these kind of things in India it is seen as a more dictatorial kind of thing, “why do I need to work now, I’ll work after having a smoke or a coffee, I’ll gossip and after that […] and come back”. Unless you understand and appreciate it there will be a lot of resistance, initial resistance. I don’t think it’s there any longer, they appreciate each other’s concerns, things happen in a very informal way in India, the employees develop a very special emotional bond with their seniors and their colleagues which may not be true in the rest of the world

Source: Interview 2

iv) Modification of TPS to achieve fit: In time, considerable modifications were carried out to TPS in India, resulting in its unofficial label of the Toyota India Production System (TIPS). Two of the more significant changes included assigning extra workers to the line to meet increased production rather than increasing line speed and modifying the just-in-time system to factor in Indian road conditions and other social factors. Box 5.15 shows an excerpt from an interview with an industrial journalist.

Box 5.15

Modifying JIT for Indian conditions

At Toyota in the Indian context they have had to modify the system that they were using in Japan and other developed countries. This is because in India things are not as systematic, as predictable as in Japan. For instance, sourcing from a plant 250 kms away should not take more than 5-6 hours by road to reach your destination, but in India it may end up taking longer than that because of some local disturbance, some road, or some strike, or some massive blockage of traffic, so Toyota realised that the JIT concept had to be modified for Indian conditions. 6 hours in Japan might be 3 days in India, so they realised that things cannot be as precise as in Japan, so they have to modify with bigger margins and in this sense the Toyota Indian partners did help in understanding Indian conditions and why things can lead to delays which are totally unpredictable. Precise calculations have to be modified and they learned this from their Indian suppliers and partners. Now Toyota has some suppliers in the Northern parts of India, not many but some, where they established some of their own warehouses in some areas to make sure that they stock up the material a little in advance so that there are no gaps in sourcing that could cause a stoppage in production. So if some local disturbance does occur they can build up some buffer against it. So they did fine-tune their system to suit Indian conditions.

Source: Interview 3

v) Supply chain issues: The Toyota policy of teaching TPS practices to its dealers, suppliers, and others in its supply chain network has been well established in developed countries. However, this was a novelty in India. Dealers and suppliers were not used to principals coaching them and monitoring their performance. Initial scepticism on their part however, later turned into acceptance and
acknowledgement of the positive spin offs of implementing TPS practices. Box 5.16 shows an excerpt from an interview with a senior Indian manager.

Box 5.16

Spreading TPS across the supply chain

Some of them did not expect that Toyota would come here and start teaching and hand-holding them in terms of the philosophy and the way we do business. Their first reaction was OK they have come, and they are asking, but it is the usual way of doing business. But when we started getting into the nitty gritty of purchasing and especially cost reduction activities they were pretty taken aback that we went into such detail of helping them with the details of these cost reductions. We don’t just press them to reduce the cost, we are helping them and we are holding them together, as a team let us reduce the cost. This philosophy is generally not very well recognised in India. No concept, they could not imagine that such a thing could happen. So slowly they started benefiting, not only by doing business with us, sometimes other people applied these concepts to their subsequent way of doing business, so that also has benefitted them in the long run. So the good thing is that although they may think we may be a little stingy and strict in terms of price, but through these activities they start to learn so many things, which not only do they apply to us but also to other businesses.

Source: Interview 14

The observations and arguments presented above support the views advanced by Jones and Liu (2005) who stress that the efficacy of TPS implementation is dependent on the nature of the social context. They support Womack and Jones (1996) and Sugimore et al. (1997) in arguing that culture is central to TPS as a system and, furthermore, that lean production was initially developed within the strict confines of Japanese contextual conditions and institutions. They argue that the needs of TPS were complimented by the existence of a homogeneous culture, single language, and common religious background, which facilitated close familiarity between Japanese people and a family unity that extends itself into the larger community to encompass the workplace. Furthermore, a command-and-control culture, engrained in Japan, involves obedience by subordinates to the orders of their superiors. Such TPS-complementary qualities seem conspicuous by their absence within Indian society, which could be described as being considerably different from that of Japan and seems to explain the difficulties associated with transplanting TPS into India. Not least, and also useful in explaining the adaptations to TPS necessitated for its deployment in India, are the arguments of Cooney and Sewell (2000), who suggest the existence of wide variations between the methods used and the extent of implementation of the lean
model, and question the popular perception of lean as being a monolithic, epoch-making production model. They argue there is a clear consonance between how lean production is implemented and the context surrounding it, suggesting that there are several variations possible in the manner, as well as the extent of implementation, of lean production methods. Whilst this departure from pure methods of TPS and lean production is accepted in this thesis, the argument stemming from the Indian data seems to suggest that TKM managers only introduced such modifications after they were forced into doing so, rather than accepting such variations as a natural way of doing business in India.

Production, Quality, and Productivity

TKM started its operations in India by aiming its vehicles at a niche market segment using old technology imported from another Asian country. However, within its first year of operation the Qualis model became the market leader in the multi utility vehicle (MUV) segment with 35 per cent market share, rising to 42 per cent by the end of 2004. This success aside, TKM grossly over-estimated its capability in the overall Indian market by setting itself a market share target of 10 per cent of the passenger car market by 2010, rising to 15 per cent by 2015. However, TKM never looked even remotely possible of reaching such ambitious targets. Table 5.4 shows the annual production and market share figures for TKM during the period 2000-2009.
<table>
<thead>
<tr>
<th>Year</th>
<th>Production (thousands of vehicles)</th>
<th>Market (thousands of vehicles)</th>
<th>Market Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>21.8</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2001</td>
<td>28.4</td>
<td>827</td>
<td>3.4</td>
</tr>
<tr>
<td>2002</td>
<td>25.2</td>
<td>883</td>
<td>2.9</td>
</tr>
<tr>
<td>2003</td>
<td>37.7</td>
<td>1096</td>
<td>3.4</td>
</tr>
<tr>
<td>2004</td>
<td>47.6</td>
<td>1387</td>
<td>3.4</td>
</tr>
<tr>
<td>2005</td>
<td>44.5</td>
<td>1462</td>
<td>3.0</td>
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<tr>
<td>2006</td>
<td>44.3</td>
<td>1776</td>
<td>2.5</td>
</tr>
<tr>
<td>2007</td>
<td>52.2</td>
<td>2030</td>
<td>2.6</td>
</tr>
<tr>
<td>2008</td>
<td>54.3</td>
<td>1996</td>
<td>2.7</td>
</tr>
<tr>
<td>2009</td>
<td>51.2</td>
<td>2274</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Source: Toyota in the World (Toyota Motor Corporation, various years)

Box 5.17 contains an extract from an article written in the local Indian trade media in 2006 showing the cynicism with which TKM's ambitious targets were received.
Box 5.17

Cynicism towards TKM’s ambitious claims for future market share

Toyota Kirloskar, the Indian subsidiary of Japanese auto major Toyota Motor Company, recently announced a target of achieving a 15 per cent market share of the Indian passenger car market by 2015 and a 10 per cent share by 2010. Atsushi Toyoshima, managing director of Toyota Kirloskar Motors recently told the press in Bangalore, "if the Indian market keeps growing at an average pace of 15 per cent annually, it will be a four-million unit market by 2015 and we would want to be selling 15 per cent, or 600,000 cars, by that time."

So far Toyota has launched mid-sized cars in India, which despite becoming bestsellers in their respective segments hardly bring in the numbers needed to achieve the target the company has set for itself. Toyota sold approximately 41,000 cars in 2005. With such numbers under its belt in a market growing at 20 per cent annually and with immense potential, Toyoshima's words seem to ring hollow.

It would be an understatement to say that Toyota has kept a low profile in India; for an auto company that leads in virtually every region in the world its progress in India has been unremarkable. Its leadership status in various segments is by virtue of the fact that it does not have serious competition in India yet. The most glaring example is the recent launch of the Honda Civic in July, which immediately ate into Toyota Corolla's sales leading Toyota to launch a host of promotional offers on the Corolla…Last year Toyota said it would introduce the Daihatsu small car by August 2007. There has been almost no word about the Daihatsu car from the company for quite some time. Very sketchy details are now available about the car. It now seems that Toyota is unlikely to bring in the small car in association with Daihatsu, in which it holds a 51 per cent stake.


Corroborating the poor market share figures for TKM, Table 5.5 shows the comparative sales figures produced by the Society of Indian Automotive Manufacturers (SIAM) for the period 2007-2008 which shows that TKM ranked only seventh in terms of passenger car production and market share, lagging well behind Maruti-Suzuki, Tata, Hyundai, and Mahindra & Mahindra.
Table 5.5
Comparative sales figures of Indian automotive manufacturers

<table>
<thead>
<tr>
<th>Passenger Vehicles</th>
<th>April - Feb 07-08</th>
<th>% Market Share</th>
<th>% Change</th>
<th>Apr-Feb 07-08 Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maruti Suzuki</td>
<td>647,403</td>
<td>46.9</td>
<td>13.3</td>
<td>47,158</td>
</tr>
<tr>
<td>Tata Motors</td>
<td>201,315</td>
<td>14.6</td>
<td>0.0</td>
<td>13,758</td>
</tr>
<tr>
<td>Hyundai Motors</td>
<td>187,094</td>
<td>13.5</td>
<td>6.3</td>
<td>126,839</td>
</tr>
<tr>
<td>Mahindra &amp; Mahindra</td>
<td>93,062</td>
<td>6.7</td>
<td>18.5</td>
<td>2,957</td>
</tr>
<tr>
<td>General Motors</td>
<td>59,707</td>
<td>4.3</td>
<td>72.0</td>
<td>-</td>
</tr>
<tr>
<td>Honda Siel Cars</td>
<td>53,906</td>
<td>3.9</td>
<td>2.0</td>
<td>29</td>
</tr>
<tr>
<td>Toyota Kirloskar Motors</td>
<td>48,291</td>
<td>3.5</td>
<td>8.1</td>
<td>9</td>
</tr>
<tr>
<td>Ford</td>
<td>30,620</td>
<td>2.2</td>
<td>-15.9</td>
<td>2,409</td>
</tr>
<tr>
<td>Mahindra Logan</td>
<td>22,823</td>
<td>1.7</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>SkodaAuto</td>
<td>12,137</td>
<td>0.9</td>
<td>12.0</td>
<td>-</td>
</tr>
<tr>
<td>Hindustan Motors</td>
<td>11,123</td>
<td>0.8</td>
<td>-13.7</td>
<td>-</td>
</tr>
<tr>
<td>Force Motors</td>
<td>7,149</td>
<td>0.5</td>
<td>-3.7</td>
<td>39</td>
</tr>
<tr>
<td>Fiat</td>
<td>2,929</td>
<td>0.2</td>
<td>-48</td>
<td>-</td>
</tr>
<tr>
<td>Daimler Chrysler</td>
<td>2,202</td>
<td>0.2</td>
<td>31.9</td>
<td>-</td>
</tr>
<tr>
<td>BMW</td>
<td>1,769</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1,381,530</td>
<td>100.0</td>
<td>12.3</td>
<td>193,199</td>
</tr>
</tbody>
</table>

Source: www.cybersteering.com/30May2011

Accurate data relating to quality are not easy to ascertain for the TKM plant over the years other than relying on the official data released by JD Power. Examination of this source reveals that in the categories of multi-purpose vehicles (MPV) and sports utility vehicles (SUV), TKM has been recognized for its quality in India. In 2003, TKM won the JD Power Asia Pacific IQS Award for the third time in a row for its Qualis vehicle. Additionally, in 2010, TKM’s Innova vehicle was ranked highest for quality in the MPV segment, making it the fifth consecutive year that the Innova had been ranked highest in this survey.
Accurate data in relation to productivity is difficult to obtain from TKM sources and such information was not divulged during personal interviews. However, some broad insight about these statistics is shown in Box 5.18, obtained during an interview with a senior Indian manager.

**Box 5.18**

**Quality and productivity at TKM**

<table>
<thead>
<tr>
<th>Interviewer:</th>
<th>What is your situation via a vis the leading plants in the world in relation to certain key benchmarks?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reply:</td>
<td>I would like to blow my own trumpet here. In terms of shipping quality audit (SQA) this is the best plant, defects per vehicle, we achieved this last year, there are four plants at the number one level and we are one of them.</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>Higher than Australia?</td>
</tr>
<tr>
<td>Reply:</td>
<td>Oh yes (laughter)</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>What about productivity, the average number of man-hours per vehicle produced? Is that a statistic you are at world levels with?</td>
</tr>
<tr>
<td>Reply:</td>
<td>I don’t think so, we are not very good in that area. Thailand would be ahead of us definitely, I don’t think we would compete on that parameter</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>Because that would depend on the takt time…</td>
</tr>
<tr>
<td>Reply:</td>
<td>…And general productivity, efficiency, we maybe would be in the top quarter of the class but certainly not at the top</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>And safety indicators?</td>
</tr>
<tr>
<td>Reply:</td>
<td>Oh they are excellent</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>So you have slowly reached these levels over the past 10 years?</td>
</tr>
<tr>
<td>Reply:</td>
<td>Yes, we are sitting pretty (laughter)</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>One thing we saw in Thailand was the speed of the line, a 60 second takt time. What is your line speed here?</td>
</tr>
<tr>
<td>Reply:</td>
<td>One car every 5.4 minutes at the moment which is not very fast, but it does vary, but we have been operating at 3.5 cars at some times. At this time things are a little more relaxed.</td>
</tr>
</tbody>
</table>

Source: Interview 13

**Teams at TKM**

The Indian caste system gives rise to a solidly stratified social structure. The caste system dates back to antiquity and was subsequently reinforced by the rigid class system imposed by the British over several centuries of colonization prior to 1947. Dismantling these structures and their effects would take considerable time, despite the economic liberalization of the country since 1991 and the attendant tendency towards egalitarianism which logically flows from such economic reform.
Institutionally stratified social structures present serious barriers to the successful implementation of equality-based team structures both within society and the workplace. Such incongruence would suggest that within the Indian work context the concept of teamwork in its pure sense would at best be a façade without real roots. In India it is argued that because status differentials are easily accepted (power-distance) then only vertically integrated teams could function effectively (Kanugo, 1994; Sinha, 1990). Supporting such reasoning are others (Virmani, 2000; Sinha and Sinha, 1994; Bhadury, 2000), who posit that Indian workplaces with their patriarchal-hierarchical structures, resemble the typical Indian family, wherein superiors (like the father in the family), must be consulted on all issues. This context does not allow room for argument and any confrontation with superiors is frowned upon. There is a marked preference for hierarchical (superior-subordinate) work roles, over egalitarian (team-based) ones, with a lack of team-orientation being a common characteristic. Also common, and resulting from these hierarchical structures, are authoritarian practices which give rise to traits including unquestioned obedience, conformity, and dependence.

Writing within the context of the Maruti-Suzuki joint venture plant in India, Venkataramani (2000) and D’Costa (2003) describe the existence of a blue collar-white collar divide across employee categories, whereby Indian supervisors reveal a reluctance to take responsibility or to adopt a hands-on approach to the work. Okada (1998) also discusses difficulties faced by Japanese automobile suppliers in India in implementing cleaning activities related to the Japanese 5S management practice. Cleaning is a function relegated to those from lower castes in India and hence those team members from higher castes would have a natural antipathy towards performing such degrading tasks. Writing within the context of a German automobile manufacturing company in India, Becker-Ritterspach (2005) draws attention to the difficulties faced by German managers in trying to instill self-directed work practices into their Indian workforce as shown in Box 5.19.
Box 5.19
Self-directed work practices in a German automobile company in India

Instead of seeing taking-of-responsibility for the assigned tasks, German management complained about widespread responsibility-diffusion and ability lacking on the part of Indians to work in a self-directed manner. Decisions tended to be permanently re-delegated upward, with the effect that the simplest objects-of-decision would end up on the German production manager’s desk. Unlike the German concept of work relations between supervisors and operators, Indian employees were not opposed to taking more responsibility. In fact, those interviewed embraced it as an improvement to what they had experienced in previous work relations. At the same time, a number of Indian employees stressed that it was difficult to get used to self-directed work and taking-of-responsibility, as this style was in stark contrast to what they were used to.

