

THE 'COMPARATIVE INSTITUTIONAL' THEORY OF THE FIRM:  
SOME IMPLICATIONS FOR CORPORATE STRATEGY\*

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ABSTRACT

This article outlines a rationale for the existence of firms and derives its implications for corporate strategy. It argues that one important source of sustainable rents is the ability of firms to reduce the costs they experience in organizing both internal and external transaction below those of their rivals.

INTRODUCTION

Considerable progress has been made in the last ten years in developing a theory of institutional choice based on the minimization of organizing costs.<sup>[1]</sup> Such a theory can be called 'comparative institutional' insofar as it compares the costs that each potential institution would experience in organizing a given transaction.<sup>[2]</sup> The goal of this article is to derive some tentative implications of such a theory for business strategy.<sup>[3]</sup> The main point is that one important source of sustainable rents is the ability of firms to reduce the costs they experience in organizing both internal and external transactions below those of their rivals.

The first section provides a brief summary of the 'comparative institutional' approach, and shows why the costs of organizing a given transaction vary with the organizing mode chosen. The next section develops the implications of this approach to the central question of how a firm can earn supernormal profit. I argue that supernormal profits result from efficient organizing, which consists in devising better employment contracts, better external procurement contracts, and in making better choices between these two alternative methods. Because such innovations are difficult to imitate, they provide the firms that make them with long-lasting first mover advantages. Three examples of organizational innovations are presented in the following section, and the final section concludes that the comparative institutional approach provides a conceptual framework in which strategy process and content are fused.

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## A COMPARATIVE INSTITUTIONAL THEORY OF THE FIRM

Co-operation through joint effort or exchange yields gains which can be shared by the co-operating parties. Organizing this co-operation requires making individuals aware of the potential gains, preventing parties from bargaining to increase their share of the gains of co-operation, and enforcing the agreed-on terms of trade. Markets and firms are institutions devised to perform these three tasks and they incur the corresponding information, bargaining, and enforcement costs.

The price system is the principal organizing mode used in markets, while firms rely mostly on the hierarchical mode. Prices are used to perform the three tasks of information, suppression of bargaining, and enforcement. For example, the price system rewards individuals on the basis of their outputs. Because measurement costs are always positive given the assumed conditions of opportunism and bounded rationality, the costs of organizing a transaction through the price system are the cost of measuring outputs plus the residual amount of cheating that it will not be efficient to eliminate.

Firms mostly make use of hierarchy. This organizing mode informs through managerial directives, reduces bargaining through fiat, and obtains appropriate outcomes through the imposition of direct behaviour constraints. Since employees are not rewarded on the basis of their output, they will have incentives to shirk. Because bosses do not have perfect knowledge, the costs of using hierarchy are those of observing and directing behaviour and the unavoidable residual amount of shirking that results from imperfect monitoring.

Organizing costs are minimized when the firm chooses the organizing mode that is most efficient for a given transaction. The literature has not been totally clear in explaining the comparative advantage of both organizing modes.<sup>[4]</sup> To clarify this issue, consider two individuals, A and B, co-operating in the following way. A makes hammer handles, and B hammer heads. Hammers require the assembly of both parts. When A and B collaborate through a price system, A sells handles to B to be assembled as hammers. If transaction costs in the markets for either hammer heads or hammer handles are high, because, for example, the quality of the head or that of the handle are difficult to ascertain at the time of sale, then either party will be able to cheat, i.e. they will get away with paying less or receiving more for handles or heads than they would if the quality of these two goods could be measured costlessly. The cost of organizing through the price system is the sum of the cost of measurement plus that caused by the residual amount of cheating.

One way to reduce cheating costs is to switch to the hierarchical mode (Hennart, 1986). To reduce transaction costs, the head-maker can buy out the business of the handle-maker and transform him into an employee. Under this employment relationship, the head-maker agrees to pay the handle-maker a fixed sum – a sum which does not depend on the number or the price charged for handles – in exchange for the right to tell the handle maker what to do (within the limits of social custom). By severing the relationship between observed output and income, and replacing it by an arrangement in

which income depends on observed behaviour, this employment relationship reduces the incentives to cheat that the handle-maker would have. But by the same token, it reduces the handle-maker's incentive to maximize measured output. Hence the employee has now an incentive to 'shirk'. The employer must therefore monitor the employee's obedience to his orders. Monitoring costs will vary with the nature of the activity. The cost of organizing through the hierarchical mode is therefore the sum of monitoring and of residual shirking costs.