Source: Becker-Ritterspach, F (2005: 372)

During my field visits to India to collect data between 2009 and 2010 the total number of team members at TKM was approximately 1650. Team members in almost all cases were required to have a technical trade certification from an Industrial Training Institute (ITI). Team leaders, in turn, were invariably diploma holders from polytechnic institutes requiring approximately two additional years of study, as compared to the ITI trade certifications of their team member counterparts. Group leaders were mainly graduate engineers with a bachelor degree in an engineering discipline. There were marked salary differentials between the intervening hierarchical levels. What emerges from this is the clear vertical separation between job titles, educational/training levels, and salaries. Synonymous of these demarcations are the mental silos that exist within each of the levels, with the deeply entrenched caste system that bears a close correspondence with the various categories described. Whilst this supports the view that vertical-hierarchical integration is the default work-relationship structure within traditional Indian workforces, the same runs counter to the demands of institutional team working. Interestingly, this situation in TKM is a mirror image of the picture that emerges from the research of Becker-Ritterspach (2005) on the German automobile company in India. Table 5.6 shows the difference between the perceptions of German managers and Indian workers towards their roles and relations.
Table 5.6
Perceptions of German managers and Indian workers towards their roles and relations

<table>
<thead>
<tr>
<th>Perceived supervisor-worker relations</th>
<th>German management</th>
<th>Indian employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived role of supervisors</td>
<td>Cooperative task-oriented teamwork</td>
<td>Hierarchical superior–subordinate relationship</td>
</tr>
<tr>
<td>Perceived role of workers</td>
<td>Manufacturing-task-oriented trainer and hands-on coach close to production, yet serving as link between management and workers</td>
<td>Administrative task-oriented manager not manually involved in production yet responsible for labour control</td>
</tr>
<tr>
<td>Perceived role of workers</td>
<td>Skilled and flexible workforce responsible for direct manufacturing as well as some indirect tasks, such as quality and clean workplace</td>
<td>Skilled and qualified workforce primarily responsible for machine/technical operation, not supposed to be associated with any sort of cleaning activity</td>
</tr>
</tbody>
</table>

Source: Becker-Ritterspach (2005)

4. Culture and Organisational Learning

In this section, culture, both national and organisational, is discussed only in relation to its conduciveness to TPS and Japanese manufacturing philosophy. National-level aspects of cultural conduciveness are addressed first followed by company-level aspects.

Japan versus India: cultural conduciveness to TPS and lean

National culture continues to be a powerful force explaining a large proportion of organizational behaviour (Robbins, 1996). Research undertaken by various scholars on aspects relating to the transplantation of TPS practices to countries outside Japan often consider cultural similarities and contrasts between Japan and the various host countries. Transplantation of TPS has been fairly difficult outside Japan because of the values, beliefs, and behaviours of the Japanese workforce and their common industry-wide collective dedication towards striving for excellence, from senior executives down to shopfloor workers (Jones et al., 2008; Hummels and Leede, 2000). This is mainly attributable to Japan’s lack of natural resources, environmental constraints, and socio-cultural factors which constitutes the main motivation towards striving for waste minimization in all forms, which is
the essence of lean production. Bhaduri (1991) argues that Japanese management concepts are ‘derivatives of Japanese history, including recent post second world-war history as well as the social and cultural ethos which characterizes Japanese society’. In the specific context of the predictability of outcomes and feasibility of introducing the Japanese work ethos and culture into the Indian context he stresses the necessity for comparison across the social and cultural factors which characterise Indian and Japanese societies.

There is considerable literature on the social, cultural, and work values found in India (Chakraborty, 1991; Bhadury, 1991; Sinha and Sinha, 1990; Tripathi, 1990; Schwartz, 1999; Chatterjee, 2007; Becker-Ritterspach, 2005) as well as aspects of human resource management in India (Gupta, 2008; Jain, 1987; Chatterjee, 2007). Whilst it is not possible to exhaustively cover all aspects addressed in the literature, the section below discusses three major demarcated 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 unions that operate in an atmosphere of co-operation with management within a unitarist culture. As such labour-management relations are largely cooperative. Indian companies stress external unions, often affiliated to political parties, which operate in an atmosphere of confrontation with management within a pluralist culture. Quite often, non-cooperative and disruptive attitudes of unions result in low productivity and inefficiency.

**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, with an absence of servility in superior-subordinate relationships. 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. Excessive use of bureaucracy exists within Indian industrial organisations. According to Bhadury (1991) ‘we tend to be arrogant in our dealings with subordinates and servile when we confront our superiors’.

**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. Also, employees of Japanese industrial organizations have a greater commitment to their jobs and, therefore, a much higher productivity than their counterparts even in Western countries (Abegglen and Stalk, 1985). 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. Further traits attributed to the average industrial worker include a general apathy towards work and a lack of belief in the importance of their own work. According to Kanungo and Mendonca (1994) ‘Indians are socialised in an environment that values strong family ties and extended family relationships; thus they are more likely to develop stronger affiliative tendencies or greater dependence on others. So, in the work context, interpersonal relations are more relevant to them, and as a result, their job-related decisions may be influenced more by interpersonal considerations than task demands’.

Bhadury (1991) argues that there are several aspects of the overall work context in Japan that have resulted in its reputation as a leader in several management disciplines. These include: (i) the principles of government as expounded by
Confucius and the influence of Confucianism on government; (ii) an emphasis on honesty and on behaviour characterized by conformity to the rules of propriety; (iii) mutual trust based on acceptance of the Confucian assumption of the basic goodness of human nature; (iv) group harmony; and (v) an emphasis on education. These traits have resulted in Japanese organizations being characterized by the need for minimum control from above and minimisation of bureaucratic procedures within the company resulting in improved communication and increased efficiency, as well as the creation of a sense of belonging to the organization, a sense of mutuality, and an absence of servility in superior-subordinate relationships. In stark contrast, socio-cultural traits in India include: (i) a belief in the heterogeneity of society and a persisting assumption of inequality of human beings; (ii) nagging suspicion of fellow beings and the assumption that human nature is evil; (iii) an excessive dependence on the powerful on the one hand and the absence of gratitude on the other; and (iv) an intrinsic reluctance to punish.

Thete (1999), Sorge (1995), and Ramaswamy (1996) argue that educational programmes in India perpetuate a sharp distinction and status barrier between academic knowledge and practical experience. Practical based institutions, such as the Industrial Training Institutes and the Polytechnics, are associated with lower prestige. However, graduates from the prestigious universities possess only book learning, with little or no practical training or experience. Resultantly, diploma engineers and engineering graduates exhibit a managerial work identity, with minimal physical involvement in the manufacturing process. These features closely resemble, and have their roots in, the British educational and class system brought into India during the colonial period. As a consequence of this there exists a strong sense of demarcation based on the possession of qualifications. For example, ITI graduates see themselves as operators and not manual unskilled workers. As such there is a marked emphasis placed on job titles. The word ‘worker’ itself is widely despised, as is ‘cleaning’ (perceived as ‘polluting’), since such activities are often still reserved for the ‘untouchable’ social strata within India. Table 5.7 shows the major contrasting social and cultural factors between India and Japan, as derived from the work of Bhadury (1991).
Table 5.7

India and Japan: contrasting social and cultural factors

<table>
<thead>
<tr>
<th>Social/CulturalFactors</th>
<th>Japan</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of government and administration</td>
<td>Emphasis on government by the virtuous. Abrogation of coercion. Mutual trust between employer and employee and acceptance of the basic goodness of human nature. Results in minimum control from above, high levels of delegation, and a highly motivated workforce</td>
<td>Prevalence of impersonal bureaucratic social relations. Mistrust of fellow beings based on the assumption of human nature as evil. Results in highly centralized administration. Overemphasis of hierarchical status in decision-making. Bureaucratic delays, low level of delegation, dissatisfied workforce, and accentuation of apathy in individuals and groups</td>
</tr>
<tr>
<td>Attitude towards work and goals</td>
<td>Highly results-oriented and directed towards perfection and growth through dedicated effort</td>
<td>General and deep-seated apathy. Dissociation of work from its results based on the belief that the results are pre-ordained. Tasks are performed without any interest, dedication, or pride</td>
</tr>
<tr>
<td>Discipline and order</td>
<td>Highly disciplined. Respect for superiors and authority</td>
<td>Lack of discipline at all levels. Basic mistrust of authority. Poor superior-subordinate relationships</td>
</tr>
<tr>
<td>Emphasis on education</td>
<td>Very high</td>
<td>Generally indifferent and highly ambivalent</td>
</tr>
</tbody>
</table>

Source: Bhadury (1991)

Company-level cultural issues

During my data collection many interviewees emphasised that India is a complicated heterogeneous country and pointed to Toyota’s lack of knowledge and understanding of the social and cultural aspects of Indian life: ‘India has 23 States, but really it is 23 different countries’ (interview 2). A significant aspect that emerged early on in the data collection came from an interview with a senior industrial journalist who stated ‘when Toyota came to India it produced an excellent product but displayed poor people management skills’ (interview 2).
Language and customs differ from region to region in India. Interviewee 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.

Many examples emerged during data collection of differences between Japanese and Indian cultural practices that turned into irritants on the shop floor. For example, Indian plant workers ate their food with their hands, which the chopstick-wielding Japanese considered unhygienic. Indian workers also have a habit of giving ‘all ok’ reports on jobs they intend to shortly complete, but have not as yet actually completed. This is because of the Indian cultural habit of not wishing ‘to displease their Japanese superiors by saying no’ (interview 26). However, Japanese trainers and managers tended to interpret this behaviour as equivalent to dishonesty and lies. Other incidents involved Indian workers wanting to complete assigned tasks in their own time, and attending to social needs during work hours, after which they were willing to work extra time after hours with no pay. TKM management, however, failed to understand this need of Indian workers to simultaneously address work and social needs. Work hours were fixed, with little time to escape from the line, except during stipulated breaks. In the early days, TKM management was found wanting in its ability to understand and appreciate these differences.

Six specific cases are provided below to substantiate the point made by respondents that Toyota was at a loss to understand people issues within the plant and the socio-cultural issues in the region.

Example 1: The original family roots of Kirloskar, the Indian joint venture partner, were in the state of Maharashtra. This is the State neighbouring Karnataka where the TKM plant is situated. Complaints soon surfaced in the plant that employees from Maharashtra were accorded preferential treatment over local people from Karnataka in matters such as promotion to team leader, despite being of the same age or younger than their Karnataka colleagues. Historical animosities exist between people from these two States, something Japanese managers and trainers may have been unaware of. Although Toyota is renowned for carefully
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, it was a factor that lay outside their management paradigm.

Example 2: According to one senior manager, the young employees of TKM soon found themselves with ‘money jingling in their pockets’ (interview 13), leading to a heightened set of unrealistic expectations and troublesome behaviour. Lack of discipline was seen in the form of absenteeism and poor punctuality. Given the inflexibility of labour laws in Karnataka, this meant that such employees were classed as permanent from day one, and being involved with mainstream production activities could not be dismissed without Government permission. Presumably Toyota management followed the same system as instituted in Thailand (employing 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.

Example 3: According to Mikkilineni (2006), the new plant had an initial annual capacity of 20,000 vehicles. However, due to the success of the Qualis, this production was stepped up to 35,000 and then 50,000 vehicles within a few years. 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 up to 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 2001 and 2006 the company experienced four strikes and two lockouts.
Example 4: Pluralism punctuates the Indian socio-cultural milieu. As a result, Indian employees and middle managers found it difficult to accept the one-best-way approach advocated by Japanese trainers in terms of the Toyota Way and TPS. A senior Indian executive instrumental in paving the way for Toyota’s entry into Karnataka and well acquainted with the nuances of Indian culture, indicated that frequent use of the term ‘Toyota Way’ during the conduct of training sessions and management briefings was construed as a ‘convenient cover up for a lack in knowledge’ (interview 24) on various matters and a lack of ability to explain finer detail as and when required.

Example 5: What also seemed to emerge is Toyota’s lack of understanding of the sensitivities of the conservative Indian public. One instance involves an advertisement for one of the TKM vehicles which featured a scantily-clad woman and her male friend frolicking in and around the vehicle, suggestive of the intention to use the vehicle for amorous purposes. Such a representation would not find favour with family-oriented Indians. When questioned about this advertisement, some Bangkok-based executives seemed surprised at the suggestion and admitted that the advertisement had been devised in New York. Another instance involves the failure of TKM executives to understand the ‘trader’ traits within Indians. There was insufficient scope for buyers to ‘bargain for deals’ (interview 24), something that is claimed to be second nature to Indian consumers. In contrast, the largest automobile manufacturer in India, Maruti-Suzuki, excels in this area of marketing. An excerpt from an interview with a top Indian management executive of the company is provided in Box 5.20 and is indicative of the lack of marketing know-how in the early days at TKM and the failure to exploit local talent within the company in this area.
**Inadequate marketing knowledge at TKM**

<table>
<thead>
<tr>
<th>Box 5.20</th>
</tr>
</thead>
</table>
| I think the wisdom came to them only at around 2006...that is after the strikes. They do understand it’s not easy to manage things, unless you have fully empowered local management. But I still think they haven’t understood 100% of it...I think there’s a lot of room for improvement for them....for example, marketing...you only have to read their ad’s to understand they haven’t got this thing still, because you can see the English written, is Japanese English. When you do an ad, you not only have to connect, you also have to raise the aspirations.....and aspirations cannot be raised by directly telling people ‘my quality is good’...it is meaningless. Toyota products sell....I don’t think their marketing does...if you see their tag lines...how many tag lines have changed… ‘Toyota quality revolution’... ‘Oh what a feeling’...and so on and so forth. They are not consistent. To have a ‘quality revolution’ tag line, when their quality systems have terribly failed....I think they have a long way to go in localising their management....several good marketing people have left. The pricing on Innova went wrong, priced R50,000 more, due to Japanese pressure. The price was determined by Japanese think tanks. You need to meet customers. Indians wanted a deal.

Source: interview 24

**Example 6:** After several years of manufacturing and selling the Qualis, this model was abruptly withdrawn. This action can be argued to have contradicted the traditional psyche of Indian consumers of having long-lasting association with possessions once acquired. The UMTRI –AAD report (2007) describes India’s ‘scarcity use’ economy, wherein families find ways to use products until they fully wear out, and ‘car owners use cars until they are unusable’. A key reason cited by this report about the popular belief that 40 million Indian households who could afford cars but were not buying one, is ‘uncertainty about manufacturers being around as long as the vehicles’. One could argue that Toyota’s attempts at deploying creative destruction (or planned obsolescence) that serves it well in consumerist countries, did not provide it with the intended outcomes in India. The report further states that ‘first time car buyers would move from two wheelers to inexpensive cars’. This is completely at odds with Toyota’s entry strategy into the market with a logic-defying large vehicle, sales growth of which failed to meet the company’s stated objectives of 10 per cent market share by 2010. Box 5.21 shows an excerpt from an interview with the business editor of a reputable Indian newspaper which affirms this argument that Toyota failed to consider the needs of the Indian consumer.
They were actually quite successful with that product, but then they decided to phase that out and come in with cars – Corolla, Camry. But my feeling was that they read the market wrong because that was not the Indian market, even today 80% of the Indian market is for compact cars, small cars, and in those days it was even more, probably 90% of the market was the small car market, they must have been mistaken that in future that this market is going to transform, and the small car segment is going to come down and the medium-large car market is going to grow much faster, and with this they launched the big cars – in the Indian context we call them big cars, very expensive stellar cars. But the Indian market is still small-sized cars, so either Toyota did not see this, or they decided it was not going to happen, I don’t know why. ... Now they are putting up this new plant where they are talking about small cars, we don’t have any idea of how small it is going to be, but I am told it will be smaller than Corolla but bigger than a Suzuki Swift. But what Toyota is doing today I think they should have done it right at the beginning when they first came into the market. I have the feeling that they did not study the Indian market properly, they did not attach too much importance to the Indian market either compared with their other operations in other parts of the world and India continues to be an insignificant market for Toyota, too small, and also the market has not grown that big compared with say China...... So I believe that when Toyota first came to India they should have targeted the mass market, they misread the market, they did not do a proper study of the market.

Source: interview 3

In another interview with another business journalist this issue again arose that strategies that work in other countries will not necessarily succeed in India, as shown in Box 5.22.

In fact something very interesting happened, when the new product was introduced they claimed that the Innova was going to be as successful as the Qualis, so I had gone to this press conference held in Bombay for the launch of the Innova and I remember the Deputy MD there saying that they were going to sell 4,500 vehicles every month, but they got it completely wrong, hoping that they would repeat the success of the Qualis, but they only got 2200-2300 sales at the end of that year, so the question crosses your mind why did they go ahead and phase out the Qualis?

Interviewer: And so why did they? What was the reason?

…..I was told, I don’t know how true it is, That Toyota phases out its top-selling models

Interviewer: It deliberately does it in order to create another market

…You see the unique nature of India, they might have succeeded with this approach all over the world but when they repeat it here they fail (all laugh)

Interviewer: Certainly this approach works in Australia where people queue up to buy the latest model car every year

Source: interview 2
Having discussed above the socio-cultural aspects of India, the following section now turns its attention to the concept of organisational learning. When the third Japanese Managing Director commenced his stint at TKM in 2008 he made a very significant statement to the Indian (and world) media: 'we did not have much experience in the past 10 years ... now is the time for us to jumpstart' (Business Line, 2008). This statement was made within the context of many years of industrial unrest combined with an inability of the company to reach the ambitious targets for market share that it had set itself. This statement can be juxtaposed for analytical purposes with another statement obtained during an interview with a reputed business editor: ‘you can only get to know about these things once you set up a factory and you are going through this process, there is a friction all along until these things even out, I think that led to a lot of pride, tension, and struggle between them.....’ (interview 2).