In practice, firms will not rely fully on the hierarchical mode of organizing. Because shirking tends to climb to prohibitively high levels as all price constraints are replaced by behaviour constraints, employment contracts will often feature a mix of price and behaviour constraints. Part of the pay of managers will be for following directives and part will be linked to the achievement of specific output targets. Nevertheless, the distinguishing characteristic of firms will be their extensive use of behaviour constraints, while price constraints will predominate in markets.<sup>[5]</sup>

What are the implications of this 'comparative institutional' view of the firm? First, firms exist because they are able to organize production at lower cost by using a different mode of organizing than that used by markets. For certain tasks, co-operation can be effected more cheaply through the hierarchical mode than through the price system. Firms emerge to organize these tasks. They will survive and prosper as long as the resources they spend in organizing exchange and co-operation are less than the gains of exchange and co-operation, and less than the resources that would be expended by markets to achieve the same end. Shifting a transaction from the market to the firm can reduce organizing costs in some cases because the factors that determine the cost of observing and constraining the behaviour of employees are not the same as those that impact on the cost of controlling and enforcing the terms of sale of the inputs. In our example, organizing the exchange of hammer heads and hammer handles within a firm will be efficient when the cost of monitoring how hard the handle-maker works and of directing his behaviour is lower than that of controlling the quality of the wood used when purchasing his handles on the market.<sup>[6]</sup>

Note also that organizing a transaction within the firm does not eliminate contracting costs, since by doing so one replaces a contract for intermediate input by an employment contract. A firm does not avoid the market by internalizing a transaction, it only replaces contracts for outputs by contracts for inputs. It is misleading to write that a firm 'owns' resources, or has 'crown jewels'. What we call a firm is a nexus of contractual relationships linking resource owners. What distinguishes intra-firm from inter-firm transactions is that intrafirm transactions are mediated by employment contracts, while inter-firm transactions are contracts for outputs. As we will show, choosing the appropriate mix of contracts and improving the efficiency of each type is an important source of competitive advantage.

## IMPLICATIONS FOR BUSINESS STRATEGY

The comparative institutional view of the firm may provide some tentative answers to a central question posed in the strategy literature (Bowman, 1974): whether and how a firm can earn consistently supernormal profits, a question at the centre of the resource-base literature (Barney, 1986b, 1990; Dierickx and Cool, 1989; Rumelt, 1987; Wenerfelt, 1984).

The traditional industrial organization (IO) view of strategy sees rents as derived from market power. Firms garner rents if they operate in industries where conditions are favourable for explicit or tacit collusion (Bain, 1959; Porter, 1980). This traditional view of strategy implies that firms earn rents by exploiting assets they own in imperfect product markets. This view has two weaknesses. First, for firms to derive rents from owned factors, these factors must have been acquired at a price which is below the present value of the future rent stream. If they were not, all of the rents would have already been captured by the asset seller. Second, many of the 'assets' which give firms a competitive advantage are not 'owned' because they are human assets. If firm rents arise from the fact that some employees are particularly productive, what prevents these employees to threaten to leave the firm and set up a rival operation to capture the full value of their contribution? That this is not an idle threat is shown by the movement of key personnel in the electronics, consulting, advertising and fashion industries. If firms do not 'own' their employees, how can they generate sustainable rents?

One of the major contributions of the 'resource-base' model of the firm has been to point out the conditions under which firms can earn rent from the factors they own or rent. Rumelt (1987) argues that one necessary condition is uncertainty. If sellers of inputs knew the *ex post* value of their contribution, they would bid up the price at which they sell them and capture all the rents. Only because the entrepreneur bears risk can the *ex post* value of a venture be higher than the *ex ante* costs of the resources combined to form it. According to Rumelt, two additional conditions must be met. First, the entrepreneur must guard against imitation by other entrepreneurs. Barriers to such imitation include the difficulty of understanding the source of the rents (uncertain imitability), economies of scale, first-mover advantages, and buyer switching costs. Second, suppliers of inputs can also be expected to try to appropriate the rents that have been generated. One special case is that of suppliers of labour (employees). Key employees can threaten to go elsewhere unless they are given most or all of the rents. Less crucial employees can collude with other employees to extract the entrepreneurial rents (by, for example, forming a union).

The extent to which the firm can obtain rents from the services of key employees depends on whether the key employees are able to generate similar rents if they are self-employed or if they work in other firms. Consider a bank which takes a gamble and hires bright finance professors at academic salaries to develop trading rules. Assume that the bank becomes extremely profitable in the process. This cannot be a basis for sustainable rents if these academics would be equally productive in other banks, for then competition among banks for their services would raise their salaries to the point where they

capture all the rents that derive from their activity. The firm will earn rents only if the productivity of the ex-professors in the firm is higher than outside (Peteraf, 1990).

More generally, firms can earn sustainable rents only if factors cannot capture the totality of the rents they generate. Dierickx and Cool (1989) argue that this is the case when there is no market for the resources. This is, however, not a sufficient condition, as long as the factor owner can set up his own business and exploit his talents in the product market. The second case where factors of production cannot appropriate the rents they generate is when their contribution is worth more within the firm than outside, such as when the employee's learning is firm-specific (Peteraf, 1990). Here again the case is not so clear-cut. If learning requires effort, the firm will have to compensate the employee for investing into firm-specific knowledge. The cost of that compensation, added to the payment required to match outside offers, may equal the employee's contribution to the firm.

In short, the resource-base view of the firm shows that the ability of firms to obtain long-lasting rents from owned and rented inputs depends on a set of rather restrictive conditions. There must be considerable uncertainty concerning the payoff from the investment, so the cost of buying out the necessary inputs *ex ante* is less than their *ex post* value. A firm can only garner rents from non-owned inputs if their contribution to the firm net of the costs needed to keep them in their present use is greater than their value outside it.

The comparative institutional approach shows, however, that firms can obtain rents even if some of these conditions are not met. In the comparative institutional model, the rents that accrue to owners of the firm are both returns to the assets they personally own and to their skill (or those of their delegates) at organizing the interaction between other resource owners. It is therefore co-ordination itself which creates rents. Co-ordination can take place within the firm or on the market.

When co-ordination takes place within the firm, the firm's owner is able to capture the difference between the productivity of the employee within the firm and his productivity in another firm or if self-employed. Firms earn rents because they are well managed, i.e. because they are able to organize the interactions of employees at lower cost than those experienced by other firms. Lower monitoring costs can arise from the use of superior monitoring and incentive techniques which elicit higher productivity at a given organizing cost, the same productivity at lower organizing costs, or both higher productivity and lower costs. If the innovating firm can prevent imitation of its superior organizing techniques, it can reap supernormal profits. In most cases it will also be able to guard those rents from appropriation by employees. Because these superior gains from exchange and specialization can only be obtained if the employee organizes his interdependence with others within a particular firm, the employee is unable to capture the same rents if he switches to another firm. Hence he needs to be paid only what he could earn in his next best employment, or if he were self-employed, and entrepreneurs can appropriate the rents generated by their superior organizing skills.

As Rumelt argues, these rents will be sustainable if two conditions are met. First, the firm must be able to defend against employees colluding to withhold

*en bloc* their services through the strike weapon. Second, it must be difficult for outsiders to discover and imitate the techniques used by the rent-earning firm. Since managerial knowledge is tacit, and causal ambiguity is significant, imitation is likely to be difficult. As examples below show, it takes considerable time for managerial innovations to diffuse.

The same analysis applies when co-ordination takes place on the market. A more efficient contract will carry lower organizing costs, resulting in higher gains of trade to be shared by the contracting parties. If only one firm uses these contracts, then that firm will garner most of the gains, since it will only have to provide the other party an amount equal to what it can earn by contracting with other parties. Here again, these rents will be eroded by imitation.