The first statement when examined within its context appears to be an attempt to explain away the company’s apparent inability to meet stated production and sales objectives during its first decade of operations in India. Although the Indian operations had clearly gone awry, one could argue that the Managing Director was attempting to justify the failings by glossing over the first decade as a learning phase. Box 5.23 shows an extract from an interview with a senior Indian manager about one aspect of learning that occurred at TKM by the end of the first decade.

Box 5.23

Local and overseas managers within the context of learning

For an overseas manager to understand India, it takes forever...I guess. In the first year they can do nothing...they can’t contribute in any way. In the second year, they are learning....And in their third year, it’s time to go back. At times if they remain for longer, in the third year they think they’ve learned everything, and in the fourth he thinks he’s very good. In the fifth he tries to do something very great, and gets sacked....So they’re always learning... It is very important for MNCs to have professional Indian managers...Indian minds. In Suzuki (another Indo-Japanese automobile joint venture), no Japanese have any functional responsibility. However, in TKM functional responsibility has been being given to Indians only since around 2009. Japanese are now more in an advisory capacity, with top management only being Japanese.

Source: interview 24
The second statement alludes to the need for caution within a continuously unfolding scenario of various socio-cultural inconsistencies that were not seen by TKM management and which became an impediment to the company attaining its stated objectives during its first decade in India. Several interviewees suggested that the approach adopted by TKM management, far from being cautious and exploratory, was rather callous, in the sense of rigidly sticking to the one-best-way approach epitomised by TPS and the Toyota Way. Only after living the Indian experience for ten years did TKM management appear to realise that the only way to ensure success in India was to make the necessary compromises to the Indian culture.

Ironically, Toyota’s propensity for learning demonstrated at NUMMI (USA) seems dramatically opposite to its ability to learn as demonstrated at TKM. Whilst a proactive stance seems to have described its approach to learning at NUMMI, the approach at best seemed reactive at TKM. According to Shook (2010): ‘if there’s one thing Toyota knows how to do it is how to learn, especially if learning is most important: down at the operational levels of the company. It was that approach to learning that defined its approach to NUMMI from day 1’. However, at TKM the approach during the early days appeared to be one of instructing rather than learning. The approach to Indian workers and the cultural context seemed to be one of arrogance. One can only hypothesise at the reasons for this. Perhaps the Indian operations were marked by the hubris of success stemming from the company’s previous successful forays into foreign markets. Or perhaps the Japanese approached their Indian hosts with a far greater sense of ethnocentrism than they displayed at NUMMI.

Data analysis reveals that Toyota never expected to encounter the number of pitfalls that it did, or the extent of learning (and unlearning) it would need to undergo. Box 5.24 shows an extract from an interview with a senior Indian manager which reveals the miscalculation of the time needed to adjust to Indian conditions.
Box 5.24

Time needed to adjust to Indian conditions

<table>
<thead>
<tr>
<th>Interviewer:</th>
<th>So when they came into Bidadi [India] they had in their mind that the first decade would be a learning period?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>…… I think a decade was not in their mind, maybe 5-6 years, we lost 3 years</td>
</tr>
<tr>
<td>Interviewer:</td>
<td>You mean in relation to the industrial relations issues? [IR] [industrial relations]</td>
</tr>
<tr>
<td></td>
<td>…… With IR I think they realised that India needs more time [IR]</td>
</tr>
</tbody>
</table>

Source: interview 26

However, since 2007 considerable organisational learning and transformation has occurred at TKM. Box 5.25 shows extracts from two interviews, the first with a senior business journalist based in Bangalore and the second with a senior Indian TKM executive. These two extracts capture the essence of the learning journey at TKM in terms of the epiphany which occurred in 2006 and which climaxed many years of industrial unrest and failure to reach sales targets.

Box 5.25

The learning epiphany at TKM

<table>
<thead>
<tr>
<th>Excerpt 1</th>
<th>Excerpt 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The early years</strong></td>
<td><strong>The later years</strong></td>
</tr>
<tr>
<td>What I am trying to say here is that there is no discipline built into the Indian psyche. We are more emotionally involved with people rather than having a very business-like approach, so when somebody comes along and says no I expect you to work like this and like that then he does not appreciate that, but if you tell him that no there are reasons why I expect you to do it, and as a result what will happen to you, you will get this benefit and that benefit then you can start connecting with that individual, so it is a learning process for the Japanese, they realised after a period of time that they needed an emotional touch for the labour…….</td>
<td>……DeLoittes has worked extensively with Toyota in different parts of the world, and they are today very much involved in Thailand and Singapore and in Japan and they understand Europe very well. So we decided to take their expertise. So they have developed a programme but that programme has been developed in India and per our requirements by understanding Indian minds, Indian ways of working, so some of us are very closely involved in that programme, and it is being conducted by Indians, the trainer is Indian</td>
</tr>
<tr>
<td>‘He [a senior Indian TKM executive who resigned] told me, and these are only allegations, that the Japanese did not trust senior managers from India, there was this basic mistrust, how they tried to impose certain things on the</td>
<td>Interviewer: I read in the press that the MD said ‘we want to treat the last 10 years as a learning period, and that from now on they are going to move forward….’</td>
</tr>
<tr>
<td></td>
<td>……That’s what I have said, we have looked at the last 10 years as a foundation period and now we are talking about a big leap, a huge amount of learning has occurred either in terms of industrial relations or developing local manpower, in terms of dealer networks, and so when you are taking any major decisions you look back and see what did we learn out of that</td>
</tr>
</tbody>
</table>
people of Indian origin, he had all these kind of issues, and he left in a huff...’.

so that we don’t keep on making the same mistakes, and always this comes from their way of working, always benchmark against something

Source: interviews 2 and 26

At the inter-personal level considerable two-way learning seems to have taken place within TKM, which over time has rubbed off at the organisational level, giving a relatively calmer working atmosphere within the company in recent years. Examples provided during field interviews include aspects such as Indian workers benefiting from intensive training in Japan, helping them to understand the ‘why’ of several work-related TPS matters which earlier appeared alien to them. Indian workers too came to realise the challenges faced by Japanese expatriates living in countries like India. Resultantly, misunderstandings often arising from different cultural perceptions and the importance accorded to certain issues, for example timeliness and punctuality, seem to have reduced. A compromise of sorts seems to have been reached as shown in Box 5.26 which shows an extract with an interview from a senior Indian TKM manager.

**Box 5.26**

**Misunderstandings and compromises in cultural issues at TKM**

| Several times they [Japanese] will come across a person who will tell them lies, a person who does not reach on time at the office, and inside them there is a big frustration because yesterday maybe he had a bad stomach from the food in India, but next day he is there on time despite he is not feeling well, but as an Indian you are not there on time, so obviously he will feel bad about it and lose his temper ‘why are you not on time?’ and the tone is very harsh, so those types of things are quite common with a certain set of people, but now it does not happen any more...changed, totally changed. One, that Indians have improved quite a lot and two they have also understood that in India people feel bad if you speak to them like this. If they don’t reach on time don’t feel so bad, it is very common in India - that is what they must have been taught now, even if they don’t reach on time you feel very bad but for them it is not bad. You want to have dinner at 7 o’clock but in India people start dinner at 10 o’clock, so you have to understand that, so these are some of the things I think they have learned, and both ways. |
| Source: interview 26 |

At the organisational level much of TKM’s learning seems to have taken place in the area of people management and culture practices. For example, it realised over the years that the traditional Toyota model of people and career management that broadly constituted slow growth on a horizontal rather than vertical plane,
relatively high level job security, and slow and steady remuneration increases over a period of time, was not paying off too well in India. Worst of all, was its practice of having in place a ceiling at the managerial level beyond which Indian managers could not progress. Resultantly, employee turnover at the professional level, especially engineers and managers, seemed to be of a high order, including some top-level and high performing executives. The reason for this was the large number of opportunities that had arisen in the new-age Indian economy, with ambitious employees not wishing to be outdone by their peers and colleagues in the race for growth in responsibilities, job titles, and income. Toyota policy, on the other hand, stipulated flat hierarchies, slow growth often based on seniority, and limited opportunities for Indian nationals at senior levels. TKM-experienced engineers, managers, and executives were readily employable in other competing companies. Box 5.27 shows two extracts from an interview with a senior Indian manager which articulates these issues.

**Box 5.27**

**Career growth and remuneration at TKM**

<table>
<thead>
<tr>
<th>Career growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beyond GM there was no position in the company, only for Japanese, so I spoke to them, they said we are sorry, this is the policy of the company, we understand but you will grow in the organisation, you will grow horizontally, you will have much more responsibility, but we will not be able to take you at a senior level, and if you look at a company like ours the Japanese don’t play, they are there in the office, they actually play a major role, but they are not in the front, ..as they can’t communicate you know, so you as an Indian if you are an executive and are very ambitious you feel why can’t I take that position? Why can’t I be a senior person managing the organisation? So I had a very open talk with them and when I realised that it is not possible, so I left and joined another company, and they understood why I was leaving, but then they said that maybe I am wrong, I am a bit impatient.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remuneration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toyota is very conservative even on remuneration, salary and all that, you will not see Japanese company paying a very good salary, they will be in the middle, and they believe that you will grow in the organisation gradually, you will not have a jump start. But again I have realised if you really follow it religiously it is good, but in a country like India when it is growing rapidly, when you are a developing country, people in India want to grow faster, want to earn more faster, because it is not a rich country, you want to attain a certain position in your society and when you see that your peers are starting to do well you also want to grow faster.</td>
</tr>
</tbody>
</table>

Source: interview 26

In order to reverse this trend, and also based on the realisation that it was not possible to manage the Indian operation without having in place Indian nationals
at senior levels, TKM commenced the process of gradually replacing Japanese with Indians, except for the Managing Director. In addition, extra tiers were added to the hierarchy at senior levels. This steepening of the hierarchy allowed for vertical career growth, thus satisfying the desire of Indian managers for social status through career titles. In time, besides the senior management ‘on loan’ from their joint venture partner Kirloskar, TKM commenced directly hiring Indian managers to positions earlier manned by Japanese. As of 2010, TKM’s hierarchy comprised the levels of: team member, team leader, group leader, assistant manager, deputy manager, manager, deputy general manager, general manager, vice president, senior vice president, deputy managing director, and managing director. Also initiated was the process of backgrounding the Japanese and foregrounding Indians, especially in interactions with the media, with Japanese acting in an advisory role only. Box 5.28 shows an extract from an interview with a senior business journalist which emphasises these issues.

**Box 5.28**

**Backgrounding Japanese personnel since 2007**

| In some teams they would have decided strategically where to place the Japanese, so they are there, but they are not the ones who interact with the media. You hardly get to speak to the MD, there was a time when Mr Yamazaki was the MD, he may not have known much English but it was easy to interact with him, he was always open and there to talk to you. Over a period of time the Japanese MDs have slowly withdrawn and gotten away from the media glare. They are there but they don’t talk much |

Source: interview 2

A significant initiative that has benefited Indian employees at TKM, and thereby possibly reduced gaps in understanding between Indian and Japanese personnel, has been the increased number of Indians working in other parts of Toyota, such as in Singapore, Thailand, and Japan. As a result of this kind of learning given to Indians, TKM now has many Indians in the plant who speak Japanese. The difficulties in understanding each other have now been reduced to a lower level.
Chapter 6

Similarities, differences, comparison features, and integrative questions: NUMMI, TMCA, and TKM

Chapters 3, 4, and 5 have analysed the role of Toyota in three different countries each of which has been characterized by the presence of a strong union culture: USA (NUMMI), Australia (TMCA), and India (TKM). In this chapter, the thesis examines the key features of the similarities and differences marking the organizational journey of the three different plants. Each of the previous three chapters has been structured into four main sections. This chapter continues with the same structure with the exception of the ‘chronological listing of significant events’. Hence, the remainder of this chapter is structured as follows:

- Union-management relations
- TPS, lean manufacturing, and teams
- Culture and organizational learning

This structure, together with the five associated comparison features emanating from the analysis, is shown in Box 6.1.

**Box 6.1**

Comparison features of the three separate Toyota plants

<table>
<thead>
<tr>
<th>Union-Management Relations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison feature (i): Industrial peace</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TPS, Lean Manufacturing, and Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative feature (ii): Introduction of TPS: extent and pace</td>
</tr>
<tr>
<td>Comparison feature (iii): Teamworking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Culture and Organizational Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison feature (iv): Cultural consonance</td>
</tr>
<tr>
<td>Comparison feature (v): Organizational learning</td>
</tr>
</tbody>
</table>
By identifying the five different comparison features shown in Box 6.1 the thesis is now able to advance five associated integrative questions, namely:

(i) Why was there relatively greater **industrial peace** at NUMMI than TMCA or TKM?

(ii) Why was there relatively greater success in the **extent and pace of TPS introduction** and adoption at NUMMI than at TMCA or TKM?

(iii) Why was there relatively greater success in the implementation of **teamworking** at NUMMI than at TMCA or TKM?

(iv) Why was there relatively greater **cultural consonance** at NUMMI than at TMCA or TKM?

(v) Why was there relatively greater **organizational learning** at NUMMI than at TMCA or TKM?

The analysis leading to the proposition and answering of these five integrative questions is now presented in the rest of this chapter.

**Union-Management Relations**

**Comparison Feature (i): Industrial peace**

**NUMMI:** Barring a few incidents there was very little industrial unrest during the 26 years of NUMMI’s existence. A state of harmonious employee relations was generally the norm. In general terms such harmony is achieved when both management and labour display a willingness to engage in cooperative behavior. In the case of NUMMI both sides of the equation did indeed display such willingness. The reasons for this, and the strategies employed, are analysed below.

From the management side of the equation, during the early 1980s Toyota was coming under increasing pressure from competitors. The company was eager to maintain and increase its global market share. In this endeavour it was vital that Toyota was enabled to enter the US market and produce and distribute automobiles on American soil. For this reason, Toyota was on its best behavior and eager to co-operate as much as possible to obtain a foothold within the US
market. Not only did Toyota enter the USA with a co-operative attitude it also held a strong inclination to learn the American way of industrial relations and work culture in order to cement its future success in the country. With these aims in mind Toyota pursued a strategy of building a hybrid culture that reflected both Japanese and American work values and secured the goodwill of the American workforce and the trade union. Toyota achieved this through at least four distinct tactics:

1. Recognizing the extant trade union (UAW) despite initially desiring not to engage with unions at all
2. Welcoming back all the old (militant) union ‘bosses’ and undertaking to work with them
3. Re-hiring the vast majority of the old ex-GM workforce
4. Through a letter of intent signed in 1983 and a new three-year contract signed in 1985 it pledged ‘to maintain the most harmonious labour-management relations in America, and to build the highest quality auto in the world, at the lowest possible cost to the consumer’. It agreed to consult the union on matters ranging from the pace of work to major investments which normally were the preserve of management only. Structured meetings between union and management were held, with representation from all levels of the plant.

A more cooperative approach to employee relations was also displayed from the union/labour side of the equation. Three broad reasons can be advanced to explain this which can generally be grouped under the heading of ‘gratitude’:

1. Weariness with the constant battles and divisions epitomized by the old GM culture and a sense of relief that a new management team was promulgating a different style of management that workers were eager to embrace
2. The effect produced by two years of protracted joblessness on NUMMI’s workforce in engendering a more plaint attitude towards management
intentions in an attempt to win back and keep their jobs. Together with high unemployment in Fremont this resulted in high uncertainty avoidance amongst the rehired workforce. Long term employment security offered by Toyota was viewed as a blessing for ‘born again’ workers.

3. Minimum social welfare benefits were available to the workers and the two years of supplementary unemployment benefits available to them had almost come to an end.