In conclusion, a firm will earn rents if it can reduce its organizing costs over those which are shouldered by its competitors. A firm can use three strategies. The first one consists in reducing the cost of organizing interactions within the firm by devising and enforcing better employment contracts. A second strategy is to increase the efficiency of external contracts. If a firm can organize co-operation with other firms at lower costs than its rivals, then it can share in the additional gains of trade and garner additional rents. Thirdly, a firm may be more skilled than its competitors at assessing the relative costs of each. It may therefore earn rents by shifting from an external transaction to an internal one, and *vice versa*, if by so doing it lowers its organizing costs.

### THREE EXAMPLES

The following examples show how the implementation of these three strategies can provide firms with long lasting competitive advantages. Being the first to integrate fully into retailing gave Singer a 50-year dominance of the market for sewing machines. By successfully designing market contracts to organize the local production of meals, McDonalds achieved a commanding position in the fast food industry. Japanese car producers have achieved a strong position on the world automobile market through greater externalization of the sourcing of components as well as through lower organizing costs for both internal and external transactions. These firms achieved pre-eminence in highly competitive industries mainly without using collusion or relying on patented knowledge.

#### *Singer: Competitive Advantages of Internalization*

In 1854, following protracted legal battles between the inventors of the sewing machine, the patents were pooled and released to 24 manufacturers. At that time, independent agents and distributors were the usual channels for distributing manufactured goods. Sewing machines were new consumer durables. They required careful adjustment prior to sale and they were sold on credit. Distributors and agents proved to be unwilling or unable to learn to demonstrate and repair the machines and they refused to provide credit. Of the 24 manufacturers who had received the patents, only three moved quickly to

replace independent agents and to open retail stores manned by their own employees. By 1859 Singer had opened 14 retail stores, 'each with a female demonstrator, a mechanic to repair and service, and a salesman or canvasser to sell the machines, as well as a manager who supervised the others and handled collection and credit' (Chandler, 1977, p. 303). The three companies who had integrated into retail distribution soon captured the bulk of the market, and by 1860 they were producing 75 per cent of the industry output.

Singer moved more aggressively than the others in replacing independent agents by company employees and in setting up procedures and methods to supervise the firm's network of retail stores. Travelling auditors were sent to review the accounts of the branch offices (Chandler, 1977, p. 404). Singer's two main competitors, Grover and Baker and Wheeler and Wilson had not developed a large salaried sales force. Grover and Baker went bankrupt in 1870. Wheeler and Wilson moved precipitously to replicate Singer's organization, failing to select personnel carefully and to establish the proper procedures. The firm made large losses, and in 1906 was absorbed by Singer. By that time, Singer had a near monopoly in world markets. Contemporary observers credited Singer's business success to its early and consistent effort at developing a marketing network of company employees (Davies, 1969; Jack, 1957).

*McDonalds: Competitive Advantages of Externalization*

In 1961, McDonalds was a small competitor in a fast-food market dominated by Henry's and White Castle. By 1985, McDonalds controlled 19 per cent of the \$45 billion US fast-food market, more than the next three chains combined (Love, 1986, p. 3), while its early rivals had fallen into oblivion. McDonalds operates in an extremely competitive industry in which barriers to entry are low and product or service innovations are quickly imitated. The key to McDonalds' phenomenal success stems from an institutional innovation, the development of a franchise system which has been effective in controlling free-riding on quality while enlisting the initiative and co-operation of its members.

While fast food can benefit from scale economies in the manufacture of food components and in image building, local preparation in many dispersed production sites is necessary in order to reach the customer. Vertical integration by image builders into local preparation would, however, incur very high management costs, as the dispersion of production sites would make the cost of monitoring employees prohibitive, thus encouraging shirking.<sup>[7]</sup> Renting the use of the trademark to local entrepreneurs (franchisees) solves the shirking problem, but it encourages franchisees to free-ride on the quality of the franchise, as franchisees will capture all of the gains of reducing quality, while shifting the bulk of the subsequent losses upon all other franchisees. Hence a franchise contract that controls free riding (cheating) can provide a clear advantage.

In 1955, when McDonalds began, large franchisors did not devote much time and effort to supervising quality, organizing purchasing, and training franchisees. Most of their time was spent in selling franchises. Franchising was seen as a way to make quick money, and the strategy was to sell, for

substantial sums, large territorial franchises to master franchisees who then sublicensed the outlets (Love, 1986, p. 55). Franchisors made weak or no attempts at supervising local operators, because to attract master franchisees, they had written agreements which left franchisees considerable autonomy on operating and investment decisions. As a result, the quality levels of most chains soon became quite uneven.<sup>[8]</sup> Another reason why early franchisees did not push hard to enforce quality standards was that they made most of their income from the sale of equipment or supplies to the franchisees. Consequently, they were loath to discontinue mediocre operators (Love, 1986, p. 61).

Ray Kroc, McDonalds' founder, broke with this pattern. He realized that consistent quality was a *sine qua non* condition for the long-term success of a fast food chain, and he chose to sacrifice immediate growth to achieve that end. He sold only single store franchises, and made permission to operate a second store dependent on the franchisee's respect of the system's rules on quality, service and cleanliness (Love, 1986, p. 55). He resisted the temptation to make his profits from markups on the sale of supplies or equipment to his franchisees, relying only on royalties (Love, 1986, p. 61). Lastly, he built an effective organization to supervise purchasing, to set operating standards and enforce them, and to train franchisees. To reduce free-riding by franchisees, he set strict guidelines which he enforced by unannounced, thorough inspections.<sup>[9]</sup> Franchisees who failed the inspections were denied the right to expand or to renew their contract. On the other hand, by treating his franchisees fairly, Kroc was able to enlist their support. McDonalds' franchisees took a leading role in advertising and product development, initiating all but one of McDonalds' successful product innovations (Love, 1986, p. 227).

By devising and implementing a new type of franchise relationship, McDonalds was able to capture the benefits of lower shirking without the offsetting costs of cheating, and the firm ended up dominating an extremely competitive industry. Since all of the techniques used by Kroc were public knowledge and could be readily imitated, one may wonder why so few of his initial competitors chose to do so. This is because they initially had a very different view of the way in which income should be earned from franchising. In the 1970s, as they suffered from quality lapses and lack of investment by franchisees, they became aware of the wisdom of writing and enforcing tight franchising contracts. But they were not able to correct these flaws until the early 1990s when the original long-term contracts they had signed ran out (Tannenbaum and Marsh, 1990). This gave McDonalds time to establish a strong market position.

#### *Japanese Successes in the Automobile Industry*

In 1980 the Harbour report shocked North American automobile firms by reporting that Japanese producers enjoyed a \$1500 per car cost advantage over them. The report noted that only half of that advantage was attributable to lower wages (Keller, 1989, p.82). Later events were to show that the cost, quality, and design advantages of Japanese carmakers could be attributed to three main factors: (1) better management of workers; (2) better management



of outside suppliers; (2) greater reliance on outside suppliers. Hence Japanese firms were gaining a competitive advantage over their US rivals by using simultaneously the three strategies described above.

The innovations that Toyota introduced in monitoring and directing employees, and which spread to its competitors in Japan, are by now well-known under the name of 'lean production' (Womack et al., 1991).<sup>[10]</sup> The US mass-production system developed by Henry Ford at Highland Park in 1913 separates thinking from doing, giving responsibility for the former to supervisors and for the latter to unskilled labour. Jobs are broken down into simple steps that can be accomplished with minimum training, and assigned to a large number of separate job classifications (70 in a typical US General Motors, Ford, or Chrysler plant). There is little *ex ante* screening of employees, and those who cannot perform are quickly discharged. There is also little job security. Quality is assured by inspecting the final output. Warranties guarantee consumers that defective products will be replaced free of charge (Wolf and Taylor, 1991).