Figure 6.1 summarises these arguments

**Figure 6.1**

**Industrial peace at NUMMI**

<table>
<thead>
<tr>
<th>Cooperative Management</th>
<th>Cooperative Union / Labour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reason</strong></td>
<td><strong>Gratitude</strong></td>
</tr>
<tr>
<td><em>Protect and increase global market share</em></td>
<td></td>
</tr>
<tr>
<td><strong>Strategy</strong></td>
<td><em>Disenchantment with the old conflictual culture</em></td>
</tr>
<tr>
<td>Create a hybrid culture</td>
<td><em>Disciplining effect of protracted joblessness</em></td>
</tr>
<tr>
<td><strong>Tactics</strong></td>
<td><em>Minimal social security safety net</em></td>
</tr>
<tr>
<td>Recognise the old trade union</td>
<td></td>
</tr>
<tr>
<td>Welcome the old union bosses</td>
<td></td>
</tr>
<tr>
<td>Rehire the old workforce</td>
<td></td>
</tr>
<tr>
<td>Publicly pledge harmonious relations</td>
<td></td>
</tr>
</tbody>
</table>

**TMCA:** NUMMI-style industrial peace has not been the norm at TMCA. Employee relations could best be described as adversarial and strained, especially from 1977 through to 2010. The past two decades in particular have witnessed increased unionized activity on the one hand and a continuing broad based anti-union stance of TMCA’s management on the other. Management refusal to accord formal recognition to unions based on trades for almost two decades further exacerbated an already unhealthy situation. In recent years, relatively greater
acceptance of unionism and its attendant issues in Australia seems to have been the result of TMCA being left with no other choice. Examples of union-management differences, fall-outs, and industrial action described within the chapter on TMCA, and the language and terms used by either party in describing each other, seem very similar to the state of affairs that prevailed at the GM-Fremont plant between1963 and 1982. Factors contributing to this state of affairs include:

1. Culture clashes between a number of disparate groups, such as (i) workers from different organisational cultures – GM-Holden, Standard Motors, Triumph, Toyota etc (ii) workers from different national cultures – Japanese, Australians, and American, and (iii) workers from the mass production culture (old baggage) and the new lean culture

2. Unitarist-pluralist incongruities: Toyota’s traditional unitarist philosophy regards unionism as a problem to be solved - a wasteful activity to be eliminated. After Toyota took over full control of TMCA its use of strong-arm tactics on various occasions to suppress unions and related dissent only seemed to worsen the industrial climate. Opposing this was Australia’s strong pluralist leanings typified by the presence of strong entrenched unions with institutional linkages to external bodies.

3. Role of HR: HR within TMCA has enjoyed minimal credibility within the workforce for two primary reasons (i) the perception of being pro-management, staffed by inexperienced stooges and (ii) staff turnover amongst HR personnel has traditionally been high and they have often been made scapegoats each time industrial relations issues turned sour.

4. Lack of trust: High levels of mistrust and buck-passing between workers and management resulting in ongoing confrontation.

5. Social security: Loss of employment is not viewed as such a threatening situation for the average Australian employee, relative to the NUMMI worker. Australian workers often feel quite secure given the extent of social welfare cover afforded to out-of-work citizens, besides the strong backing of unions that makes sacking difficult.
**TKM:** A lack of industrial peace marked the greater part of Toyota’s operation in India from the outset until recent years. In line with its traditional unitarist philosophy Toyota refused to permit or recognize a trade union. Contributing to the far from harmonious employee relations scenario at the plant were several other actions of the Japanese management, such as frequent use of coercion, harsh use of the performance appraisal system, suspension and dismissal of union activists, open displays of a contemptuous attitude towards the Indian workforce, and a lack of trust displayed by the Japanese even with senior managers from India. This resulted in ongoing friction and strife for several years. The situation changed only after a severe event of industrial unrest and violence during 2006 and the realization that Toyota’s poor operational results in India could only be reversed if the state of employee relations improved. Key factors that contributed to the lack of industrial peace were:

1. Arrogance of Japanese management: Whereas Toyota entered the USA market in 1984 by displaying its best behaviour, this was not the approach exhibited by the company when it entered the Indian market in 1999. It is a matter of conjecture whether the company’s different attitude stemmed from the hubris of success as a result of so many years of multinational expansion following its successful operations in the USA market. Certainly there was little indication of compromise to Indian culture. Toyota’s entrance was marked by arrogance and a determination to stamp its strength on the Indian workforce. The ‘our way or the highway’ attitude was manifest in several incidents over the years. Examples include the ongoing concerted attempts to suppress union activity, the choice of words, actions, and tone used in talking down to Indian workers, and even threatening to wind up their operations in Southern India and to relocate elsewhere if the State Government failed to do Toyota’s bidding.

2. Misreading union power and political reach: Toyota management failed to gauge the quality and quantum of expert advice available from external sources to the in-plant union workers on various legal matters. That Honda
Motor’s industrial action of 2005 had become a national issue and the possible trickle down of this event on TKM failed to sink in until clear political level links between both companies’ unions began to show up. TKM’s internal strife became public owing to external political machinations.

3. Lack of understanding of cultural differences: Toyota failed to appreciate the strength of Indian cultural values and practices and the impact of these within the workplace. Unlike the scenario at NUMMI in 1984 where Toyota management showed willingness to learn about American industrial and cultural practices, such willingness was strangely absent at TKM. Aspects such as eating habits, the role of the family, the significance of caste and age, and the overall impact of these on team constitution, TPS, and day-to-day operations were not fully appreciated. Additionally, the extent of heterogeneity across Indian states and fact that local Kannada workers did not gel with their Marathi neighbours (who had been transferred to the plant by Kirloskar, the Indian joint venture partner) was unknown to the Japanese.

4. Ignorance of HR issues: Toyota displayed an ignorance of crucial aspects of the realities of life as they impacted on members of the Indian workforce especially regarding workers’ work-life balance on issues such as time spent commuting to and from work, rest hours available, and the ground realities within the homes of workers drawn from farming backgrounds.

5. Lack of empowerment of Indian managers: Local Indian managers could not rise above a certain level in the corporate hierarchy. All significant decisions were taken by Japanese personnel. Such empowerment failed to materialize until a belated stage and not until after serious damage had occurred to TKM’s industrial harmony. For example, despite repeated advice from Indian employees to relieve a Japanese HR person from his position due to damage he was causing to the people function, management failed to heed this advice until matters worsened. It is highly probable that the extent of unrest witnessed in the plant between 2001 and
2006 resulted from local knowledge of Indian managers not being tapped into.

**Integrative Question:** Why was there relatively greater industrial peace at NUMMI than TMCA or TKM?

The analysis in this thesis suggests that greater industrial peace prevailed at NUMMI than either TMCA or TKM because both management and union at NUMMI were more willing to engage in cooperative behavior. Such joint cooperation was engendered by two overarching reasons that interacted with each other to create an integrative synergy – worker gratitude and management desire for market share.

1. NUMMI workers’ hunger for employment and the ‘gratitude factor’ resulting from being rehired after over 24 months without jobs exceeded everything else, over-riding any possible tendency to oppose the nature of the new work organization or the arduous and disciplined nature of the schedules imposed by TPS. The prospect of long-term job security was viewed as miraculous. In contrast, TMCA and TKM workers were not jobless prior to working with Toyota and thus not obliged to show ‘gratitude’. Also, the fear of joblessness in both these nations is lower than the US, owing to Australia’s welfare state provisions, and India’s strong social fabric where deep family ties are used as support mechanisms for jobless workers.

2. It was critical for Toyota to succeed in the US to maintain market share thus necessitating it to be on its best behaviour, to seek consensus with unions and labour, and to consciously cultivate a hybridized work culture. This necessity was not present to the same extent at either TMCA or TKM thus witnessing attempts to suppress or stamp out unionism and a pluralist culture, and to enforce Toyota philosophy and practices with little regard for local culture and social factors.
Comparison Feature (ii): Introduction of TPS: extent and pace

NUMMI: From its establishment in 1984 there was a fairly seamless introduction and consolidation of TPS practices within a very short span of time. Witnessed from the outset was formal acceptance of TPS as the work process paradigm within the company and, as a consequence, the flatter multi-functional team structure that replaced the earlier rigid division of labour with its 80 job classifications. Use of muda, andon, JIT, kanban, kaizen, jidoka, 5S and so on were rapidly and effectively deployed, and rationalisation of activities and human effort witnessed. Broad indicators of the successful introduction of TPS included a drop in grievances, very few instances of industrial indiscipline cases, and a meteoric rise in plant productivity and performance, from one of the worst plants in the world to the best plant in the US industry in three years. Three reasons can be advanced to explain these developments:

1. The ‘gratitude’ factor discussed earlier stems from the much sought after job security that NUMMI workers craved after a prolonged period of joblessness. In turn, this was complemented by the no-lay-offs policy. TPS appears to have been willingly embraced in return for, and in order to retain, these benefits. Other related aspects included the gainsharing system introduced at the plant, spurring them to greater effort and teamwork.

2. The timing of TPS implementation and the carrying of ‘old baggage’ are important aspects of the relatively seamless and successful introduction of TPS. TPS implementation commenced immediately from the start-up of the plant consistent with contractual provisions. Although some ‘undesirable’ elements of the old GM workforce were kept out of the NUMMI fold through stringent screening procedures, the vast majority of employees were re-hired. The born-again workforce comprised American industrial workers well exposed to automotive manufacturing technology, a competitive market environment, and backed up with a hard-work ethic (if provided with the relevant motivation). These factors allowed the
workforce to seamlessly integrate into the new TPS environment. The question of ‘old baggage’ and its attendant issues therefore did not arise. Although the workers were ‘old’ they could not be classified as ‘baggage’.

3. A third reason relates to the issue of trust and minimising the perpetuation or creation of an ‘us-versus-them’ mentality. Trust levels commenced at a high level, mainly because of the gratitude factor and the fact that Toyota promised a new type of leadership regime based on harmonious relations. This level of trust rose even higher after management passed the test of the first crisis, and the company’s response to the OSHA citations resulting from ergonomic injuries. This resulted in enhanced kaizen contributions, secure in the belief that kaizen contributions would not result in job losses. Also, egalitarian initiatives such as the creation of team-based structures, enhanced inter-dependencies necessitated by the new work flows, dispensing with the old job classification system, provision of common cafeterias, parking lots, and work areas, are believed to have fostered a greater sense of pride in one’s work and a feeling of being respected. All these factors were absent in the Fremont plant. This sense of oneness would doubtless have enhanced the atmosphere of harmonious relations and a greater willingness to accept TPS and its various aspects and consequences.

Figure 6.2 summarises these arguments.

Figure 6.2

Introduction of TPS at NUMMI: extent and pace

<table>
<thead>
<tr>
<th>Factors in seamless introduction</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gratitude</td>
<td>TPS accepted in return for:</td>
</tr>
<tr>
<td></td>
<td>* Job security and no lay offs</td>
</tr>
<tr>
<td></td>
<td>* Gainsharing</td>
</tr>
<tr>
<td>TPS timing and old baggage</td>
<td>* TPS implementation commenced immediately</td>
</tr>
<tr>
<td></td>
<td>* Born-again workforce well correlated with the</td>
</tr>
</tbody>
</table>
Trust

High trust achieved through:
* Gratitude
* Test of the first crisis
* Pledge of harmonious relations
* OSHA incident
* Egalitarian measures

**TMCA:** The overall pace of deployment of TPS at TMCA has been slow and the extent and level of its acceptance by Australian workers has been patchy and always contested. The first thirty years of its existence (roughly between 1959 and 1989) witnessed little or no introduction of TPS concepts and practices. Piecemeal introduction of TPS commenced from the 1980s but with the pace and extent of its implementation being closely correlated with the extent of ownership of the company by Toyota Japan. Full TPS transfer only commenced after Toyota had acquired full ownership of the company. Elementary aspects of TPS such as muda, jidoka, and kaizen were not properly implemented, whilst other aspects were still unknown or had not taken root locally. As of 2010, some commentators expressed the observation that some aspects of TPS were still largely cosmetic, bearing only small resemblance to the pure version obtaining in Japan, whilst evidence existed that several aspects of the Toyota philosophy were rejected outright (such as morning music and warm-up exercises, standardised work, respectful forms of Japanese communication between personnel, wearing of helmets, and so on). The system was branded as more suitable to the untrained and unqualified workers of poorer nations, such as Thailand, India etc, rather than richer nations with better educated workers, such as Australia.

With regard to the three explanatory factors for the seamless introduction at NUMMI shown in figure 6.2, none of these held with regard to TMCA, as explained below:
1. Gratitude: At TMCA there existed no special incentive, such as joblessness, economic uncertainty, or other reason, that resulted in TPS holding any specific allure for Australian workers. On the contrary, economic prosperity was high in Australia, and this was compounded by a widely held belief within the company that workers already knew it all, and had no need for exotic imported systems such as TPS.

2. TPS timing and old baggage: TMCA made a late start with TPS after other cultures had already become entrenched at the plant. For several decades after 1959 TMCA was a TPS-free zone and a mass manufacturing paradigm was dominant. Thereafter, the rollout of TPS was only on a piecemeal basis resulting in uneven levels of comprehension across the plant, even amongst managers. There existed mixed viewpoints about the need for TPS in the first place let alone mastering the specific details and procedures that using it entailed. There existed many barriers that effectively hampered the introduction of TPS into the plant. The problem of unlearning was acute. Shedding old baggage was probably the most severe obstacle, with most workers and managers thoroughly schooled in the old ways of mass manufacturing from their experiences with GM Holden, Standard Motors, and Triumph. For example, kaizen was not the focus for production workers as responsibility for quality and work improvements were vested in management and inspected in at the end of the process.

3. Trust: A deep sense of mistrust has pervaded various constituents across the company for many years, most strikingly exemplified through tense relations between unions and management. The ‘us-versus-them’ sentiment runs strong with each side looking to score points against the other. Employee relations have been far from harmonious and ongoing efforts have been made by unions and workers to reject TPS as something that belongs to management. Often, statutory OHS provisions have been used as grounds to counter and refuse performing TPS consistent activity and other demands from
Japanese management (such as wearing helmets and company uniforms in hot weather or for medical reasons).

**TKM:** As with NUMMI, but unlike TMCA, efforts to introduce and implement TPS were made right from the outset of production at the plant in late 1999, although the scope was relatively limited. The plant was one of the lowest automated in the world and many operations were initially performed manually. The early stages of production were marked by a sense of euphoria, given the feeling of awe with which Indians perceived Japanese technology and products. Working for a large Japanese multinational company like Toyota was regarded as a prestige issue to the rural Indian worker and they were more than willing to learn the ropes. Workers were sent to Japan for training in TPS and the Toyota Way. However, the enthusiasm soon wore off. When production was dramatically stepped up during 2000-2001 the average worker in the plant found it difficult to cope with the demands placed on them. Scepticism and frustration became widespread upon realisation that the demands of TPS were difficult to reconcile with the Indian life style and social customs. Following years of industrial unrest modifications were made to the pure system of TPS to suit local conditions. The overall rigour of TPS was diluted as several compromises were made. The most significant change was to allow an increase in the number of workers on the line whenever the assembly line was speeded up. Thus, the overall quantum of success achieved at TKM could be regarded as less than satisfactory, with TPS being unofficially re-christened as TIPS (Toyota Indian Production System).

With regard to the three explanatory factors for the seamless introduction at NUMMI in figure 6.2, there were significant differences in the case of TKM as explained below:

1. Gratitude: At TKM, as in the case of TMCA but unlike NUMMI, gratitude was not a factor linked to willing acceptance of TPS. It is true that there was an eagerness to embrace a world-renowned system that was new to India, with employment at Toyota regarded as a symbol of status and social mobility. However, the extent of compromise required to be made
to the normal way of Indian life was not initially understood. TPS became unattractive once the full import of its implications dawned on the workforce.

2. TPS timing and old baggage: TPS implementation commenced from the start of operations but in a very limited manner. This was because the vehicle produced at the plant in the early years, the Qualis, was not aimed at the mass market. Accordingly, the quantum of production was low by world standards, production speed was low, and the degree of automation at the plant was one of the lowest in Toyota plants worldwide. Some operations were performed manually for several years. Therefore, while certain aspects of TPS, such as team-based working and a modified version of JIT, were introduced early, the limited extent of automation restricted the extent to which full TPS was rolled out. As a result, whilst the timing and pace of implementation was somewhat piecemeal, as in the case of TMCA, the reasons were different. When the second plant came on stream at TKM in 2010-2011 a more sophisticated form of TPS was able to be implemented for two reasons: first, the workforce was more experienced, and second the production level was much higher than in the original plant. With regard to the issue of ‘old baggage’, this was not such a large problem as with TMCA because Toyota had learned its lessons from elsewhere and insisted on employing mainly young workers with no previous industrial experience to work on a new union-free site. However, this did not prevent these workers from commencing employment with a different type of baggage, namely the customs and mores of Indian society.

3. Trust: TKM workers were initially trusting of management and eager to embrace the opportunity to work for a Japanese multinational. But this trust soon turned sour over the period 2001-2006 as industrial unrest became more prevalent. Following the violent strike of 2006, TKM management adopted a more harmonious attitude towards TKM workers by recognising the trade union, modifying TPS practices, and signing a ‘mutual trust’ declaration. Management became more sensitised to the
incongruities between TPS and the socio-cultural framework of Indian workers’ lives, which they acted upon. This improvement coincided with the foregrounding of Indian managers at the plant and the backgrounding of Japanese managers.

**Integrative Question: Why was there relatively greater success in the extent and pace of TPS introduction and adoption at NUMMI than at TMCA or TKM?**

The analysis in this thesis suggests that there was relatively more success in the extent and pace of TPS introduction and adoption at NUMMI than at either TMCA or TKM for three reasons – gratitude, TPS timing and old baggage, and trust.

1. **Gratitude:** At NUMMI, workers accepted TPS in return for job security and no lay offs following two years of unemployment. Such circumstances were not present at either TMCA or TKM and hence there was no pressing need to show any form of overt gratitude to their multinational employer.