By contrast, the Japanese organize workers into small teams of multi-skilled workers who can be redeployed. The teams are given both the responsibility and the authority to maintain quality ('jidoka'). This has proved to be a much more efficient system of assuring and continually improving product quality (Womack et al., 1991). Because employees play a much more important role in decision-making, they are much more carefully selected, and, once selected, trained and socialized. Japanese methods of blue collar labour management have proved to be much more efficient than US methods, achieving higher productivity and higher quality. For example, it took 16 hours in 1987 to manufacture a car in Toyota's Takaoka's Japanese factory compared with 31 at GM's Framingham plant. Vehicles coming out of Takaoka averaged 45 defects per 100 cars, compared to 135 for those built in Framingham (Womack et al., 1991, p. 83).

The Japanese obtain another source of competitive advantage from their superior management of subcontractors (Cusumano and Takeishi, 1991; Hill, 1990; McMillan, 1990; Wolf and Taylor, 1991). US carmakers have used two main strategies to source car components. Components whose manufacture require assets which are specific to the assembler are produced in-house so as to eliminate the risks of being held up by suppliers (Monteverde and Teece, 1982). Other components are purchased through short-term competitive bids. US carmakers use this system to encourage the development of a large number of small-parts makers, which they can play against each another. One year contracts and multiple sourcing reduce their reliance on any single parts manufacturer. This system is successful in reducing costs, but it is singularly inefficient in solving quality problems. By creating an antagonistic relationship between assembler and part manufacturer it makes it difficult to solve design and engineering problems that require the co-operation of both parties (Schonberger, 1982).

Japanese assemblers, on the other hand, do not pit their suppliers against one another to lower costs, but instead establish longer-term relationships with them. They provide them with financial, managerial, and technical assistance so as to lower their costs and improve the quality of their output.

The Japanese use a more subtle way to control prices than competitive bidding: they set a target price for parts, and then negotiate semi-annual reductions (Cusumano and Takeishi, 1991). The consequences have been impressive: by 1985, American car assemblers spent an average of \$3,350 on parts, materials and services to manufacture a \$6000 compact car, while their Japanese rivals spent only \$2,750 (Fortune, 1985, quoted in Hill, 1990).<sup>111</sup>

Japanese assemblers also rely more heavily on subcontractors for design work. In contrast to the US system, where the assembler is responsible for the design of all subassemblies, the Japanese delegate this design to a small number of first-tier subcontractors, who are responsible for a complete part system, and who co-ordinate the work of second-tier subcontractors. This tiered supply structure has two main advantages: first, cutting down on the number of subcontractors with which the assembler must deal makes it possible to supervise them better; Japanese assemblers spend considerable time learning about their suppliers' technology and costs and do not hesitate to shift production to other suppliers should performance slacken (McMillan, 1990). Delegating design responsibility for some subassemblies to first-tier subcontractors also leaves the assembler free to concentrate on system integration, and results in shorter design cycles (Womack et al., 1991, p. 118).

Because they have developed this network of reliable and cost-efficient suppliers, the Japanese rely on them for a greater proportion of components. In 1979 Nissan made only 26 per cent of its parts in-house, and Toyota 29 per cent, compared with 43 per cent for GM, 36 per cent for Ford, and 32 per cent for Chrysler (Cusumano, (1985).

Japanese successes were first attributed to lower labour costs and widespread automation (Wolf and Taylor, 1991). A number of Japan experts also argued that the causes of Japan's success were tightly linked to Japanese culture, and hence could not be transferred to the United States (Abegglen, 1958; Dore, 1983).

It took the success of Japanese automobile plants in the US (which can build cars for \$500–800 less than US plants) to persuade American car makers that the Japanese cost advantage was not due to higher automation or to Japanese culture, but instead to superior design of both internal (employment) and external (subcontracting) relationships. American car makers are now aware of three important facts: Japanese automakers have successfully transferred to their American plants the methods of blue-collar labour management they use at home; these methods have allowed them to obtain quality and productivity levels which are very close to those obtained at home, and much better than those of most of their US rivals; the use of Japanese subcontracting methods in the US also provides them with gains similar to those they enjoy in Japan.