2. **TPS timing and old baggage:** At NUMMI, TPS implementation commenced immediately from the start of operations in 1984 utilising a born-again workforce which was ‘old’ but did not represent ‘baggage’. At TMCA, in contrast, TPS implementation did not commence until several decades after the company’s establishment and was then only implemented in a piecemeal fashion. During implementation the company had to struggle to overcome a severe barrier in the form of old baggage from the previous culture that did not readily embrace TPS. However, at TKM, although TPS implementation commenced immediately from the start of operations in 1999 it was of a very limited form and scope which was further eroded as industrial unrest spread and concessions were made by management. The issue of old baggage was not as severe as at TMCA, except that acute incompatibility was experienced between Indian socio-cultural factors and the culture of TPS.

3. **Trust:** At NUMMI, trust levels were high especially after management passed the crisis of its first test and continued to exhibit participative
management styles and egalitarian measures. In contrast, TMCA has suffered from ongoing mistrust epitomised by fractious industrial relations and ambivalence towards TPS philosophy. AT TKM, levels of trust were low during the period 2001-2006 but have since recovered due to management’s efforts to reverse the problems experienced during this period.

**Comparison Feature (iii): Teamworking**

**NUMMI:** Overall, the efficacy of teams and the team concept at NUMMI was of a very high standard. The UAW-NUMMI labour contract formalised the use of teams by management at NUMMI and allowed teams to decide on standardized work processes. The new team structure comprised just one single classification for production workers, as opposed to GM’s 80, and eliminated allocation of tasks based on seniority of workers. The skilled job classifications were reduced to only three, facilitating greater flexibility rather than specialization, cross-training, job rotations, and enhanced involvement in the production process. All team members knew each others’ roles within the team’s process and their jobs rotated regularly. Teams performed time and motion studies, set new standards and operating procedures, defined problems, and found solutions. Team members worked with engineers to determine the ‘one best way’ and establish the pace of work. Limited shop floor decisions were left to teams’ discretion. Workers, besides being responsible for routine maintenance of equipment they used, were also responsible for the cleanliness of work areas. Teams had greater responsibility than the average workers in the US automobile industry, especially in areas of quality assurance, preventive maintenance, and internal job rotation scheduling. This resulted in lower levels of management in the plant relative to most US facilities. Team leaders replaced first-line supervisors of the traditional plants and had full responsibility enjoyed by the latter, save for dismissal of workers. Such efficacy in the teamworking concept can be ascribed to a range of reasons:
1. The existence of harmonious work relations facilitated greater interest by workers and the union in cooperating with kaizen initiatives, planning, and work scheduling exercises.

2. Reinforcing the team concept were such egalitarian practices as provision of a single cafeteria and one parking lot for salaried and hourly workers.

3. Team-based work organization was formalized from the outset between management and the union.

4. Management was contractually obliged to consult the union on matters ranging from the pace of work to major investments which normally were the preserve of management only.

5. In the light of individualism being an ingrained trait of the American worker, due efforts were made by management to provide for the same within teams by instituting intra-day job rotations to maintain ‘American individuality’.

6. Training of workers facilitated better teamwork, with the training hours at NUMMI exceeding the US automakers’ standard.

7. A wide range of forums existed for meetings between teams from the section level up to the quarterly off-site joint conferences of the company.

Figure 6.3 summarises these arguments.

**Figure 6.3**

**Teamworking at NUMMI**

*Harmonious work relations
*Egalitarian work environment
*Contractual obligation to teamworking
*Contractual obligation to consult with the union
*American individualism respected and preserved
*Extensive training in teamworking
*Extensive opportunities for team meetings
**TMCA:** Teamwork has been of a sub optimal standard within the TMCA context, with the role being reactive, task driven, and with an emphasis on organizing rather than leading. Teams comprised workers with low levels of education and training, the focus being more on the technical abilities and experience. Communication problems have plagued teamwork given that over 70% of workers come from a non-English speaking background. Team leadership has been mostly untrained and has lacked motivation. Team leaders have been reluctant to deal with team members on issues relating to performance or work habits. Buck-passing and shifting the blame onto others has been common practice. Widespread cynicism was observed towards efforts to establish action learning teams (ALTs) and build better teamwork. ALTs were referred to as ‘arse-licking teams’, revealing the contempt that many union members feel towards management-inspired initiatives. Anti-Japanese sentiments continually bubble below the surface at TMCA. High levels of absenteeism and frequent incidents of industrial indiscipline, sometimes with the explicit cooperation of the unions (such as refusing to wear helmets), have often stymied efforts to incorporate healthy teamworking practices.

With regard to the explanatory factors for the efficacious employment of teamworking at NUMMI in figure 6.3, there were significant differences in the case of TMCA as explained below:

1. Non-harmonious work relations; poor people management and low people focus; friction between TPS’ unitarist culture and pluralism/unionism in Australia; and the poor overall quality of management within Australian manufacturing.
2. No prior contractual commitment to teamworking or consultation with the union over and above what has been achieved through collective bargaining agreements
3. No express efforts were made to address individualism issues within Australian teams, although the trait was as embedded in Australian culture as it was in the USA.
4. Low levels of education and training of workers; communication barriers due to large numbers of workers from heterogeneous migrant communities unable to communicate properly in English
5. Poor quality of team leaders, with 60% being earlier classified as leading hands with little understanding of team leadership

**TKM:** Close correspondence exists between TKM and TMCA in the area of teams and their handling with poor people management skills consistently underscoring both plants. Additionally, hindering effective and amicable teamwork have been several socio-cultural factors including age, caste, gender, education, family backgrounds, and community and regional affiliations. Japanese management displayed a lack of understanding of the social structures, values, beliefs, and motivations of the Indian workforce. There was a lack of congruence between the Japanese work-centred ethic and the Indian family-centred ethic which adversely impacted team functioning. Egalitarian mixing of different people from different castes, ages, education levels etc is considered a problem in the Indian context. This can cause tensions associated with team-based requirements relating to inter-dependencies, multi-tasking, job rotations, and consensus based decision making. Team members would refuse to perform some duties considered below their status, for example cleaning duties, which are usually considered the terrain of untouchables and other lower castes. External unions had an influence on what activities teams could perform, aimed at separating planning (perceived as a managerial role) from execution. The insistence of team members to be assigned tasks consistent with their education level and refusing to rotate to tasks requiring a lower level, as well as only accepting older colleagues as team leaders, were common. Vertically integrated team structures (as opposed to NUMMI’s horizontal) would have been acceptable at TKM but did not exist owing to the ignorance of Japanese management.

With regard to the explanatory factors for the efficacious employment of teamworking at NUMMI in figure 6.3, there were significant differences in the case of TKM as explained below:
1. Non-harmonious work relations in the early stages of operations
2. Egalitarianism is not a concept that is readily accepted or practiced in India
3. No prior contractual obligation to teamworking other than Toyota’s policy direction
4. Management refused to recognise a trade union, let alone consult with one
5. Whilst Indian society is collectivist and should therefore have been more amenable to team based working than NUMMI and TMCA, what was disregarded was the vertical rather than horizontal integration of teams in order to ensure congruence between teams and Indian society.
6. Although some training was attempted in teamwork this always met difficulties due to the nature of Indian social differences and this factor also restricted the number of opportunities for team meetings

**Integrative Question: Why was there relatively greater success in the implementation of teamworking at NUMMI than at TMCA or TKM?**

The analysis in this thesis suggests that there was greater success at NUMMI in the employment of teamworking than either TMCA or TKM for a range of relevant reasons – the state of work relations; egalitarianism; contractual obligations to teamworking and union consultation; respect for individualism; and the extent of training and opportunities for team meetings.

1. Harmonious work relations were more prevalent at NUMMI than either TMCA or TKMK
2. Egalitarianism was an accepted concept at NUMMI, whereas at TMCA there has always existed a sharp us-versus-them division, and in contrast to TKM where egalitarianism as a concept is basically at odds with the Indian cultural environment
3. There existed a prior contractual obligation to teamworking at NUMMI which was not the case at either TMCA or TKM
4. There existed a prior contractual obligation to consult with the union at NUMMI, whereas at TMCA such a situation had to be fought for through
collective bargaining, and at TKM the company refused to recognise a trade union for the first eight years of operations.

5. Individualism within the team structure was recognised and practiced at NUMMI, unlike at TMCA, and in contrast to TKM where although collectivism should be more amenable to teamworking, the necessary vertical integration of teams was overlooked.

6. Extensive training in teamworking was offered and practiced at NUMMI, unlike at TMCA or TKM where issues discussed above impacted effective training.

7. Extensive opportunities existed for team meetings at NUMMI, unlike at TMCA or TKM where issues discussed above proved a barrier to such meetings.

**Culture and Organizational Learning**

**Comparison feature (iv): Cultural consonance**

This section does not purport to undertake a comprehensive analysis of the national cultures of USA, Australia, and India. For purposes of brevity and clarity the following analysis will only encompass some of the main characteristics of the cultures of these three countries in order to draw some conclusions about the cultural consonance between NUMMI, TMCA, and TKM.

TPS evolved within the cultural context of Japan epitomised by a shortage of natural resources and the need to strive for waste minimisation in all its forms. Thus, TPS and lean production has a natural congruence with the Japanese context. Achievement of the principles and practices of TPS has been further facilitated by the nature of Japanese cultural institutions including the existence of a homogeneous culture, single language, and religious background which facilitate close familiarity between Japanese people and family unity that extends itself into the larger community and workplace. Further, a ‘command and control’ culture is embedded in Japanese culture that involves deference to authority and
the directions of superiors. This reality operates within the concept of *amae*, broadly defined to mean the longing of the Japanese for dependence within an environment of close relationships, belonging, and familiarity. *Amae* strongly complements the needs of TPS. Other aspects of Japanese management concepts that flow from their culture and from the values, beliefs, and behaviours of the Japanese workforce include: the disciplined and hungry nature of Japanese people; loyalty to the company and the job; union-free worksites; internal company unions only; cooperative union-management relations within unitarist cultures; consensus decision making; groupwork and cohesion; and striving for quality and excellence.

**NUMMI:** At the time just prior to NUMMI’s formation and before its new culture had taken root there existed an old GM-Fremont culture that bore little resemblance to the ideal cultural requirements needed for TPS philosophy and practices to work at NUMMI. These aspects included the strong sense of American individualism as opposed to a team orientation; hierarchical rather than team-based work organization; heterogeneous workforce composition; deep sense of mistrust, division, and adversarial union-management relations; and an undisciplined organizational climate. However, within a short span of time there was a rapid improvement in the degree of consonance between the extant GM-Fremont culture and the desired NUMMI culture needed for TPS management methods to work at the plant. Overall therefore, the situation that initially seemed culturally mismatched turned out to be a fairly successful match between NUMMI and TPS-conducive cultures. Facilitating this increased compatibility between both cultures were aspects such as:

1. American willingness and capacity for hard work or work centrality (protestant work ethic) which was a quality shared with the Japanese, as also was a sense of discipline and hungry mentality – traits which can be hypothesised to have been lying dormant within the American workforce and were revived only after the introduction of a new management style at the plant.
2. The wide overall exposure of the American workforce to global competition, advanced industrial practices, and their willingness to experiment with a new system

3. The management approach to training the new system, and hence effecting cultural buy-in, took on a sequential process of first defining what and how things needed to be done, and second, management actually demonstrating by doing things and behaving in the desired new manner. This concept of management role-modelling the new way, and not simply telling the workforce to do things that management failed to do, had a significant positive impact on the workers.

4. The successful manner in which union buy-in for TPS was secured and sustained over the years through measures already discussed, such as recognition of the union, job security and no lay offs, gratitude, consultation and consensus decision making, and egalitarian policies. The important aspect here is that the typical TPS/Japanese need for either having a union-free environment, or only recognising a company-level union, was broadly satisfied by Toyota securing the buy-in of the UAW by making it the bargaining agent for the workforce in return for several TPS culturally-consistent commitments conceded by the UAW.

5. The heterogeneity within the GM-Fremont workforce which conflicted with Japanese homogeneous culture was apparently translated into workforce harmony at NUMMI through having similar representation at the management levels and the institution of gainsharing practices.

Figure 6.4 summarises these arguments.
TMCA: Australia is a huge country with an abundance of natural resources and so the necessity for lean techniques and waste minimisation has never been so keenly felt across society. Australia has been dubbed ‘the lucky country’ and has engendered a climate of abundance, leisure, and a certain antipathy to the traits of hard work, discipline, and hungry mentality. Australia’s history of being a repository for convicts sent from Britain has given rise to the stereotype that Australian people are inherently anti-authoritarian. Many British people (and those from other nations) have immigrated to the country over the years attracted by the thought of escaping the class structure and elitism of Britain and seeking refuge in a new country marked by a more casual, individualistic, and free-and-easy attitude.

Accordingly, most aspects comprising the culturally ideal environment for TPS to flourish are conspicuous by their absence in Australian society. Marked departures have existed between TMCA’s culture and the TPS/Japanese culture from the outset of operations in the early 1960s. Australian shop floor workers prefer not to be disciplined, controlled, or standardized. Toyota’s attempt during the early years to marginalise the union influence has resulted in antipathy of the unions and workforce towards the management and their attempts to enforce Japanization on TMCA’s Australian workers. Several instances of defiance, disrespect, and rejection of Japanese authority have been witnessed, and quite often, the logic of TPS/Japanese practices questioned. Employees have questioned and refused to use TPS related Japanese jargon, for example *kaizen*, *muda* and so
on, as well as Japanese respectful salutations, for example suffixing names with the Japanese term *san*.Instances of ‘dumb insolence’ are not hard to observe, for example, when Japanese sounding music is played at the start of morning operations, workers mainly refuse to join in the subsequent warm-up exercises, and view with derision the few management personnel who encourage their staff to perform such exercises. Factors contributing to this lack of cultural consonance include:

1. Australians possess a set of cultural characteristics that are antipathetic to the TPS culture, such as being casual, informal, leisure oriented, anti-authoritarian, independent, and being unresponsive to control, discipline, and standardisation.

2. Notwithstanding the cultural characteristics above, Australia is a country of migrants. The average workplace represents a multiplicity of ethnocultural and language barriers resulting in unique challenges to communication. Despite this heterogeneity, Australian society strongly encourages migrants to quickly adapt to the Australian way, a pressure which most migrant groups have seemed happy to accede to over the years.

3. Stemming from the above point, some commentators have argued that Australian society is inherently xenophobic. Migrants are accepted so long as they adapt and accept the Australian way of life. Foreign influences that try to dominate the indigenous culture are less readily accepted. With regard to TPS this has resulted in a certain degree of rejection of Japanese hegemony together with demands for Toyota to do things the Australian way.

4. A volatile and entrenched trade union culture especially in manufacturing within the context of a pluralist society made worse by the company’s attempts to curb and sideline union influence

**TKM:** Although Japan and India are both Asian societies their cultural similarities cease to exist beyond the shared societal trait of collectivism. Cultural
compatibility whether at the national level, or in the context of workplace culture within TKM, is conspicuous by its absence. Intrinsic to this incompatibility are the philosophically opposed perceptions of the Japanese and Indians towards the role of work in life. Whilst the Japanese treat it as the centrepiece to the Indians it is just one part of the whole, no more important than the other parts. However, the attitudinal difference to work amongst the Indians, unlike the Australians, is not due to being leisure driven but due to their according higher priority to family and social relationships. With egalitarianism being virtually non-existent within India’s largely caste-based and stratified social system, the possibility of a TPS-consistent culture finding an overlap is fairly remote.

There is a fundamental lack of congruence between the demands of TPS-consistent culture, and the psyche of the Indian industrial worker. Examples of this inconsistency are seen in Indian workers’ unwillingness to perform any type of cleaning activity, as well as discomfort with being tasked with any responsibility for decision making that lies in the domain of superiors. Functioning on a self-directed basis and seeking responsibility (hungry mentality) is alien to the average Indian industrial worker. Indian work culture is also marked by a lack of discipline in relation to the necessities of industrial life, such as the requirements to be punctual, precise, measured, and systematic. A deep rooted belief that all events and outcomes in life are preordained effectively nullifies the need for a planned approach towards many aspects of organizational life, such as deadlines and targets. The need to maintain good personal and social relationships at work often supersedes the need to satisfy organizational goals. In addition, hierarchically stratified society in India typically stresses unquestioned obedience, conformism, and dependency, and disallows room for questioning, disagreement, argument, suggestions, or confrontation with superiors. Only vertically integrated teams can function effectively. Status differentials in terms of power-distance are easily acceptable thus allowing for the development of vertical solidarity. The marked preference for hierarchical (superior-subordinate) work roles over egalitarian (team-based) ones effectively makes the co-existence of TPS within
Indian society either impossible or at best a cosmetic level facade. Thus, factors contributing to a lack of cultural consonance include:

1. The Indian perception of the role and place of work in life stands opposed to the Japanese perception, in the sense that work is often subordinated to the needs of social and family relationships.

2. The hierarchical social structure in India conflicts with egalitarianism and makes horizontal team-based philosophies and mechanisms very difficult to embed in the workplace.

3. Reliance of workers on superiors to make decisions in the workplace makes consensus decision making very difficult, together with the tendency of workers not to question or disagree with their superiors in any way.

4. The deep rooted, often unconsciously held belief that all actions and events in the world are pre-ordained, which directly contradicts the traditional work ethic that hard work is rewarded with success that underscores American (NUMMI) mainstream culture and also holds good in Japanese society.

5. The existence of pluralism, entrenched and hostile unions, and lack of industrial discipline are very similar to the features prevailing in TMCA.

**Integrative Question: Why was there relatively greater cultural consonance at NUMMI than at TMCA or TKM?**

The analysis in this thesis suggests that there was relatively greater cultural consonance at NUMMI than either TMCA or TKM for five separate reasons: hard work and discipline; more exposure to advanced industrial practices; management role-modelling; union buy-in; and management level representation. None of these reasons are prevalent at TMCA or TKM.

1. Hard work and discipline are invariably subjugated to other factors and characteristics at TMCA and TKM that are not compatible with TPS.
philosophy and practices. At TMCA cultural characteristics such as casualness, anti-authoritarianism, and an undercurrent of xenophobia and anti-Japanese sentiment are particularly prevalent; whereas at TKM such aspects as the roles of work and the family, the impact of hierarchical social structures on egalitarianism, the deferential role of workers vis-a-vis their superiors, and a belief in the pre-ordained nature of life, all act to undermine the veracity of TPS philosophy and practices.

2. Exposure to advanced industrial practices and a willingness to experiment are less prevalent at both TMCA and TKM. The culture at TMCA has been less accepting of foreign hegemonic philosophies and practices as witnessed by an undercurrent of anti-Japanese sentiment; whereas TKM is situated in a developing country and employed inexperienced young workers from rural areas.

3. Management role-modeling has not been the norm at either TMCA or TKM. Management at TMCA has been pre-occupied trying to contain a hostile and pluralistic union culture as well as trying to nullify the effects of old baggage inherited into the workforce; whereas at TKM, management was perceived as adopting an arrogant and superior attitude towards its Indian workers which workers found offensive rather than inspirational.

4. Union buy-in and preparedness to compromise have not been observed at either TMCA or TKM. The ongoing union-management hostility at TMCA has prevented any spontaneous union buy-in to management policies or willingness to compromise; whereas the failure to recognize a union at TKM resulted in seven years of industrial unrest before a new situation of relative cooperation was achieved following the recognition of the union.

5. Management-level representation does exist to a point at both TMCA and TKM but is often nullified because of the reasons presented above. In particular, the situation at TKM excluded the promotion of local Indian managers above a certain level in the hierarchy and this scenario was only reversed following the industrial unrest and violence in 2006.
Comparison feature (v): Organizational learning

NUMMI: Learning within NUMMI: Considerable organizational learning took place within NUMMI. The new management environment inspired an enhanced level of knowledge sharing and knowledge combination, resulting in the creation of new knowledge. In turn, this resulted in considerable innovation at the plant. An example of NUMMI’s propensity for learning is the 1993 model changeover that resulted in strained labour-management relations, productivity losses, CAL-OSHA citations, and the less assertive Administrative Caucus being replaced by the more assertive Peoples Caucus in the subsequent union election. Based on NUMMI’s learning from this event concerted efforts were made to eliminate the mistakes of 1993 prior to the 1995 launch of the 285T Tacoma truck. The 285T pilot test team members, unlike the 1993 team, were trained in ergonomics. Toyota & NUMMI engineers, together with the pilot team, simplified the assembly process. The quality department devoted more time to analysing parts, and establishing better communications with suppliers, who in turn were able to respond more rapidly to design changes. A new policy was instituted that required all team members to rotate between at least two jobs, starting from the time of the very first vehicle. A second example of NUMMI’s learning capacity is evident in the lessons learned during the 2002 model changeover which was poorly managed, despite almost 1000 new workers being hired. The root cause was attributed to tacit knowledge about lean manufacturing not having been passed down to the new hires. Even the older workers were found, at times, to be in need of a refresher. NUMMI management realized the need to reemphasize TPS at the plant and reacted by hiring Ernesto Gonzalez-Beltram as VP Manufacturing in 2002. He was charged with the challenge of regaining the level of TPS compliance that NUMMI had achieved during the earlier years.

Learning transferred out of NUMMI by TMC: One of TMC’s organizational objectives when entering into a joint venture partnership with NUMMI was to learn as much as possible and as quickly as it could about various aspects relating
to automotive manufacturing in the USA. Labour-management relations were of particular interest, together with learning about the nature of American work values and customs. In retrospect, it appears that these objectives were successfully attained. TMC seems to have taken away considerable organizational learning from NUMMI, to a far greater extent than GM. A prime example of TMC’s transferring out its learning gained at NUMMI was its knowledge transfer of how to handle American labour. This was evidenced through its successful application of the knowledge and experience it gained at NUMMI to all new plants it created and managed elsewhere in the USA, and also Canada and Europe, with most of these being wholly-owned factories. The company also learned to work effectively with American suppliers, who in turn learned to work with Toyota. As evidence, TMC’s US market share registered a steady rise since the creation of NUMMI with its share of the passenger car and the sports-utility market segments increasing from 7.4 to 12.8% and 4.1 to 9.2% respectively between 1993 and 2002. The company had been making 80% of its profits from the US market.

The lessons TMC learned in effectively working with American workers resulted in its subsequently using this knowledge to good effect when hiring and working with and through labour (albeit non-unionized) in its Kentucky plant at Georgetown. This plant has been so successful in creating harmonious work relations that several attempts to unionize the plant by the UAW have been rebuffed in ballots by the Georgetown workforce. Learning experiences gained at NUMMI by TMC executives and managers were fully exploited by transferring them as a group to the Georgetown factory. This practice of transferring NUMMI-experienced staff en masse vastly aided its ability to effectively implant the desired culture into the new plant. TMC also displayed its ability to effectively adapt and modify its NUMMI-learning experiences to its Kentucky operation. While practices including teamwork, group orientation, work structure, plant layout, and community-of-fate themes were adopted, there were others such as promotions based on seniority, life time employment, and union-related matters that were modified to suit local needs in Kentucky. The Personnel Manager who
eventually moved back from the Kentucky plant to Japan was subsequently appointed global head of personnel relations for TMC. Thus, the confidence gained by TMC at NUMMI stood it in good stead in all their subsequent ventures into mainly western countries.

Learning transferred out of NUMMI by GM: GM’s purported objectives at NUMMI included gaining first-hand experience with the TPS system, obtaining high quality small automobiles for its Chevrolet division, and finding a solution to its idle capacity at Fremont. It also hoped to apply what it learned at NUMMI in its other plants and thereby derive organization-wide gains in the long run. Despite the first objective making a reference to learning about the TPS philosophy and practices, there was very little evidence on the ground to indicate that GM was serious about this intent. It was almost a decade after NUMMI had started to significantly outperform GM’s other plants, that GM considered systematic methods of transferring TPS into its other operations. Besides making a slow start, GM failed to create an organization-wide awareness for the need to learn from the lessons gained at NUMMI or to effectively deploy such learning in its other plants. Its attempts to export NUMMI knowledge to its other plants were unsuccessful due to the fact that NUMMI-trained experts were transferred either as individuals or as small groups rather than doing so en masse. Such staff were not kept together but rather distributed to various positions within the wider organization. Most of them in their post-NUMMI assignments were surrounded by workers and managers caught in the old bind of traditional adversarial relationships. As a result, despite gaining valuable experience within NUMMI, GM failed to replicate these experiences and learning elsewhere with any degree of urgency.

One initiative that GM did attempt to facilitate learning and transfer from NUMMI was the establishment of a Technical Liaison Office at NUMMI in 1985 by CEO Roger Smith. The primary role envisaged for the TLO was to manage and document learning and disseminate knowledge from NUMMI to GM. Subsequently a number of aspects were included within the ambit of the TLO
such as the documentation of TPS knowledge in order to facilitate its ease of teaching and transfer, and managing the training designed to educate GM managers about the potential impact of the TPS on GM manufacturing. Another example of GM attempting to effect learning transfer from NUMMI was the creation of the small-car project Saturn in 1985, which at the time was regarded as an innovative idea for GM in terms of encouraging high levels of labour-management cooperation, in contradiction to the usual GM mentality of Taylorist-type mass manufacturing. However, early successes were fairly short lived and the company barely returned a profit in its history. Production eventually ceased in 2009.

Thus, a number of factors were evident at NUMMI that gave the company a head start in terms of its quantum of learning, pace of uptake, and application and deployment of lessons learned:

1. The great importance TMC attached to learning as much as it could and as quickly as it could about manufacturing in the USA due to the pressure to maintain and enhance its market share in the face of competition from rivals such as Nissan and Honda who were already present in the USA market.

2. Because Toyota’s objective was to learn and its over-riding propensity was to regard learning as of crucial importance, its paradigm from the beginning was less focused on the type of tangible business objectives that typically define a joint venture such as profits, return on investment, and so on.

3. Flowing from this came TMC’s attitude of being on its best behaviour; its openness and lower barriers to learning; and its willingness to accept new things, accommodate differences, and make compromises to American cultural nuances.

4. The cultural environment thus created at NUMMI was more conducive to learning, innovation, and knowledge sharing and creation because of a range of associated and cumulative factors:
a) Harmonious work relations
b) Enhanced levels of trust and job security
c) A sense of interdependence between TMC, GM, the rehired workers, and the unions through being bound by a common fate
d) Interdependencies created by the full rollout of TPS right from the start of operations requiring frequent interactions across functional disciplines
e) Low power distance culture and the enactment of proactive egalitarian measures such as common cafeterias allowing for greater communication
f) Participation-driven suggestion schemes, the high degree of implementation of such suggestions with accompanying rewards, and priority accorded to kaizen, quality circles, and problem-solving teams, without the fear of job losses
g) The nature of workflow procedures designed to encourage learning on the part of the workforce complemented by workers sharing a common goal of production efficiency and quality with a high degree of input and control over their own work

Figure 6.5 summarises these arguments:

**Figure 6.5**

**Organizational Learning at NUMMI**

*Pressure of market share
*Downplaying of tangible business objectives
*Best behaviour in terms of willingness to accept, accommodate, and compromise
*Creation of cultural environment conducive to learning

**TMCA: Learning within TMCA:** Over the course of its fifty year history in Australia, TMCA has exhibited some degree of learning from the events and experiences encountered along the journey, although this is far less than the learning that was experienced by NUMMI. The rejection of thousands of cars in
1997 due to technical defects bound for Middle East markets put TMCA management into introspection mode as to the reasons that caused the event. The cause was tracked to deficiencies in the company’s culture of quality. This learning discovery ushered in an epiphany in TMCA’s workplace paradigm. It resulted in a company-wide cohesiveness and self-improvement initiative to be effected through the creation of a Change Leaders’ Team and the institution of action learning teams (ALTs). The aim of the ALTs was to facilitate a major culture shift by trying to bring people together and stop them from doing things and fixing things in isolation. An acute need was felt to create unanimity and harmony in thinking and actions between team members, team leaders, supervisors, middle managers, managers, and senior executives especially in their attitudes towards helping each other. The ALTs were envisaged as vertically and horizontally linked webs to facilitate organizational learning. Three ALTs were constituted between the years 2003-2004: the General Forepersons ALT in August 2003 to focus on kaizen systems and processes; the Managers ALT in March 2004 to focus on long-term business planning and policy; and the Group Leaders ALT in July 2004 to focus on implementation and standardization issues.

Depending on the source it appears that a considerable integration of management and work teams and cross-functional working resulted from ALT processes, besides other positive results such as kaizen-related initiatives, institution of a healthy spirit of internal competition, and an overall shift towards a more cooperative organizational as opposed to personalized outlook in respect to various matters. However, the action learning model encountered several barriers along the way such as: management working in isolation; mistrust between hierarchical levels; mistrust between the company and the union; impatience from the senior management that expected quick results; lack of understanding about the process; process viewed as threat by the union; and organizational politics. The unions took an antagonistic stance against the ALT system claiming that managers were instituting changes agreed within ALTs without consulting the union. Consequently the union held up the implementation of changes by constantly invoking the dispute procedure within the company. The union adopted
the derogatory term of ‘arse-licking teams’ when referring to ALTs and made it clear that members of such teams did not have union support and were little more than ‘yes people’. An additional problem with the ALT structure was that it overly relied on the efforts of a small number of key proponents. When these people were promoted or transferred out of the process the ALT system became very unstable and could not be sustained. By 2010 the system had virtually become moribund although it is claimed that the issues learned still remained within the psyches of significant people within TMCA.

Besides the innovation of ALTs another significant example of organizational learning that did occur within TMCA relates to the practice of outsourcing. In May 2001 TMCA outsourced three jobs without proper consultation or communication. This action precipitated a five-day strike at the plant. However, in December 2003 the company outsourced 330 jobs without any industrial action. The learning that TMCA had taken away from the first event was that management decisions are far more likely to be favourably received if due process is followed in terms of communication and consultation. The company was aided in this process by the ALT structure in operation at that time. TMCA used the processes created by this system to facilitate the necessary consultation and obtain agreement as to the processes to be followed.

However, as an overall conclusion the extent of learning at TMCA has been less than satisfactory. For instance, it is noticeable that TMCA appears to have taken away very little organizational learning from its five-year joint venture association with GM at the Dandenong plant between 1989 and 1994. Several reasons may account for this. First, TMC had already been operating in Australia since 1959 and felt that it had very little to learn from GM about Australian work conditions. Second, TMC had already established a joint venture with GM at NUMMI five years earlier in 1984 and was more intent in working from scratch to learn about Western work conditions than bothering overly about its conflictual relationship at TMCA. Third, GM’s manufacturing methods were considered to be passé by TMC. The five-year relationship with GM at Dandenong was far from successful.
The venture dissolved in 1994 and the plant was closed down. Because of this TMCA was forced to absorb a cadre of ex-GM workers into its operations. This hampered the movement towards TPS acceptance as these personnel represented old baggage schooled in the conflictual methods of mass production.

Overall, the poor state of employee relations at TMCA has bred a culture of trying to score points between management and unions to the detriment of a genuine learning paradigm. The company has consistently displayed a propensity for finding scapegoats and meting out harsh treatment to them. A case in point was the dismissal of two union officials in 2007 on dubious charges. Some would argue that this was an attempt to lay the blame on aspects other than management in order to detract from corporate follies. An ongoing cycle of management and unions ‘getting even’ has largely resulted in an environment non conducive to learning. Passing the blame seems to be a more popular game than using significant events as learning opportunities. Other examples include the constant turnover of HR personnel who are invariably blamed whenever personnel issues turn sour or when the union scores a significant victory. As such TMCA’s aversion to learning is a clear weakness within the organization in which a learning culture is suppressed by a task-driven blaming culture where many managers fail to treat human resource development as a priority area. Also relevant to the diminished level of TMCA’s organisational learning is the underlying belief within the workforce that they already know it all and are disinclined to pay overt homage to an imported system.

Learning transferred out of TMCA by TMC: Since TMCA has not been seen as a priority within Toyota’s worldwide operations, and in view of its ongoing employee relations problems, there are few positive learning experiences that could be transferred out to other sites. More significant would be the lessons learned about what not to do in relation to other sites. Examples would include the practice of desisting from hiring employees with old baggage and of only selecting new greenfield sites for its overseas operations where TPS could be rolled out from the outset to workers less disinclined to be resistant and where a
more harmonious employee relations environment could be cultivated from scratch.

Thus, stemming from these arguments a number of factors have impeded the uptake of a culture of learning at TMCA:

1. The existence of several layers of old baggage due to accumulated developments over a fifty-year period resulting in TMCA having to contend with several different organizational cultures not united by a common background
2. Piecemeal rollout of TPS according to TMC’s overall ownership of the company resulting in an uneven distribution of knowledge and lack of standardization
3. Fractious employee relations environment marked by low trust in which management initiatives have always been regarded with scepticism
4. An endemic culture where scoring points, getting even, passing the blame, and creating scapegoats has taken precedence over cooperative learning opportunities
5. A geographically and ideologically isolated workforce wary of imported systems and generally resistant to new developments because of an attitude of ‘we already know it all’

TKM: Learning within TKM: Organizational learning within TKM could be termed as reactive. Unlike NUMMI, TMC did not enter India with the primary aim of learning. The company was a late entry into India, well after its success had already been established in a host of other international markets in America, Europe, and Asia. It would therefore not be surprising to hypothesis that the hubris of success was already strongly instilled into the company paradigm by the time that plans were well established to enter India in 1997. India was seen as a huge potential market with over one billion people and an untapped rising middle class with disposable income to spend. To delay entry into India any longer after 1997 would have given Toyota’s rivals a massive lead that would have been
difficult to claw back and would have represented a major barrier to Toyota’s global ambitions for market share. It could be argued that the lure of this extremely large market blinded Toyota with the dollar implications. Toyota already had its world-renowned production system. It already had the experience of operating in world markets. It merely had to enter India, implement its philosophy and systems and let the profits and market share accumulate. This hubris could also have been compounded by the Japanese approach to the Indian people. When Toyota entered America in 1984 it treated its American host with the upmost deference and respect. Perhaps this was to be expected in the light of the circumstances. American was the world’s major super power economically, politically, and militarily. America had defeated Japan during World War 2 and had occupied their country for many years after 1945. America was to be feared and respected. Not so India. The Japanese approach to India appears to have been marked by traditional ethnocentrism. Japanese managers and trainers adopted a superior attitude to Indian workers right from the commencement of operations and instances of abusing workers, talking down to them, and deriding their customs were well reported.