Japanese carmakers have been remarkably successful in transferring the Japanese system of work organization (with very small modifications) to the US environment (Florida and Kenney, 1991). This system has proved to be as efficient in the United States as in Japan, yielding both high productivity and quality. Womack's figures show that the assembly plants opened by the Japanese in the United States and Canada (the transplants) took 21.2 hours to assemble a car, compared to 16.8 hours in their parents' Japanese factories, and 25.1 hours in Big Three (GM, Ford and Chrysler) plants. The trans-

plants averaged 65 assembly defects per 100 vehicles, compared to 60 in Japan and 82.3 in Big Three plants (Womack et al., 1991, p. 92).

Similarly, the Japanese have successfully transferred their parts procurement practices to the United States, and are obtaining from local suppliers parts with defect rates which are higher than in Japan, but much lower than those delivered to the Big Three (Cusumano and Takeishi, 1991).<sup>[12]</sup>

Japanese transplants in the United States have clearly shown that the superior performance of most Japanese car assemblers is not due to the peculiarities of the Japanese environment, but to the careful implementation of superior organizational processes. This is now leading to some major changes by American firms, but adoption has been slow, however, because it demands a radical change in the basic principles that govern firm policy: implementing Japanese techniques requires establishing a climate of trust between workers and managers, and between assemblers and component suppliers.<sup>[13]</sup> Trust cannot be established overnight, but must be built over time.<sup>[14]</sup>

General Motors' initial response to the Japanese challenge was to embark on a ten-year, 77 billion programme of capital expenditures. These massive capital investments have not paid off as expected, and GM's share of the US market has fallen by 25 per cent since 1980 (*Economist*, 1989). Only Ford and Chrysler's relative poverty prevented them from following the same route (*Economist*, 1989). GM transferred the knowhow it acquired from its NUMMI joint venture with Toyota to its Saturn plant in Tennessee and will also do so in its planned new Eisenach plant in Eastern Germany.

Ford was much quicker to identify correctly the reasons for the successes of its Japanese competitors. It set itself to learn from Mazda, in which it has had a 25 per cent equity holding since 1979. It studied Mazda's Michigan Flat Rock transplant and used it as a model to revamp its Troy plant (Wolf and Globerman, 1992). Of the Big Three, it has gone the farthest in adopting Japanese techniques (Womack et al., 1991).

Ten years after the opening of the first Japanese assembly plant in the United States, all three automakers are now starting to implement plant-level labour management reforms that copy Japanese practices. These changes, which have already considerably improved the productivity and quality levels of their assembly plants, may still take a decade to implement fully (Stertz, 1992; White, 1992). There is also evidence that Japanese procurement practices are increasingly being used in Big Three plants, and that they are starting to improve the efficiency of the procurement process (Cusumano and Takeishi, 1991). Yet the Japanese are a moving target, and the performance of US automakers trails that of the transplants. The length it has taken American firms to react has allowed the Japanese to garner a 26 per cent share of the US market.

#### CONCLUSION

This article outlines a general theory of economic organization, in which rents are earned whenever the benefits of co-operation are greater than the costs of organizing it. These rents are shared by the co-operating parties. When

co-operation is organized within the firm, a part of these rents accrues to the owners of the firm.

Because the mix of organizing methods used in firms differs from that used in markets, organizing co-operation within a firm may incur higher or lower costs than organizing it in the market. Hence rents will accrue to the entrepreneur who first discovers which mode has the lowest organizing costs. Likewise, while keeping the distribution of transactions between modes fixed, reducing the organizing costs of existing modes also yields rents. As our three examples show, such strategies of minimization of organizing costs yield sustainable competitive advantages.

Mahoney and Pandian (1992) argues that one of the fundamental building blocks of strategy is its assumption of firm heterogeneity, and one of the major tasks of strategy theory is to develop models 'in which firm heterogeneity is an endogenous creation of economic actors'. This article presents such a model. Heterogeneity arises here from interfirm differences in their organizing capabilities. These differences provide sustainable competitive advantages because they are difficult to imitate. As we have seen in the case of the automobile industry, the connection between the use of particular organizing modes and superior performance is usually difficult for outsiders to grasp. Imitation may also require fundamental changes in values and beliefs, and individuals may resist making these changes even if the utility of doing so is obvious. Some firms are quicker to imitate than others, for reasons which would bear further study.