It took TKM management from 1997 to 2007 to accept that failure to attain organizational objectives resulted from inadequate learning that had taken place. TKM’s initial decade came to be labelled the ‘learning decade’ by its senior management only in retrospect. Beforehand, the approach had epitomised the dogma of ‘my way or the highway’ with little attention paid to the subtleties and nuances of the Indian socio-cultural fabric and its areas of incompatibility with TPS philosophy and systems. An arrogant attitude disrespectful of the ways of the land and an unwillingness to learn or compromise until forced to do so resulted in negative consequences for TKM, correction of which required considerable expenditure of resources and re-scripting of the company’s attitudes towards Indian workers.

Protracted failure to empower local Indian professional managers, or to learn from them and heed their advice about Indian minds, resulted in delayed learning. It is
surprising that TKM management did not learn from the experiences of Maruti-Suzuki or appear to do any homework about this company before Toyota entered India in 1997. Maruti-Suzuki is a joint venture company between a Japanese and Indian company which was operating for many years previously in India and dominated market share in the Indian car market. Maruti-Suzuki was a success story and Toyota’s main rival. The practice of Japanese senior management assigning functional level responsibilities to Indian managers and promoting them to senior positions in the company resulted in rich learning for Maruti-Suzuki. However, this practice failed to be replicated at TKM. As such Toyota neither expected to encounter the number of pitfalls it did nor the extent of learning (and unlearning) it would need to undergo before getting up to speed with manufacturing at TKM in India. Aspects unknown to the Japanese about how to connect with Indian workers, and not willingly learned until forced to do so, included matters such as: there being no discipline built into the Indian workers’ psyche; their propensity for being more emotionally involved with people and driven by family and social relationships rather than having a very business-like and work-centric logic; the need to have explained the reasons why things needed doing and the consequences that follow; their status-driven nature, deference to superiors, anti-egalitarianism, and unwillingness to take responsibility for decision-making.

However, considerable organizational learning and attitudinal transformation has occurred during the latter part of TKM’s existence in India, with the turning point being the 2006 epiphany exemplified by prolonged industrial unrest and violence. An example of TKM’s willingness to learn is their hiring of Deloitte (India) to develop a programme to aid understanding of Indian minds and Indian ways of working, with the programme being conducted by Indians. Much of TKM’s organizational learning has taken place in the area of its people management and cultural practices. TKM came to realise that its traditional model of people and career management constituting slow career progression (more horizontal than vertical), relatively high job security, loyalty to the company, and slow and steady remuneration increases over a period of time was failing in India. Similarly, its
practice of barring Indian managers from being promoted beyond a certain level resulted in high turnover of its potentially promising engineers and managers who were easily poached away to work for other multinationals in India’s growing economy. TKM came to realise that there was a lack of fit between the offerings available in the new-age Indian economy (in terms of better scope for growth in responsibilities, job titles, and income) and its own policies. As part of TKM’s learning process, the company has instituted a raft of measures and policy changes designed to reverse these trends including: recognising the trade union and negotiating with its officials; foregrounding Indian managers and backgrounding Japanese managers; adding additional tiers to the managerial hierarchy in order to satisfy the Indian desire for status through job titles; modifying the system of TPS to obtain a better fit with Indian industrial and cultural customs; and instituting measures to sensitise the Japanese to Indian socio-cultural realities. Such measures have resulted in an increased two-way understanding between Indian and Japanese employees and a calmer working atmosphere within the company since 2007. Thus, the following aspects can be stressed in relation to the nature of organisational learning at TKM:

1. TMC entered India in 1997 with an emphasis on exploiting the economic potential of the country rather than with an emphasis on learning
2. TMC’s vision was blinded by an ethnocentric approach towards its Indian partner and workers and by the hubris of success emanating from its previous operations in the rest of the world
3. Between 1997 and 2006 TKM management displayed an arrogant approach towards its workers and Indian managers epitomised by a paradigm of ‘my way or the highway’
4. The momentous events before and during 2006 forced TKM to re-appraise its approach to doing business in India resulting in a significant change of direction and willingness to learn

Integrative Question: Why was there relatively greater organizational learning at NUMMI than at TMCA or TKM?
The analysis in this thesis suggests that there was relatively greater organizational learning at NUMMI than either TMCA or TKM for four separate reasons: pressure of market share; downplaying of tangible business objectives; a willingness to be on one’s best behaviour through accepting, accommodating, and compromising on differences; and creating a cultural environment conducive to learning.

1. TMC entered into the NUMMI joint venture with an urgent need to maintain and increase market share in the face of keen competition from other rivals. Such was not the case at TMCA which represented TMC’s first overseas venture in 1959 when the company was in the embryonic stage of its growth. TMC was more concerned with ensuring stability rather than growth, expansion, and protecting market share. At TKM it is true to argue that TMC felt pressured to enter India as a late entrant in 1997 to take advantage of the burgeoning growth in this part of the world. However, its entrance was characterised by other attendant factors that are mentioned below.

2. TMC entered NUMMI with the express intention of learning about American working conditions and downplayed other more tangible business objectives. This approach was not felt to the same extent at TMCA in 1959. Nor was it the case at TKM in 1997. TMC entered India not with an intention to learn but rather an intention to impose its already-proven philosophy and production system on Indian workers. Tangible business objectives were of over-riding importance, dominated by the need to become the world’s major automobile producer in terms of profitability and sales. Toyota was set on becoming the number one manufacturer with a stated aim of 15% market share by 2010. The huge Indian market was of paramount importance in this quest.

3. Although TMC was keen to be on its best behaviour when it entered the NUMMI joint venture, any concession towards being accepting, accommodating, or compromising has rarely been observed at either TMCA or TKM, unless forced to do so by pressing contextual
circumstances. TMCA has been dominated by conflictual employee relations over many years in an atmosphere of points scoring and passing the blame. At TKM, TMC entered the joint venture with a severe case of hubris due to its previous successes in world markets over many years as well as adopting a superior attitude towards its Indian hosts. Any attempts at accommodating or compromising on differences were only observed when the company was forced into a corner by contextual pressures.

4. TMC created a cultural environment conducive to learning at NUMMI from the beginning of operations in 1984 by making significant overtures towards the union and American workers that it wanted to create a harmonious environment of work relations. However, such harmonious environments have not been observed at either TMCA or TKM. TMCA, even today, still suffers from strong pluralist divisions. The situation has improved at TKM following the epiphany of 2006 and work relations now seem to be progressing more smoothly, as evidenced by the commissioning of a second plant at Bangalore, and the production of the new compact car, the Etios.
Chapter 7

Conclusion: Uniqueness, Significance, and Implications of the Thesis

This chapter concludes the thesis by examining the uniqueness, significance, and implications of the findings. Three models of the transplantation process are identified and discussed together with a series of assertions within the context of the five comparison features identified in the thesis. Finally, some limitations of the thesis are also presented.

Uniqueness and significance of the thesis

This thesis has noted that although a considerable literature exists about the transplantation of Toyota management and production systems across national boundaries around the world, a gap exists in the literature relating to studies which compare and contrast the processes adopted by Toyota when confronted by the issue of transplanting its systems into pluralised-unionised contexts. This is significant because the essence of Toyota philosophy assumes the existence of unitarist family-like cultures for the Toyota approach to take hold and flourish. Therefore, how Toyota conducts its operations in circumstances dissimilar to this is of considerable interest. In this respect the research conducted in this thesis provides an additional and unique aspect to the literature.

In chapter 2 it was shown that this thesis has adopted an emergent, qualitative research methodology employing the techniques of conceptual ordering within the framework of a comparative case study analysis. Elger and Smith (1994) have called for the utilisation of more comparative case studies including studies from developed and developing countries. This thesis has responded to this call by analysing comparative case studies from India (a developing country) and USA and Australia (developed countries). This approach has facilitated an analysis of the potential influence of societies and regions on the reception and mediation of the Japanese model. The same authors have also called for more dispassionate
middle-range analyses of the actual agencies and mechanisms of transmission of models by Japanese companies and their emulators. This thesis has responded to this call through the detailed analyses in chapters 3, 4, and 5 and the emergence of the five comparison features in chapter 6. This analysis has also enabled the thesis to provide input towards Elger and Smith’s (1994) call for more detailed examination of the historical and temporal dynamics of diffusion and how elements of the corporate repertoire are selectively received, adapted, and deployed. In this way the thesis has been able to add more analysis to the ‘role of propagandists and mediators’ who manage the dissemination process of specific packages of techniques (Elger and Smith, 1994: 55).

Abo (1994) noted that transplants face a dilemma – on the one hand they attempt to introduce superior elements of their system(s) to the maximum extent possible (application) but on the other hand they must modify those same systems in an effort to adapt to various local environmental conditions (adaptation). This application-adaptation dilemma is particularly significant in transferring the Toyota system(s) into heavily unionised contexts. The friction between the two contexts generates strained relationships that create a certain amount of revision as a result. This revision is neither context-bound (cultural uniqueness) nor context-free (universalistic) but rather represents a panoply of agencies and repertoires that shape and are shaped by the dynamics of relative forces (Elger and Smith, 1994).

Models of the transplantation process

These considerations are of significance in addressing the purpose of this thesis – how did Toyota go about the process of transplanting its production system into the contexts of NUMMI, TMCA, and TKM? The answer to this question varies according to the circumstances. At NUMMI a hybrid approach was established from the outset. At TKM an authoritarian imposition (Ward, 1999) was attempted from the outset. At TMCA, a slow and piecemeal contested imposition (Ward, 1999) was experienced over a long period of time. The analysis in this thesis indicates that it is the interaction between three separate variables that determines
which of these three models of the transplantation process would tend to assume prevalence, namely:

*Sense of urgency:* At NUMMI there was a degree of urgency for Toyota to protect its market share from severe competition. Hence, Toyota was on its best behaviour and eager to make concessions. At TKM there was less urgency for immediate success since the company was looking to expand to world dominance over a longer time period. At TMCA there was almost a complete absence of urgency since this was the company’s first venture in a Western country and time spent to adjust was not seen as critical.

*Hubris of success:* At TKM hubris was high. This resulted from the tyranny of success that Toyota had enjoyed for many years in overseas operations before its entry into India in 1999. At NUMMI hubris was low due to the fact that Toyota had to be on its best behaviour to ensure success in its first venture into the USA in 1984. At TMCA hubris was also low as this was Toyota’s first venture into a Western country and Toyota was unsure whether it could make a success in such a market.

*Japanese ethnocentrism:* At TKM ethnocentrism was high. Indian workers were looked down upon by Japanese managers and trainers and subject to insults and severe discipline. At NUMMI ethnocentrism was low. Japanese managers were highly respectful of American power, both militarily and economically. At TMCA ethnocentrism was also low. In fact xenophobic attitudes were displayed towards the Japanese by Australian personnel in the early 1960s, so soon after the end of the War.

This analysis is summarised in table 7.1.
Table 7.1
Models of the transplantation process

<table>
<thead>
<tr>
<th>Variable</th>
<th>Hybrid (NUMMI)</th>
<th>Slow &amp; Piecemeal (TMCA)</th>
<th>Authoritarian (TKM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of urgency</td>
<td>High</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Hubris of success</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Japanese ethnocentrism</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

In terms of Abo’s (1994) concept of ‘application’ it can be noted that with regard to the variables in table 7.1, application will tend to be higher when hubris of success and Japanese ethnocentrism are also high. In contrast, adaptation will take on increased significance when hubris of success and Japanese ethnocentrism are both low in the presence of an urgent need to succeed. On the other hand, a slow and piecemeal approach is characterised by a low sense of urgency in the presence of low hubris of success and Japanese ethnocentrism.

Assertions from the findings of the thesis

In chapter 6 it was noted that the analysis had emerged three different themes/categories together with five different comparison features. These categories and comparison features are shown again for convenience in Box 7.1.

Box 7.1
Comparison features

Union-Management Relations
Comparison feature (i): Industrial peace

TPS, Lean Manufacturing, and Teams
Comparative feature (ii): Introduction of TPS: extent and pace
Comparison feature (iii): Teamworking

Culture and Organizational Learning
Comparison feature (iv): Cultural consonance
Comparison feature (v): Organizational learning
After identifying these five comparison features, the analysis in chapter 6 was able to advance and answer five associated integrative questions relating to why NUMMI had achieved relatively greater success than either TMCA or TKM in the areas of industrial peace, introduction of TPS, teamworking, cultural consonance, and organisational learning. Flowing on from that analysis it is now possible to return to each of these five areas in order to postulate a series of assertions that will take the thesis into new ground.

**Industrial peace**

NUMMI’s hybrid approach enabled a higher degree of ‘actors pulling in’ (De Jong et al., 2002) to be achieved – that is, it left more room for the local actors to manoeuvre. The more opportunities local actors possess for adapting models to their situation the less the likelihood of resistance, non-compliance, and ineffective outcomes. At NUMMI, a high degree of industrial peace was the norm over several decades due to the juxtaposition of cooperative management and cooperative labour – the latter owing its existence to the gratitude factor of being provided with secure employment after two years of uncertainty.

![Figure 7.1](image_url)

**Factors influencing industrial peace**

Thus this thesis is able to advance a number of assertions around the issue of industrial peace in the presence of strong trade unionism:

1. Industrial peace is more likely to be achieved in the simultaneous presence of cooperative management and cooperative labour.
2. Cooperative labour is more likely to be achieved within the context of gratitude whilst cooperative management is more likely to be achieved.
within the context of a hybrid culture when local actors are afforded the opportunity of room to manoeuvre.

3. A hybrid culture is more likely to be effected within the context of a high sense of urgency together with low hubris of success and low Japanese ethnocentrism.

4. Where local actors are not afforded the opportunity to manoeuvre from the outset then resistance is more likely to be encountered as workers react to attempts to suppress or stamp out a pluralist union culture, and to enforce Toyota philosophy and practices with little regard for local culture and social factors.

5. Where local workers have less opportunity to feel gratitude, for example through not being jobless or where they enjoy good welfare provisions or a strong social fabric, then resistance is more likely to occur.

6. Where a culture of resistance has set in (as in the cases of TMCA and TKM) then the company is more likely to be forced to devise a series of strategies to accommodate such ‘contested imposition’ (Ward, 1999).

**TPS introduction: extent and pace**

The absence or prevalence of an overarching climate of industrial peace has a direct impact on how seamlessly TPS can be introduced both in terms of extent and pace. In chapter 6 it was observed that three factors are important in this issue: gratitude, TPS timing and old baggage, and trust.
Box 7.2
Factors influencing the extent and pace of TPS introduction

Gratitude
- Job security and no lay-offs
- Gainsharing

TPS timing and old baggage
- Implementation commenced immediately
- Born-again workforce – old but not baggage

Trust
- Gratitude
- Test of first crisis
- Harmonious relations
- OSHA incident
- Egalitarianism

At NUMMI, workers accepted TPS in return for job security and no lay-offs following two years of unemployment. Such circumstances were not present at either TMCA or TKM and hence there was no pressing need to show any form of overt gratitude to their multinational employer. Also at NUMMI, TPS implementation commenced immediately from the start of operations in 1984 utilising a born-again workforce which was ‘old’ but did not represent ‘baggage’.

At TMCA, in contrast, the equity ownership of Toyota was low and TPS implementation did not commence until several decades after the company’s establishment and was then only implemented in a piecemeal fashion. During implementation the company had to struggle to overcome a severe barrier in the form of old baggage from the previous culture that did not readily embrace TPS.

However, at TKM, although TPS implementation commenced immediately from the start of operations in 1999 it was of a very limited form and scope which was further eroded as industrial unrest spread and concessions were made by management. Although the workforce was comprised of new, young, and inexperienced employees the issue of old baggage still arose in the form of acute incompatibility between Indian socio-cultural factors and the culture of TPS.

Finally, at NUMMI trust levels were high especially after management passed the crisis of its first test and continued to exhibit participative management styles and egalitarian measures. In contrast, TMCA has suffered from ongoing mistrust.
epitomised by fractious industrial relations and ambivalence towards TPS philosophy. At TKM, levels of trust were low during the period 2001-2006 but subsequently recovered due to management’s efforts to reverse the problems experienced during this period.

Thus this thesis is able to advance a number of assertions around the extent and pace of TPS introduction:

7. The more that employees feel a sense of gratitude to their company then the broader and faster will be the extent and pace of TPS introduction
8. When TPS is introduced after an extended period of time after the commencement of operations then it is more likely to be resisted than when TPS is introduced from the start of operations
9. Where equity ownership by the parent company is low then TPS is more likely to be delayed and piecemeal.
10. Where the company operates with a born-again or new workforce then the extent and pace of TPS introduction is more likely to be broader and faster
11. Where there exists a higher level of trust in management then the extent and pace of TPS introduction is more likely to be broader and faster

**Teamworking**

In circumstances where industrial peace is prevalent and the extent and pace of TPS introduction is broad and fast, these two factors have a direct impact on the successful implementation of teamworking. In chapter 6 it was observed that seven factors are important in this issue: the state of work relations; egalitarianism; contractual obligations to teamworking and union consultation; respect for individualism; and the extent of training and opportunities for team meetings.
Box 7.3
Factors influencing the implementation of teamworking

*Harmonious work relations
*Egalitarian work environment
*Contractual obligation to teamworking
*Contractual obligation to consult with the union
*American individualism respected and preserved
*Extensive training in teamworking
*Extensive opportunities for team meetings

Harmonious work relations were more prevalent at NUMMI than either TMCA or TKM. In addition, egalitarianism was an accepted concept at NUMMI, whereas at TMCA there has always existed a sharp us-versus-them division, and in contrast to TKM where egalitarianism as a concept is basically at odds with the Indian cultural environment. Additionally, there existed a prior contractual obligation to teamworking at NUMMI which was not the case at either TMCA or TKM. There also existed a prior contractual obligation to consult with the union at NUMMI, whereas at TMCA such a situation had to be fought for through collective bargaining, and at TKM the company refused to recognise a trade union for the first eight years of operations. In addition, individualism within the team structure was recognised and practiced at NUMMI, unlike at TMCA, and in contrast to TKM where although collectivism should be more amenable to teamworking, the necessary vertical integration of teams was overlooked. Also extensive training in teamworking was offered and practiced at NUMMI, unlike at TMCA or TKM where issues discussed above impacted effective training. Finally, extensive opportunities existed for team meetings at NUMMI, unlike at TMCA or TKM where issues discussed above also proved a barrier to such meetings.

Thus this thesis is able to advance a number of assertions around the successful implementation of teamworking, namely that teamworking is more likely to be successfully implemented when:
12. Work relations are harmonious
13. The work environment is egalitarian
14. There exists a contractual obligation to teamworking
15. There exists a contractual obligation to consult with the union
16. Social and cultural values are respected and preserved
17. Extensive training is available in teamworking
18. Extensive opportunities exist for team meetings

**Cultural consonance**

Industrial peace, TPS introduction which is broad and fast, and successful implementation of teamworking are, in total, synonymous with strong cultural consonance between the cultures of the parent and host organisations. In chapter 6 it was observed that five factors are important in influencing the strength of this consonance: hard work and discipline; more exposure to advanced industrial practices; management role-modelling; union buy-in; and management level representation.

**Box 7.4**

**Factors influencing the strength of cultural consonance**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard work, discipline, and hungry mentality</td>
<td></td>
</tr>
<tr>
<td>Exposure to advanced practices and willingness to experiment</td>
<td></td>
</tr>
<tr>
<td>Management role-modelling of the new way</td>
<td></td>
</tr>
<tr>
<td>Union buy-in and preparedness to compromise</td>
<td></td>
</tr>
<tr>
<td>Management-level representation and gainsharing</td>
<td></td>
</tr>
</tbody>
</table>

Cultural consonance was more prevalent at NUMMI than either TMCA or TKM. For instance, hard work and discipline are invariably subjugated to other factors and characteristics at TMCA and TKM that are not compatible with TPS philosophy and practices. At TMCA cultural characteristics such as casualness, anti-authoritarianism, and an undercurrent of xenophobia and anti-Japanese sentiment are particularly prevalent; whereas at TKM such aspects as the roles of work and the family, the impact of hierarchical social structures on egalitarianism, the deferential role of workers viz-a-viz their superiors, and a belief in the pre-
ordained nature of life, all act to undermine the veracity of TPS philosophy and practices. Additionally, exposure to advanced industrial practices and a willingness to experiment are less prevalent at both TMCA and TKM. The culture at TMCA has been less accepting of foreign hegemonic philosophies and practices as witnessed by an undercurrent of anti-Japanese sentiment; whereas TKM is situated in a developing country and has employed inexperienced young workers from rural workers. Also, management role-modeling has not been the norm at either TMCA or TKM. Management at TMCA has been pre-occupied trying to contain a hostile and pluralistic union culture as well as trying to nullify the effects of old baggage inherited into the workforce; whereas at TKM, management was perceived as adopting an arrogant and superior attitude towards its Indian workers which workers found offensive rather than inspirational. In addition, union buy-in and preparedness to compromise have not been observed at either TMCA or TKM. The ongoing union-management hostility at TMCA has prevented any spontaneous union buy-in to management policies or willingness to compromise; whereas the failure to recognize a union at TKM resulted in seven years of industrial unrest before a new situation of relative cooperation was achieved following the recognition of the union. Finally, management-level representation does exist to a point at both TMCA and TKM but is often nullified because of the reasons presented above. In particular, the situation at TKM excluded the promotion of local Indian managers above a certain level in the hierarchy and this scenario was only reversed following the industrial unrest and violence in 2006.

Thus this thesis is able to advance a number of assertions around the factors that influence the strength of cultural consonance, namely that the strength of cultural consonance is more likely to be enhanced in the presence of:

19. Hard work, discipline, and hungry mentality
20. Exposure to advanced practices and willingness to experiment
21. Management role-modelling of the new way
22. Union buy-in and preparedness to compromise
23. Management-level representation and gainsharing.
Organisational learning

Finally it is possible to state that organisational learning is more likely to be experienced in the combined presence of the four features already analysed – industrial peace, broad and fast TPS introduction, successful teamworking, and cultural consonance. In chapter 6 it was observed that four factors are important in influencing the strength of organisational learning: pressure of market share; downplaying of tangible business objectives; a willingness to be on one’s best behaviour through accepting, accommodating, and compromising on differences; and creating a cultural environment conducive to learning.

Box 7.5
Factors influencing the strength of organisational learning

<table>
<thead>
<tr>
<th>Pressure of market share</th>
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<tbody>
<tr>
<td>Downplaying tangible business objectives</td>
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<tr>
<td>Best behavior through accepting, accommodating, and compromising</td>
</tr>
<tr>
<td>Cultural environment conducive to learning</td>
</tr>
</tbody>
</table>

The NUMMI joint venture commenced with an urgent need to maintain and increase market share in the face of keen competition from other rivals. Such was not the case at TMCA which represented Toyota’s first overseas venture in 1959 when the company was in the embryonic stage of its growth. Toyota was more concerned with ensuring stability rather than growth, expansion, and protecting market share. At TKM it is true to argue that Toyota felt pressured to enter India as a late entrant in 1997 to take advantage of the burgeoning growth in this part of the world. However, its entrance was characterised by a longer term vision of its plan to attain market dominance. In addition, Toyota entered NUMMI with the express intention of learning about American working conditions and downplayed other more tangible business objectives. This approach was not felt to the same extent at TMCA in 1959. Nor was it the case at TKM in 1997. Toyota entered India not with an intention to learn but rather by the need to become the world’s major automobile producer in terms of profitability and sales. Toyota was set on becoming the number one manufacturer with a stated aim of 15% market share by 2010. The huge Indian market was of paramount importance in this quest. Also,
Toyota was keen to be on its best behaviour when it entered the NUMMI joint venture, but any concession towards being accepting, accommodating, or compromising has rarely been observed at either TMCA or TKM, unless forced to do so by pressing contextual circumstances. TMCA has been dominated by conflictual employee relations over many years in an atmosphere of points scoring and passing the blame. At TKM, Toyota entered the joint venture with a severe case of hubris due to its previous successes in world markets over many years as well as adopting a superior attitude towards its Indian hosts. Any attempts at accommodating or compromising on differences were only observed when the company was forced into a corner by contextual pressures. Finally, Toyota created a cultural environment conducive to learning at NUMMI from the beginning of operations in 1984 by making significant overtures towards the union and American workers that it wanted to create a harmonious environment of work relations. However, such harmonious environments have not been observed at either TMCA or TKM. TMCA, even today, still suffers from strong pluralist divisions. The situation has improved at TKM following the epiphany of 2006 and work relations now seem to be progressing more smoothly, as evidenced by the commissioning of a second plant at Bangalore, and the production of the new compact car, the Etios.

Thus this thesis is able to advance a number of assertions around the factors that influence the strength of organisational learning, namely that the strength of organisational learning is more likely to be enhanced in the presence of:

24. Strong pressure to maintain or enhance market share
25. An ability to downplay tangible business objectives
26. A need to display best behavior through accepting, accommodating, and compromising
27. A cultural environment conducive to learning
Implications of the thesis

The findings of this thesis possess both practical and theoretical implications. The thesis has posed two research questions:

- What resistance did Toyota meet when transplanting its production system?
- What strategies did Toyota employ to manage this resistance?

In this section, two implications of the findings of the thesis are advanced and explored:

i. The implications of understanding the relationship between the model of the transplantation process adopted and the forms of resistance experienced and strategies employed

ii. The implications of understanding how Westney’s (1999) concepts of strategic design, social constructs, and political systems interact with Ward’s (1999) concepts of authoritarian, contested, and negotiated imposition.

The thesis suggests that the forms of resistance experienced and strategies employed are closely connected to the specific model of the transplantation process undertaken by the company. As shown in table 7.1, these models vary between hybrid (NUMMI), slow and piecemeal (TMCA), and authoritarian (TKM).

NUMMI experienced very little resistance during its transplantation journey, mainly because of the hybrid model adopted from the outset within a context of cooperative management and cooperative labour. In contrast, TKM experienced severe resistance, mainly because of the model of authoritarian imposition imposed from the outset, which led to strong contestation of the transplant mechanisms, forcing the company to employ strategies of negotiation in order to reach a compromised settlement with the workforce. Finally, TMCA has experienced ongoing resistance, mainly because of the model of slow and piecemeal implementation adopted from the outset which permitted a strong
resistance culture of old baggage to become entrenched which has proved difficult to overcome in total.

It was noted in chapter 2 that Westney (1999) has advanced three perspectives on organisation-environment relations: strategic design, social construct, and political system. The strategic design perspective regards organizations as systems consciously constructed for the efficient accomplishment of certain tasks. The social construct perspective sees organizations primarily as ideational constructs defined by shared interpretations, meaning, and value. The political construct portrays organizations as arenas for and tools of power and interests. In essence, the ‘reality’ of any situation is determined in terms of which of these frames one views the world through. Ideally, managers should be multi-framed, that is, they should be able to view the same situation through all the different frames in order to obtain multiple perspectives on a certain scenario. However, it is possible to argue that Toyota’s attempt to seamlessly transplant a ‘system’ from one context to another runs the risk of only viewing the world through the frame of strategic design. Accordingly, this emphasis would appear to ignore the veracity of both the social and political frames.

The implications of this omission are transparent in the cases of TKM and TMCA. At TKM the initial attempt to impose a specific system turned firstly into a contested imposition followed by a negotiated imposition. TKM had ignored the importance of the social construct in the sense that the Indian concept of the organisation cannot be divorced from the environmental concepts associated with family, social, cultural, and religious elements. In addition, TKM had also ignored the importance of the political system within the Indian context in the sense that external stakeholders such as trade unions, political parties, and community groups view the workplace as a legitimate part of their domain and continually vie for power and influence within its boundaries. In the case of TMCA, the delayed introduction of the Toyota system also turned into a contested imposition as internal stakeholders associated with old baggage fought to keep out the new techniques from the plant. Such contestation reflected Toyota’s failure to understand the social construct within the plant as well as the power of entrenched political interests in the form of trade unions.
In contrast, the scenario at NUMMI was completely different. Toyota’s successful introduction of its transplanted system reveals how a hybridised approach within a context of collaborative and harmonious relations is able to subsume and incorporate both the social and political frames within its ambit. Since the social construct sees organisations primarily as ideational constructs defined by shared interpretations, a prior meeting of the minds between different protagonists is more able to lead to a joint understanding of meaning and values within the organisational context. Similarly, once agreement has been reached about shared interpretations this is more likely to diffuse the playing out of separate political interests in favour of a viewpoint that regards the organisation as an arena where power is jointly used to achieve unitarist considerations. Accordingly, both authoritarian and contested impositions can be avoided in favour of a negotiated imposition from the outset.

**Limitations of the thesis**

This thesis has employed a qualitative research methodology within the framework of an international comparative case study analysis spanning sites spread across three different continents. As such it would be no surprise to find that the thesis would suffer from a number of limitations, not least in the area of data collection and adequacy. Two such limitations can be discussed which in an ideal study might be avoided.

First, primary data was collected only in the one case study of TKM. For the other two cases at NUMMI and TMCA I had to rely on secondary data. It could be argued that such secondary data detracts from the richness of qualitative research by reducing the immediacy of meaningful responses from active participants. Practical reasons prevented me from obtaining primary data from NUMMI and TMCA. In the former case the tyranny of distance from Australia to the USA prevented any personal field trips, and in the latter case the ramifications resulting from ongoing industrial relations problems at the plant made access difficult. Nevertheless, secondary data can play a significant role in qualitative research if enough data sources are utilised. Certainly the rich literature on NUMMI allowed me to use this case as the initial concentration site from which I could emerge significant codes and themes for later elaboration at the other two sites. Also, the
secondary data on TMCA was fairly rich and broad ranging and I could draw from a number of different sources such as journal articles, conference papers, media opinion pieces, internet sources, trade journals, company documentation, and trade union publications.

Second, another shortcoming in the thesis is that only one worker was interviewed at TKM (interview 1). Ideally, additional interviews should have been conducted with assembly line and maintenance workers to obtain a broader range of views and densify the themes emerging from this interview. However, this was not possible for several reasons. First, the level of English comprehension and expression amongst such workers was not of a sufficiently high level to obtain rich data. Second, obtaining access to such workers was difficult. The worker I did manage to interview had migrated to Australia and his level of English was sufficiently advanced for him to elaborate some meaningful ideas and opinions which I was able to explore during my subsequent trips to India. However, I did manage to obtain long and detailed interviews with trade union shop stewards at the TKM plant (interviews 27-29). These officials were strongly across worker issues. They had also been workers themselves during the troubled period in the plant before 2006 and had played significant roles in the fight for trade union recognition.
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Appendix A: Ethics Clearance

To: Prof Robert Jones/Mr Reynold James, FBE

SUHREC Project 2009/238 Transplantation issues involved in the transfer of lean manufacturing principles from parent company to international affiliates: technological, human, and philosophical aspects
Prof Robert Jones, FBE; Mr Reynold Peter James, Dr James Latham

Ethical review of the above project protocol was undertaken on behalf of Swinburne's Human Research Ethics Committee (SUHREC) by a SUHREC Subcommittee (SHESC3) at a meeting held 2 October 2009, the outcome of which as follows.

I am pleased to advise that, as submitted to date, the project has approval to proceed in line with standard on-going ethics clearance conditions here outlined. However, in arriving at its decision the Subcommittee wished it to be noted in particular that whilst the project covers more than one context (as also outlined by you in the protocol reviewed), direct human research activity here approved is limited to the Indian context.

- All human research activity undertaken under Swinburne auspices must conform to Swinburne and external regulatory standards, including the National Statement on Ethical Conduct in Human Research and with respect to secure data use, retention and disposal.

- The named Swinburne Chief Investigator/Supervisor remains responsible for any personnel appointed to or associated with the project being made aware of ethics clearance conditions, including research and consent procedures or instruments approved. Any change in chief investigator/supervisor requires timely notification and SUHREC endorsement.

- The above project has been approved as submitted for ethical review by or on behalf of SUHREC. Amendments to approved procedures or instruments ordinarily require prior ethical appraisal/ clearance. SUHREC must be notified immediately or as soon as possible thereafter of (a) any serious or unexpected adverse effects on participants and any redress measures; (b) proposed changes in protocols; and (c) unforeseen events which might affect continued ethical acceptability of the project.

- At a minimum, an annual report on the progress of the project is required as well as at the conclusion (or abandonment) of the project.

- A duly authorised external or internal audit of the project may be undertaken at any time.

Please contact the Research Ethics Office if you have any queries about on-going ethics clearance, citing the SUHREC project number. Chief Investigators/Supervisors and student researchers should retain a copy of this email as part of project record-keeping.

Best wishes for the project.
Yours sincerely
Keith Wilkins
Secretary, SHESC3

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