The comparative institutional approach gives a role for strategy. Strategy consists in reducing both internal and external transaction costs, and achieving the lowest total level of organizing costs by developing better internal and external contracts. This is a much broader view than the traditional IO theory of strategy formulation where the essence of strategy is to find ways to transform competitive home markets into monopolistic ones, or, if this cannot be done, to liquidate existing positions to enter more profitable (i.e. less competitive) markets. The comparative institutional view also integrates strategy formulation and strategy implementation – two branches of strategy which have diverged because of their largely incompatible paradigms (Seth and Thomas, 1990) – and makes implementation central to strategy.

#### NOTES

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[1] The impetus for such a theory was the pioneering work of Coase (1937). Substantial contributions have been made by Alchian and Demsetz (1972) and Williamson (1975; 1985) and by agency theorists (see Eisenhardt 1985 for a survey).

[2] I am indebted to Joseph Mahoney for suggesting the use of this term.

[3] For a similar approach, see Williamson (1991) which I read after having written this piece.

- [4] Demsetz (1988; p. 149) has argued that transaction costs economics has not provided such a theory because it does not make a clear distinction between market transaction cost and management costs, and that this failure to distinguish between the two has limited its applicability to substantive issues.
- [5] There are, however, clear limits to the use of price incentives in firms. The head maker can try to reduce shirking by the hand maker by linking his pay to his measured output (for example, through a piece work scheme). This would decrease his shirking, but it would increase his incentive to cheat. The result might be a decrease those aspects of his output which are difficult to measure (for example, the quality of the wood). Hence the use of prices in firms can always reduce shirking, but at the cost of re-introducing cheating. For further developments see Hennart, 1993.
- [6] Note that this point differs from Barney's statement that 'holding transaction characteristics constant, non-hierarchical governance devices are less costly than hierarchical governance devices' (1990, p. 21). Non-hierarchical (market) governance devices incur cheating costs, hierarchical governance devices incur shirking costs; whether the former are higher or lower than the latter will depend on the characteristic of the task to be organized.
- [7] Some evidence on how franchising reduces shirking has been provided by Shelton (1957). Replacing franchisees by company employees reduced sales by 7.3 per cent on average. Sales increased by 19.1 per cent when employees were replaced by franchisees. The net revenue/sales ratio was 1.8 per cent for company-run outlets, vs. 9.5 per cent for franchised ones.
- [8] Henry Axene, Dairy Queen's founder, used this method and sold large master franchises to a small group of franchisees. Soon, 'with little central supervision, the quality of local operations varied all over the map. While some operators provided a quality product and service, Axene recalls how others would 'cheat by adding water to their dairy mix and their toppings' (Love, 1986, p. 58). Love also attributes the demise of Henry's, a chain which had a much better chance than McDonalds of become the leader in fast-food hamburgers, to lack of effective quality control (Love, 1986, pp. 117-18).
- [9] In 1985 McDonalds had nearly 300 field service consultants employed full time to make unannounced visits to evaluate outlets on more than 500 criteria relating to quality of the food, cleanliness, and service (Love, 1986, p. 146).
- [10] It is important to note that lean production has not fully diffused in Japan, and that there are significant productivity, quality, and design differences between Japanese firms (Womack et al., 1991).
- [11] In 1987, US automobile parts imported into Japan had defect rates of 0.35 to 2.6 per cent, compared to 0 to 0.01 per cent for parts from Japanese suppliers in Japan (Cusumano and Takeishi, 1991, p. 565).
- [12] The numbers are 0.01 in Japan, 0.05 for suppliers to the Japanese transplants, and 1.81 for suppliers to the Big Three. Japanese transplants have found it more difficult to use US suppliers than US workers, and are purchasing a significant portion of their parts from the US plants of their Japanese suppliers.
- [13] The use of particular organizing modes is part of the culture of the firm, and thus hard to change (Barney, 1986a).
- [14] This is an example of the time compression diseconomies described by Dierickx and Cool (1989).

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